

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

# CITY OF PORTLAND

## BUILDING INSPECTION

### PERMIT

Please Read Application And Notes, If Any, Attached

Permit Number: 071325

PERMIT ISSUED  
MAR - 7 2008  
CITY OF PORTLAND

This is to certify that Chapin Realty, LLC/Ledgeview Construction  
has permission to Marriott Extended Stay Hotel 79 rooms w/ 200 sq ft of ground floor retail space  
AT 127 FORE ST 020 C009001

provided that the person or persons who accept this permit shall comply with all of the provisions of the Statutes of the State and of the Ordinances of the City of Portland regulating the construction, maintenance and use of buildings and structures, and of the application on file in this department.

Apply to Public Works for street line and grade if nature of work requires such information.

Notification of inspection must be given and when permission procedure before this building or part thereof is started or service closed-in. 4 HOUR NOTICE REQUIRED.

A certificate of occupancy must be procured by owner before this building or part thereof is occupied.

#### OTHER REQUIRED APPROVALS

Fire Dept. \_\_\_\_\_  
Health Dept. \_\_\_\_\_  
Appeal Board \_\_\_\_\_  
Other \_\_\_\_\_  
Department Name

*Jeanie Burke* per MSN  
Director - Building & Inspection Services  
3/7/08

PENALTY FOR REMOVING THIS CARD

*Collected Copy*

**City of Portland, Maine - Building or Use Permit Application**

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No: 07-1325	Issue Date: 03/07/2008	CBL: 020 C009001
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Location of Construction: 127 FORE ST	Owner Name: Chapin Realty, LLC	Owner Address: 10 Morgan Drive	Phone:
Business Name:	Contractor Name: Ledgewood Construction	Contractor Address: 27 Maine St. So. Portland	Phone 2077671866
Lessee/Buyer's Name	Phone:	Permit Type: Commercial	Zone:

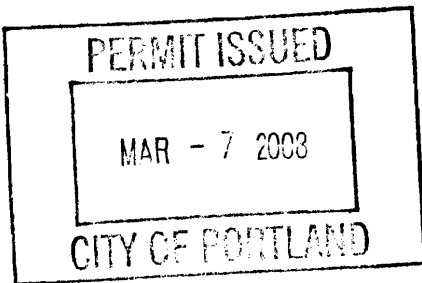
Past Use: Commercial	Proposed Use: Residence Inn by Marriott Extended Stay Hotel -Residence Inn by Marriott Extended Stay Hotel -179 rooms w/ 2000 sq ft of ground flr retail space	Permit Fee: \$166,095.00	Cost of Work: \$16,600,000.00	CEO District: 1
Proposed Project Description: Marriott Extended Stay Hotel -179 rooms w/ 2000 sq ft of ground flr retail space		FIRE DEPT: <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Denied <i>See conditions</i>	INSPECTION: Use Group: <i>RI/A3</i> Type <i>2A</i> <i>2/18/08/3/7/08</i>	

Signature: *JMB per Greg Cass* Signature: *per MJN*  
 PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)  
 Action:  Approved  Approved w/Conditions  Denied  
 Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Permit Taken By: Idobson	Date Applied For: 10/18/2007	<b>Zoning Approval</b>
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- This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.
- Building permits do not include plumbing, septic or electrical work.
- Building permits are void if work is not started within six (6) months of the date of issuance. False information may invalidate a building permit and stop all work..

<b>Special Zone or Reviews</b> <input type="checkbox"/> Shoreland <i>N/A</i> <input type="checkbox"/> Wetland <input type="checkbox"/> Flood Zone <i>Panel 14</i> <input type="checkbox"/> Subdivision <i>Zone C</i> <input checked="" type="checkbox"/> Site Plan <i>2006-0226</i> Maj <input checked="" type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/> <i>OK with conditions</i> Date: <i>JMB per Marge</i> <i>2/22/08</i>	<b>Zoning Appeal</b> <input type="checkbox"/> Variance <input type="checkbox"/> Miscellaneous <input type="checkbox"/> Conditional Use <input type="checkbox"/> Interpretation <input type="checkbox"/> Approved <input type="checkbox"/> Denied Date: _____	<b>Historic Preservation</b> <input checked="" type="checkbox"/> Not in District or Landmark <input type="checkbox"/> Does Not Require Review <input type="checkbox"/> Requires Review <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied Date: <i>JMB per Marge</i>
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*Corrected*

**CERTIFICATION**

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT	ADDRESS	DATE	PHONE
RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE		DATE	PHONE

FINAL 12-13-07

SHORT FORM QUITCLAIM DEED WITH COVENANT

Shipyards Brewing Company Limited Liability Company, a Maine limited liability company with a mailing address of 86 Newbury Street, Portland, Maine, FOR CONSIDERATION PAID, grants to Chapin Realty LLC, a Delaware limited liability company, with a mailing address of 10 Morgan Drive, Lebanon, NH 03766, with Quitclaim Covenant, certain real property together with any improvements thereon, situated in the City of Portland, Cumberland County, and the State of Maine, more particularly shown as Lot 5 on the Plan entitled "Subdivision Plan on Fore Street, Portland, Maine, Made For Norwich Partners LLC," (the "Plan") by Owen Haskell, Inc., dated November 20, 2007, to be recorded herewith, as said Lot 5 is further described on Exhibit A, attached hereto and made a part hereof (the "Property").

The Property is conveyed subject to and with the benefit of the following:

1. No Build Zone 10' Easement.

a. The Grantor hereby grants to the Grantee, subject to the terms and provisions hereof, the right to use the area labeled "No Build Zone 10' Easement," as shown on the Plan, and as more particularly described on Exhibit B-1 and further shown on the Easement Plan attached as Exhibit B-2, a copy of which is attached hereto and incorporated herein, together with the right to install, maintain, replace, and repair subsurface structures or other subsurface improvements to be located by Grantee within such No Build Zone 10' Easement to serve the Property, (subject however to Grantor's right to install, maintain, replace and repair subsurface utility lines within the No Build 10' Easement) as well as the right on a temporary basis during any period of construction to use the No Build Zone 10' Easement for purposes of laying down materials or staging and to cross or occupy the No Build Zone 10' Easement with workers, vehicles and equipment in connection with any construction, maintenance and/or repair activities on the Property or the improvements to be constructed thereon.

b. Grantor covenants and agrees that Grantor shall not place or maintain on or about the No Build Zone 10' Easement, any structure, material, equipment, building, debris, or vehicles. Notwithstanding the foregoing, the Grantor reserves the right to install, maintain, replace and repair underground utility lines in the No Build Zone 10' Easement and the Grantor further reserves the right to and shall be allowed to temporarily use the No Build Zone 10' Easement area during any construction or maintenance activities of Grantor on its retained lands. Further, both the Grantor and Grantee shall have the right, but not the obligation, to install landscaping, including placement of surface materials such as brick, granite, or other stone materials, in that portion of the No Build Zone 10' Easement that abuts the northerly sideline of the Property.

c. Grantor hereby reserves all its rights in and interest to the portion of the No Build Zone 10' Easement that abuts the easterly boundary of the Property (the "Grantor's Access Easement") for its use as a passage for its vehicles and pedestrians as well as for the replacement of underground utilities and for building construction and maintenance activities, and for no other purposes. Grantor hereby covenants and agrees that the Grantor's use of the Grantor's

MAINE REAL ESTATE TAX PAID

Access Easement shall not block (other than temporarily during periods of construction and maintenance) or otherwise interfere with the Grantee's use and enjoyment of the No Build Zone 10' Easement.

2. Loading and Access Easement.

a. The Grantor hereby grants to the Grantee, subject to the terms and provisions hereof, the right to use the area labeled "Loading and Access Easement" on the Plan, and as more particularly shown and described on Exhibit C-1 and as further shown on the Easement Plan attached as Exhibit C-2, for the passage of vehicles (including, without limitation, trucks) and for the delivery and unloading of goods to the Property. The Grantor hereby grants to the Grantee the right to park its delivery vehicles for a reasonable period of time during the unloading of goods to the Property. Grantor reserves the right to use said Loading and Access Easement area for all uses, provided that the same does not unreasonably interfere with the Grantee's use of said Loading and Access Easement area for the purposes defined herein. In particular, Grantor reserves the right to place buildings in the air space above the Loading and Access Easement area so long as 14' of clearance (measured from the pavement) for vehicles is maintained in the Loading and Access Easement area and so long as no buildings or overhangs are placed within or in the air space above the No Build Zone 10' Easement area. Provided, the Grantor shall be permitted to place one or more steel support beams within the Loading and Access Easement (exclusive of the No Build Zone 10' Easement area) in an area to be agreed upon between the Grantor and the Grantee as long as same does not interfere with or prohibit the construction and operation of the Hotel or other structures to be constructed by the Grantee on the Property. If the Grantor elects to relocate the Loading and Access Easement in accordance herewith, Grantor shall provide Grantee, at its sole cost and expense, (i) a new plan that depicts the relocated Loading and Access Easement, which plan shall be subject to Grantee's approval, which approval shall be provided so long as Grantee is accorded reasonable alternative access therein, and (ii) an endorsement to Grantee's title policy insuring the relocated Loading and Access Easement if located on Grantor's land, it being the Grantor's responsibility to secure all consents that may be required to issue said endorsement.

3. The easements and covenants expressly set forth herein are for the benefit of and appurtenant to the Property conveyed to Grantee by this Deed and shall run with the land of both the Grantor and the Grantee. Unless an easement is expressly described herein, no rights or easements are implied or are intended to be reserved, conveyed or created, by "dedication", "estoppel" or any other similar theory, to benefit either the Property or Lot 6 on the Plan by virtue of any notation on or reference to the Plan.

4. All construction conducted by or on behalf of the Grantee within the aforesaid No Build Zone 10' Easement and/or the Loading and Access Easement shall be conducted in accordance with all applicable laws, regulations, by-laws, orders, permits and approvals of all public authorities having jurisdiction. Any Grantee, or its agents, employees or contractors, entering such the aforesaid No Build Zone 10' Easement and/or the Loading and Access Easement shall maintain statutory worker's compensation insurance and liability insurance (with completed operations and contractual liability endorsements) with a combined single limit of not less than One Million Dollars covering the Grantor and Grantor's mortgagee, and their successors and

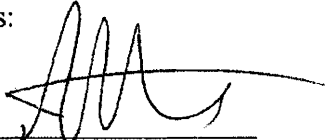
assigns, against all claims, suits, obligations, liabilities and damages, including reasonable attorneys' fees, based upon or arising out of actual or alleged personal injuries or property damage resulting from or occurring in the course of, on, or about and otherwise relating to the use of the aforesaid No Build Zone 10' Easement and/or the Loading and Access Easement granted herein. Any Grantee, or its agents, employees or contractors, prior to entering the aforesaid No Build Zone 10' Easement and/or the Loading and Access Easement, will upon request deliver to the Grantor and Grantor's mortgagee, and their successors or assigns a Certificate of Insurance providing such insurance is in full force and effect and all premiums have been paid.

5. Grantee shall save Grantor, Grantor's trustees, members, principals, beneficiaries, partners, officers, directors, employees, and agents harmless and indemnified against injury, loss or damage to any persons or property on or about the Loading and Access Easement area as a result of a claim or liability arising from the negligence or willful misconduct of Grantee, its employees, agents or contractors.)

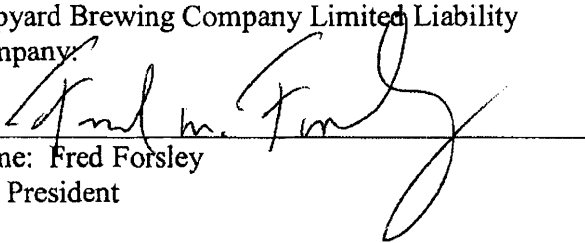
(SIGNATURE PAGES FOLLOW)

IN WITNESS WHEREOF, Shipyard Brewing Company Limited Liability Company has caused this instrument to be executed by Fred Forsley, its President thereunto, duly authorized, this fourteenth day of December, 2007.

Witness:

By:   
Name: Nathan H. Smith

Shipyard Brewing Company Limited Liability Company.

By:   
Name: Fred Forsley  
Its: President

CONTINUED ON NEXT PAGE

ACCEPTANCE OF GRANTEE

Grantee hereby accepts the conveyance of the Property and agrees to the covenants, conditions and agreements set forth herein.

CHAPIN REALTY, LLC  
BY: NORWICH PARTNERS OF PORTLAND, LLC

By: 

Its: \_\_\_\_\_

David Leatherswood  
Managing Member

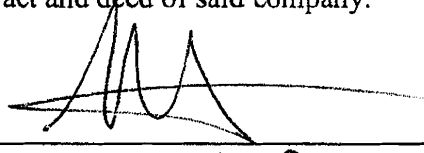
CONTINUED ON NEXT PAGE

State of Maine  
County of Cumberland, ss.

December 14, 2007

PERSONALLY APPEARED the above named Fred Forsley, President of Shipyard Brewing Company Limited Liability Company as aforesaid, and acknowledges the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said company.

Before me,



Nathan H. Smith

Attorney at Law/ ~~Notary Public~~



EXHIBIT A

A certain parcel of land situated on the northeasterly side of Hancock Street and the northwesterly 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 Hancock Street at its intersection with the southeasterly sideline of Middle Street as shown on a plan entitled "Subdivision Plan on Fore Street, Portland, Maine Made for Norwich Partners LLC" dated November 20, 2007 by Owen Haskell, Inc.;

Thence N 36° 26' 28" W along said sideline of Hancock Street a distance of 36.00 feet;

Thence N 54° 36' 24" E a distance of 271.00 feet;

Thence S 35° 23' 36" E a distance of 47.81 feet to the northwesterly sideline of Fore Street;

Thence S 22° 34' 01" W along said sideline a distance of 266.58 feet to the northeasterly sideline of Hancock Street Extension;

Thence westerly along said sideline and along a curve concave to the right having a radius of 15.00 feet an arc distance of 28.51 feet, said curve having a chord which bears S 77° 00' 30" W a distance of 24.41 feet;

Thence N 48° 33' 01" W along said sideline a distance of 91.29 feet;

Thence northwesterly along said sideline and along a curve concave to the right having a radius of 273.00 feet an arc distance of 55.15 feet to the southeasterly sideline of said Middle Street, said curve having a chord which bears N 42° 45' 45" W a distance of 55.06 feet;

Thence N 50° 24' 52" E along said sideline a distance of 6.06 feet to the Point of Beginning, containing 34,069 square feet, more or less.

EXHIBIT B-1

No Build Zone 10' Easement

A certain parcel of land situated on the northwesterly side of Fore Street in the City of Portland, County of Cumberland, State of Maine being bounded and described as follows:

Beginning on the northwesterly sideline of Fore Street at a point which bears N 22° 34' 01" E and a distance of 266.58 feet from the northeasterly sideline of Proposed Hancock Street Extension as shown on a plan entitled "Subdivision Plan on Fore Street, Portland, Maine made for Norwich Partners LLC" dated November 20, 2007 by Owen Haskell, Inc.;

Thence N 35° 23' 36" W a distance of 47.81 feet;

Thence S 54° 36' 24" W a distance of 251.00 feet;

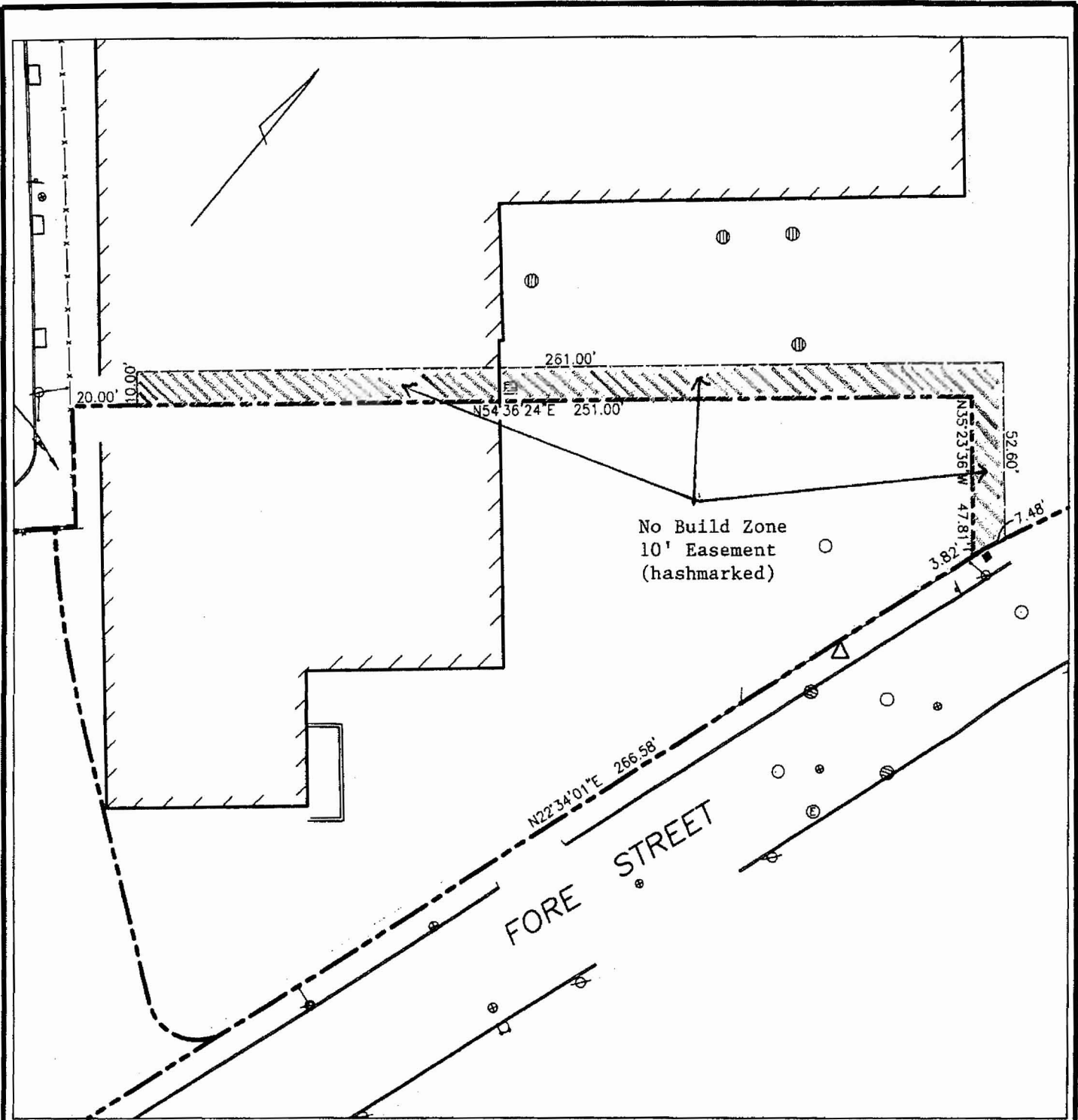
Thence N 35° 23' 36" W a distance of 10.00 feet;

Thence N 54° 36' 24" E a distance of 261.00 feet;

Thence S 35° 23' 36" E a distance of 52.60 feet to the northwesterly sideline of said Fore Street;

Thence S 29° 22' 06" W along said sideline a distance of 7.48 feet;

Thence S 22° 34' 01" W along said sideline a distance of 3.82 feet to the point of beginning.



**EXHIBIT B-2**  
NO BUILD ZONE



**OWEN HASKELL, INC.**  
16 CASCO STREET, PORTLAND, ME 04101 (207) 774-0424  
PROFESSIONAL LAND SURVEYORS

Drwn By	RWC	Date	2006-262 P
Trace By	RWC	DEC., 13, 2007	2006-262 P
Check By	JWS	Scale	Drwg. No.
Book No.	FILE	1" = 40'	2

EXHIBIT C-1

Loading and Access Easement

A certain parcel of land situated on the northwesterly side of Fore Street in the City of Portland, County of Cumberland, State of Maine being bounded and described as follows:

Beginning on the northwesterly sideline of Fore Street at a point which bears N 22° 34' 01" E and a distance of 266.58 feet from the northeasterly sideline of Proposed Hancock Street Extension as shown on a plan entitled "Subdivision Plan on Fore Street, Portland, Maine made for Norwich Partners LLC" dated January 7, 2007 by Owen Haskell, Inc.;

Thence N 35° 23' 36" W a distance of 47.81 feet;

Thence S 54° 36' 24" W a distance of 38.00 feet;

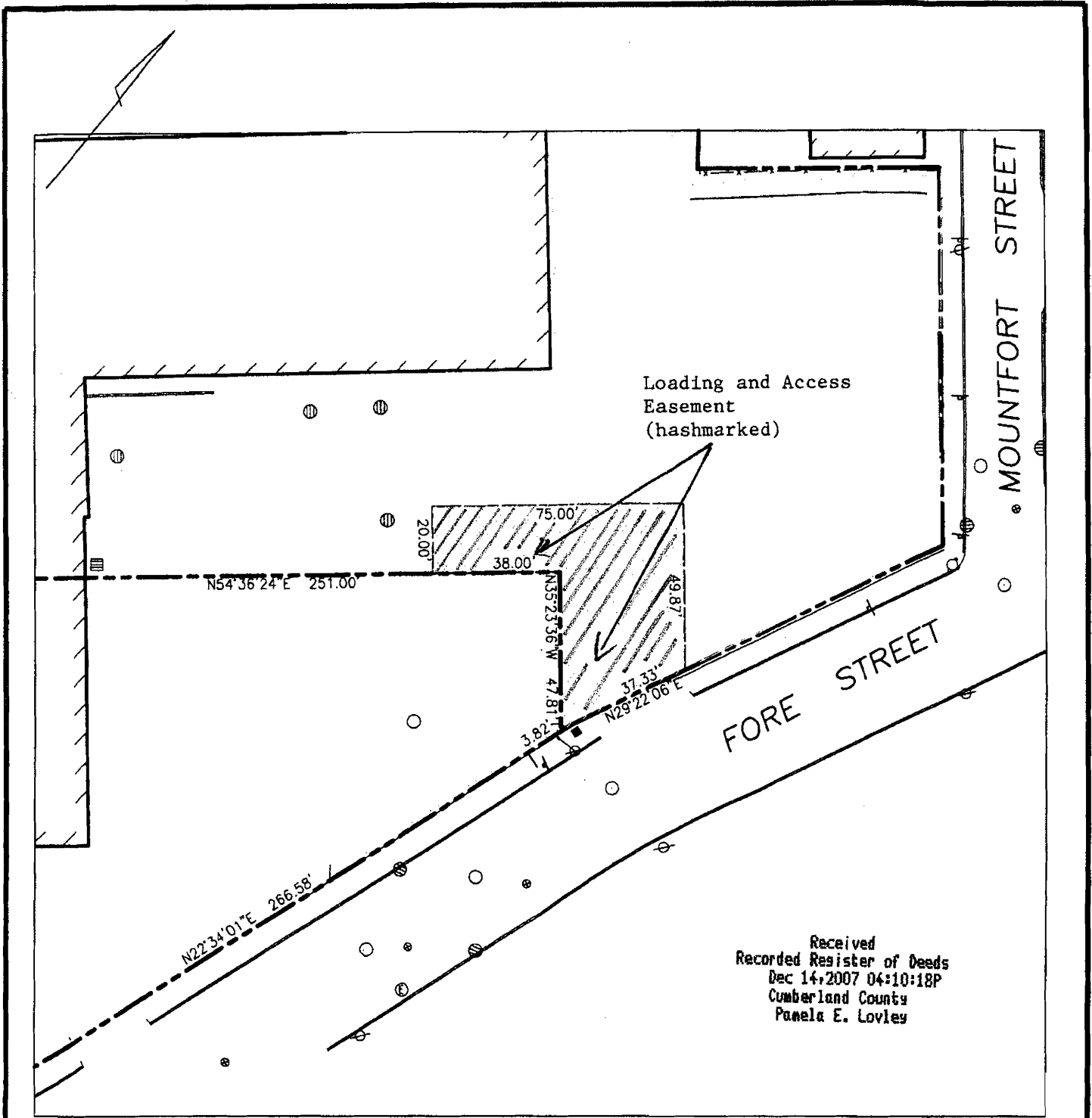
Thence N 35° 23' 36" W a distance of 20.00 feet;

Thence N 54° 36' 24" E a distance of 75.00 feet;

Thence S 35° 23' 36" E a distance of 49.87 feet to the northwesterly sideline of said Fore Street;


Thence S 29° 22' 06" W along said sideline a distance of 37.33 feet;

Thence S 22° 34' 01" W a long said sideline a distance of 3.82 feet to the point of beginning.



Received  
 Recorded Register of Deeds  
 Dec 14, 2007 04:10:18P  
 Cumberland County  
 Pamela E. Lovley

**EXHIBIT C-2**  
 LOADING AND ACCESS EASEMENT

 <p><b>OWEN HASKELL, INC.</b>                  18 CASCO STREET, PORTLAND, ME 04101 (207) 774-0424                  PROFESSIONAL LAND SURVEYORS</p>	Drwn By	RWC	Date	2006-262 P
	Trace By	RWC	DEC. 12, 2007	2006-262 P
	Check By	JWS	Scale	Drwg. No.
	Book No.	FILE	1" = 40'	1

**From:** "Leslie E. Lowry" <LLowry@JBGH.com>  
**To:** <ldobson@portlandmaine.gov>  
**Date:** 3/7/2008 11:37:59 AM  
**Subject:** Residence Inn, 127 Fore Street

Lannie:

Thank you for your time on the phone.

Attached is a copy of the recorded deed by which our client, Chapin Realty, LLC, purchased the property from Shipyard.

I understand you will reissue the original Building Permit in the name of Chapin Realty, LLC using the same permit number.

Ledgewood Construction is still the contractor.

Unless you say otherwise, we will have someone pick up the re-issued permit Monday.

Regards,  
Lee

Leslie E. Lowry, Esq.  
Jensen Baird Gardner & Henry  
Ten Free Street  
P.O. Box 4510  
Portland, Maine 04112-4510  
Phone: (207) 775-7271  
Fax: (207) 775-7935

**REQUIRED DISCLOSURE:**

United States Treasury Regulations require us to inform you that any tax advice contained in this communication and any attachment or enclosure is not intended or written by us to be used, and cannot be used, by any taxpayer for the purpose of avoiding tax penalties.

**DISCLAIMER:**

This e-mail and any file or attachment transmitted with it, is only intended for the use of the person and/or entity to whom it is addressed and may contain information that is privileged, confidential, and exempt from disclosure under applicable law. If the recipient of this message is not the intended recipient or otherwise responsible for delivering the message to the intended recipient, be notified that any disclosure, distribution or copying of this information is strictly prohibited. If you received this communication in error, destroy all copies of this message, attachments and/or files in your possession, custody or control and any other copies you may have created, and notify the sender at (207) 775-7271 or at the sender's e-mail address listed above.

**CC:** "Ara Aftandilian" <aa.summit@prodigy.net>

## BUILDING PERMIT INSPECTION PROCEDURES

Please call 874-8703 or 874-8693 (ONLY)

to schedule your inspections as agreed upon

Permits expire in 6 months, if the project is not started or ceases for 6 months.

The Owner or their designee is required to notify the inspections office for the following inspections and provide adequate notice. Notice must be called in 48-72 hours in advance in order to schedule an inspection:

By initializing at each inspection time, you are agreeing that you understand the inspection procedure and additional fees from a "Stop Work Order" and "Stop Work Order Release" will be incurred if the procedure is not followed as stated below.

A Pre-construction Meeting will take place upon receipt of your building permit.

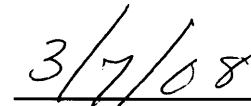
- Footing/Building Location Inspection: Prior to pouring concrete
  - Re-Bar Schedule Inspection: Prior to pouring concrete
  - Foundation Inspection: Prior to placing ANY backfill
  - Framing/Rough Plumbing/Electrical: Prior to Any Insulating or drywalling
  - Final/Certificate of Occupancy: Prior to any occupancy of the structure or use.
- NOTE: There is a \$75.00 fee per inspection at this point.**

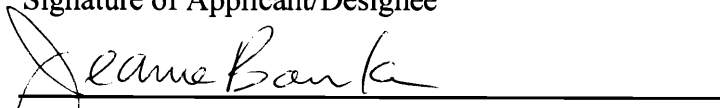
Special Inspection reports due prior to CO  
Certificate of Occupancy is not required for certain projects. Your inspector can advise you if your project requires a Certificate of Occupancy. All projects DO require a final inspection.

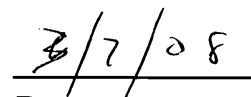
If any of the inspections do not occur, the project cannot go on to the next phase, REGARDLESS OF THE NOTICE OR CIRCUMSTANCES.

**CERIFICATE OF OCCUPANICES MUST BE ISSUED AND PAID FOR, BEFORE THE SPACE MAY BE OCCUPIED.**

  
\_\_\_\_\_  
Signature of Applicant/Designee

  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Signature of Inspections Official

  
\_\_\_\_\_  
Date

# City of Portland, Maine - Building or Use Permit

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No: 07-1325	Date Applied For: 10/18/2007	CBL: 020 C009001
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Location of Construction: 127 FORE ST	Owner Name: SHIPYARD BREWING COMPAN	Owner Address: 86 NEWBURY ST	Phone:
Business Name:	Contractor Name: Ledgewood Construction	Contractor Address: 27 Maine St. So. Portland	Phone (207) 767-1866
Lessee/Buyer's Name	Phone:	Permit Type: Commercial	

Proposed Use: Residence Inn by Marriott Extended Stay Hotel -Residence Inn by Marriott Extended Stay Hotel -179 rooms w/ 2000 sq ft of ground flr retail space	Proposed Project Description: Marriott Extended Stay Hotel -179 rooms w/ 2000 sq ft of ground flr retail space
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<b>Dept:</b> Zoning	<b>Status:</b> Approved with Conditions	<b>Reviewer:</b> Marge Schmuckal	<b>Approval Date:</b> 02/22/2008
<b>Note:</b>			<b>Ok to Issue:</b> <input checked="" type="checkbox"/>
1) Separate permits shall be required for any new signage.			
2) This permit is being approved on the basis of plans submitted. Any deviations shall require a separate approval before starting that work.			
<b>Dept:</b> Building	<b>Status:</b> Approved	<b>Reviewer:</b> Mike Nugent	<b>Approval Date:</b> 03/05/2008
<b>Note:</b>			<b>Ok to Issue:</b> <input checked="" type="checkbox"/>
<b>Dept:</b> Fire	<b>Status:</b> Approved with Conditions	<b>Reviewer:</b> Capt Greg Cass	<b>Approval Date:</b> 02/21/2008
<b>Note:</b>			<b>Ok to Issue:</b> <input checked="" type="checkbox"/>
1) Fire alarm system requires a Masterbox connection per city ordinance.			
2) New elevators are required to fit an 80" x 24" stretcher.			
3) Occupancies with an occupant load of 100 persons or more require panic hardware on all doors serving as a means of egress.			
4) The fire alarm system shall comply with NFPA 72			
5) All construction shall comply with NFPA 101			
6) The sprinkler system shall be installed in accordance with NFPA 13.			
7) Application requires State Fire Marshal approval.			

<b>Dept:</b> Public Works	<b>Status:</b> Open	<b>Reviewer:</b>	<b>Approval Date:</b>
<b>Note:</b>			<b>Ok to Issue:</b> <input type="checkbox"/>
<b>Dept:</b> Zoning	<b>Status:</b> Approved with Conditions	<b>Reviewer:</b> Marge Schmuckal	<b>Approval Date:</b>
<b>Note:</b>			<b>Ok to Issue:</b> <input checked="" type="checkbox"/>
<b>Dept:</b> Parks	<b>Status:</b> Open	<b>Reviewer:</b>	<b>Approval Date:</b>
<b>Note:</b>			<b>Ok to Issue:</b> <input type="checkbox"/>
<b>Dept:</b> Fire	<b>Status:</b>	<b>Reviewer:</b> Greg Cass	<b>Approval Date:</b>
<b>Note:</b>			<b>Ok to Issue:</b> <input type="checkbox"/>



<b>Location of Construction:</b> 127 FORE ST	<b>Owner Name:</b> SHIPYARD BREWING COMPAN	<b>Owner Address:</b> 86 NEWBURY ST	<b>Phone:</b>
<b>Business Name:</b>	<b>Contractor Name:</b> Ledgewood Construction	<b>Contractor Address:</b> 27 Maine St. So. Portland	<b>Phone</b> (207) 767-1866
<b>Lessee/Buyer's Name</b>	<b>Phone:</b>	<b>Permit Type:</b> Commercial	

<b>Dept:</b> DRC	<b>Status:</b> Approved with Conditions	<b>Reviewer:</b> Philip DiPierro	<b>Approval Date:</b> 02/29/2008
<b>Note:</b>			<b>Ok to Issue:</b> <input checked="" type="checkbox"/>
<b>Dept:</b> Planning	<b>Status:</b> Open	<b>Reviewer:</b> William B. Needelman	<b>Approval Date:</b> 06/12/2007
<b>Note:</b>			<b>Ok to Issue:</b> <input type="checkbox"/>

**Comments:**

10/31/2007-mes: On 10/31/07 I asked Bill Needleman whether this was ready & could I get a stamped approved site plan. It is not close to being signed off by planning

11/6/2007-mes: HOLD - don't issue the building permit until zoning and planning have finalized. This has been passed on for fire and building codes reviews.

2/22/2008-mes: I spoke with the applicant - PB approved 180 units, but they ended up with only 179 units. OK

3/6/2008-ldobson: 767-1866 Kevin

<b>Location of Construction:</b> 127 FORE ST	<b>Owner Name:</b> SHIPYARD BREWING COMPAN	<b>Owner Address:</b> 86 NEWBURY ST	<b>Phone:</b>
<b>Business Name:</b>	<b>Contractor Name:</b> Ledgewood Construction	<b>Contractor Address:</b> 27 Maine St. So. Portland	<b>Phone</b> (207) 767-1866
<b>Lessee/Buyer's Name</b>	<b>Phone:</b>	<b>Permit Type:</b> Commercial	

2/6/2008-ldobson: I can't open attachements please provide hard copies to City Hall, sorry

>>> "Jim Ryan" <Jim@grouponeinc.com> 02/06/08 3:07 PM >>>

Mike,

Please find attached the response letter and attachments for the items you requested below. I hope this will wrap up any of the outstanding questions for the permitting for the project. We will overnight you a hard copy of all this information. It should go out in today's FedEx so you should receive it by tomorrow morning. Please call if you have any questions or you need any additional information.

Thanks,

Jim Ryan  
Project Manager  
Group One Partners, Inc  
21 West Third Street  
Boston, MA 02127  
ph. 617-268-7000  
fax. 617-268-0209

-----Original Message-----

From: Mike Nugent [mailto:mjn@portlandmaine.gov]  
Sent: Sunday, February 03, 2008 4:05 PM  
To: Jim Ryan; Mary Faria; Mike Nugent; aa.summit@prodigy.net  
Cc: Gregory Cass; Jeanie Bourke; Lannie Dobson  
Subject: Residence Inn/ Portland

And finally;

Please provide a confirmation that the swimming pool and spa and protective surround, access point and safety equipment conform to the applicable provisions of the 2003 IBC.

Thanks

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>>> "Jim Ryan" <Jim@grouponeinc.com> 01/18/08 1:05 PM >>>

<b>Location of Construction:</b> 127 FORE ST	<b>Owner Name:</b> SHIPYARD BREWING COMPAN	<b>Owner Address:</b> 86 NEWBURY ST	<b>Phone:</b>
<b>Business Name:</b>	<b>Contractor Name:</b> Ledgewood Construction	<b>Contractor Address:</b> 27 Maine St. So. Portland	<b>Phone</b> (207) 767-1866
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Thank you and Happy Holidays

Mike Nugent  
Consulting Plans Examiner  
City of Portland

>>> Mike Nugent 12/06/07 8:26 PM >>>

I have commenced the review and need the following info or have the following questions:

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Thanks

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Consulting Plans Examiner  
City of Portland

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12/17/2007-Ldobson: we've reviewed dozens of projects similar and larger than this and we know what the 2003 IBC requires. Why don't we find out why it was changed and if there is a better standard for the elevator doors which includes a smoke test in the 2006 IBC or some other reason why this was changed to set the threshold for highrise buildings. I'll call the IBC tomorrow

>>> "Mary Faria" <mary@grouponeinc.com> 12/13/07 6:43 AM >>>

Jim

Can't we get the ibc it give an interpretation of 2003?

Mary Faria, AIA  
Group One Partners, Inc.  
sent via wireless device

-----Original Message-----

From: "Mike Nugent" <mjn@portlandmaine.gov>

To: "Jim@grouponeinc.com" <Jim@grouponeinc.com>

Cc: "mary@grouponeinc.com" <mary@grouponeinc.com>; "Gregory Cass" <GEC@portlandmaine.gov>; "Jeanie Bourke"

<JMB@portlandmaine.gov>; "Lannie Dobson" <LDobson@portlandmaine.gov>; "aa.summit@prodigy.net" <aa.summit@prodigy.net>

Sent: 12/12/2007 9:03 PM

Subject: Re: FW: Residence Inn/ Portland

With regard to the elevator lobbies, The City ( and State) is governed by the 2003 IBC. Because this is the case ,the structure must comply with the current elevator lobby standards. Please amend your submissions to comply with Section 707.14.1 of the 2003 IBC.

Thank you

Mike Nugent

>>> "Jim Ryan" <Jim@grouponeinc.com> 12/10/07 7:40 PM >>>

Mike,

Please find attached a response letter to your email questions below. I will follow up with a hard copy with the attachments for your files. Please review the information and give me a call or email if you need any addition information or clarifications.

Thank you,

Jim Ryan  
Project Manager  
Group One Partners, Inc  
21 West Third Street  
Boston, MA 02127  
ph. 617-268-7000  
fax. 617-268-0209

-----Original Message-----

From: Ara Aftandilian [mailto:aa.summit@prodigy.net]

Sent: Thursday, December 06, 2007 9:33 PM

To: Jim Ryan

Subject: Fwd: Residence Inn/ Portland

FYI

<b>Location of Construction:</b> 127 FORE ST	<b>Owner Name:</b> SHIPYARD BREWING COMPAN	<b>Owner Address:</b> 86 NEWBURY ST	<b>Phone:</b>
<b>Business Name:</b>	<b>Contractor Name:</b> Ledgewood Construction	<b>Contractor Address:</b> 27 Maine St. So. Portland	<b>Phone</b> (207) 767-1866
<b>Lessee/Buyer's Name</b>	<b>Phone:</b>	<b>Permit Type:</b> Commercial	

--- Mike Nugent <mjn@portlandmaine.gov> wrote:

> Date: Thu, 06 Dec 2007 20:26:34 -0500  
> From: "Mike Nugent" <mjn@portlandmaine.gov>  
> To: <aa.summit@prodigy.net>  
> CC: "Jeanie Bourke" <JMB@portlandmaine.gov>,  
> "Lannie Dobson" <LDobson@portlandmaine.gov>  
> Subject: Residence Inn/ Portland

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> City of Portland

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<b>Lessee/Buyer's Name</b>	<b>Phone:</b>	<b>Permit Type:</b> Commercial	

1/20/2008-ldobson: Thank you, please provide hard copies at City Hall as soon as you can, my home addition of the City Web services will not allow me to open most attachments.

I have completed my review otherwise and I have the following questions or require the following information:

- 1) Please confirm that the fire/smoke dampers in the guestroom bathroom fans. are protected at the shaft as shown in the riser detail on H2-02, and are below the fire rated floor ceiling assembly. Also please provide a detail the the typical guestroom Heat pump installation, want to review to insure that dampers are not required.
- 2) Did the staff at City Hall provide a Kitchen Exhaust check list for you? I also noted that there is a Fire damper on the Kitchen Exhaust and Dryer systems (see H2-02) Are these allowed in these applications. Due to grease and Lint Build up, I think they're not allowed and an alternative design is required. Please look into this.
- 3) Do you have provisions for emergency standby power for the elevator as required by section 1007.2.1 etc.
- 4) Please confirm that the stair risers will not exceed 7 inches.
- 5) Please confirm that the circular stair comply with section 1009.7. What is the tread depth at 12 inches from the narrow side , also please provide a tread riser profile detail.
- 6) Have you provided the roof access stair and hatch detail yet?
- 7) STC's and IIC's (section 1207) My plan set page A5.4 has the STC's "XXX" and the wall sections don't have consistent STC info.
- 8) The statement of Special Inspections is incomplete. Need a seismic quality assurance plan, contractor's statement of responsibility and there is no program for sprayed on fire resistance materials and the testing agency has yet to be determined.
- 9) The Window schedule on A8.4 shows window type "G1" for the Aluminum Storefront Windows, Do these need to be safety glazing?

Thanks!  
Mike Nugent

>>> "Jim Ryan" <Jim@grouponeinc.com> 01/18/08 1:05 PM >>>

Mike,  
Please find attached a copy of our response letter and all the attachments. I have addressed all the items listed below as well as the comments that Captain Cass had. I will forward you a hard copy of all the attachments overnight tonight. I believe this should answer all the outstanding items that you had. Please call if you need any additional information.

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 Cc: Gregory Cass; Jeanie Bourke; Lannie Dobson  
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Mike Nugent  
Consulting Plans Examiner  
City of Portland



**Group One Partners, Inc.  
Transmittal Form**

21 West Third Street Boston, MA 02127  
(617) 268-7000 FAX (617) 268-0209

<b>DATE</b>	1-18-2008	<b>JOB #</b>	802
<b>PROJECT</b>	Residence Inn Portland, ME		

<b>TO</b>	Planning & Development Department Inspection Services Division 389 Congress Street Portland, Maine  Attention: Mike Nugent	Via: Fed Ex
-----------	---	-------------

<b>COPY TO</b>	Ara Aftandilian
----------------	-----------------

- |  |  |   |
|--|--|---|
| <input checked="" type="checkbox"/> <b>WE ARE SENDING HEREWITH</b> | <input checked="" type="checkbox"/> PRINTS | <input type="checkbox"/> TRACINGS         |
| <input type="checkbox"/> <b>UNDER SEPARATE COVER</b>               | <input type="checkbox"/> SAMPLES           | <input type="checkbox"/> SHOP DRAWINGS    |
|  | <input type="checkbox"/> SPECIFICATIONS    | <input type="checkbox"/> PHOTOGRAPHS      |
|  | <input type="checkbox"/> RENDERING         | <input type="checkbox"/> OTHER -see below |

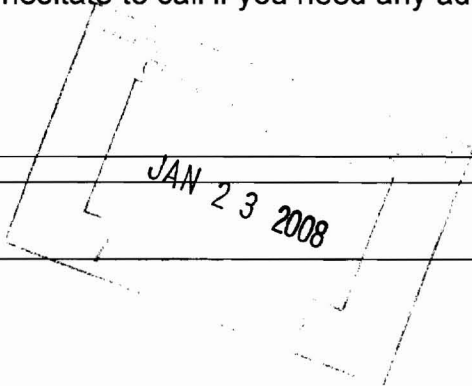
**THE FOLLOWING ACTION APPLIES:**

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> NO EXCEPTIONS TAKEN   | <input type="checkbox"/> FOR APPROVAL         | <input type="checkbox"/> FOR DISTRIBUTION |
| <input type="checkbox"/> EXCEPTIONS NOTED      | <input type="checkbox"/> FOR COMMENT          | <input type="checkbox"/> FOR CONSTRUCTION |
| <input type="checkbox"/> RESUBMIT              | <input type="checkbox"/> FOR YOUR INFORMATION | <input type="checkbox"/> PER YOUR REQUEST |
| <input checked="" type="checkbox"/> FOR REVIEW | <input type="checkbox"/> FOR ESTIMATING       |   |

COPIES	DRAWING #	TITLE	DATE
1		Response letter	
1		BBQ burner cut sheet	
1		Kitchen exhaust hood cut sheet	
1		COMcheck reports	
1		Kitchen Exhaust System Checklist	

<b>REMARKS</b>	Mike,  Please find attached information. Review the information, I hope it answers all you questions. Do no hesitate to call if you need any additional information or clarification.  Thank you,
----------------	---

<b>SIGNED</b>	Jim Ryan
---------------	----------





December 10, 2007

Planning & Development Department  
Inspection Services Division  
389 Congress Street  
Portland, Maine  
04101-3509

RE: Residence Inn by Marriott  
Hancock Street and Fore Street  
City of Portland, ME

6208

Dear Mike Nugent,

This letter is in response to your email dated December 6, 2007. Please see below your questions with the responses.

1) *In our pre-permitting meeting, we discussed the need for elevator lobbies that comply with section 707.14.1. of the 2003 IBC. This is not reflected in the submissions. Please explain.*

**We have reviewed this with this with International code council and they stated that the exception #4 in the 2003 does leave it up to interpretation based on the "lowest level of fire department vehicle access". In the 2006 International Building Code this was clarified to read "Buildings have occupied floors located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access". Please find attached the copy of the 2006 version of the section with the commentary clarifying that the elevator lobbies would not be required with our entire building equipped with an automatic sprinkler system. With this clarification to the code we believe we would not be required to install the elevator lobbies. Please review this information and verify if you agree with our interpretation.**

2) *Please provide a project spec book.*

**The specifications were sent under separate cover last Friday and should be in your office today. Please give us a call if you did not receive it and we will send an additional copy.**

3) *The submission lacks sufficient piling information. Please provide piling information that establishes compliance with all of the applicable portions of Section 1808 and 1809 of the 2003 IBC*  
**Please review the specification section 31 62 16 "Steel Piles". We reviewed this with our geotechnical engineer Timothy Boyce from S. W. Cole Engineering and he said he would be happy to supply you with any additional information if the specification section and the geotechnical report did not answer all your questions.**

4) The Seismic site class is a "D", yet the design category is a "B". Please provide the calculations that were used.

**The "B" labeling on certificate of Design Application is incorrect.**

**The seismic site class is "D" and the seismic design category is "C". This can be found on the drawings on sheet S1.0 – Design loads - #6 Earthquake loads.**

An additional item that was discussed at our meeting was the alternating stairs for access to the roof. This has been added to the drawings, please see attached sheet A3.1.

Sincerely yours

A handwritten signature in black ink, appearing to read "James M. Ryan", with a long horizontal flourish extending to the right.

James M. Ryan  
Associate - Architecture



further emphasizes the precautions necessary with systems that connect multiple stories.

**707.13.4 Termination room.** Refuse and laundry chutes shall discharge into an enclosed room separated from the remainder of the building by a fire barrier that has a fire-resistance rating of not less than 1 hour. Openings into the termination room shall be protected by opening protectives having a fire protection rating of not less than  $\frac{3}{4}$  hour. Doors shall be self- or automatic closing upon the detection of smoke in accordance with Section 715.4.7.3. Refuse chutes shall not terminate in an incinerator room. Refuse and laundry rooms that are not provided with chutes need only comply with Table 508.2.

❖ Refuse and laundry chutes are required to terminate in rooms enclosed by fire barriers so as to segregate such rooms from all parts of the building. See the requirements of Section 707.11, Item 2, as well as the restrictions of this section. The termination room represents the collection and fuel load concentration point and, as such, must be protected not only from outside ignition sources, but also to retard the spread of fire originating in the termination room. Accordingly, the waste chute must not terminate in a room containing an incinerator. The purpose of waste chutes originally was to collect the refuse for incineration; thus, proximity to the incinerator was thought desirable. The hazards of ignition, however, preclude such convenience. The reference to Section 508.2 serves as a reminder that laundry and waste collection rooms are considered a specific hazard and are regulated by the incidental use requirements.

**707.13.5 Incinerator room.** Incinerator rooms shall comply with Table 508.2.

❖ This section requires that incinerators be enclosed by fire barriers (see Table 508.2) for the same reasons that Section 707.13.4 requires termination rooms to be enclosed.

**707.13.6 Automatic sprinkler system.** An approved automatic sprinkler system shall be installed in accordance with Section 903.2.10.2.

❖ This section requires that the chute, termination room and incinerator room associated with a waste or linen system be protected with an automatic fire sprinkler. Note that the requirement for suppression is within the chute itself and not within the required shaft that encloses the chute. Section 903.2.10.2 identifies the location of the sprinkler protection.

**707.14 Elevator, dumbwaiter and other hoistways.** Elevator, dumbwaiter and other hoistway enclosures shall be constructed in accordance with Section 707 and Chapter 30.

❖ The hoistway enclosure is the fixed structure consisting of vertical walls or partitions that isolates the enclosure from all other building areas or from an adjacent enclosure in which the hoistway doors and door assemblies are installed. With the exception of observation elevators, the hoistway is normally enclosed with fire barriers (see Section 707.4). A hoistway enclosure for fire spread purposes may not be required if suitable

protection measures are provided. Section 707.2 lists exceptions for shaft enclosures around floor openings and is applicable to all hoistways. In addition, shaft enclosures are not required for elevators located in an atrium, since there is no penetration of floor assemblies. Elevator hoistways are enclosed to ensure that flame, smoke and hot gases from a fire do not have an avenue of travel from one floor to another through a concealed space (see the discussion of stack effect in the commentary to Section 707.14.1). Enclosures are also provided to restrict contact with moving equipment and to protect people from falling.

**707.14.1 Elevator lobby.** An enclosed elevator lobby shall be provided at each floor where an elevator shaft enclosure connects more than three stories. The lobby shall separate the elevator shaft enclosure doors from each floor by fire partitions equal to the fire-resistance rating of the corridor and the required opening protection. Elevator lobbies shall have at least one means of egress complying with Chapter 10 and other provisions within this code.

**Exceptions:**

1. Enclosed elevator lobbies are not required at the street floor, provided the entire street floor is equipped with an automatic sprinkler system in accordance with Section 903.3.1.1.
2. Elevators not required to be located in a shaft in accordance with Section 707.2 are not required to have enclosed elevator lobbies.
3. Where additional doors are provided at the hoistway opening in accordance with Section 3002.6. Such doors shall be tested in accordance with UL 1784 without an artificial bottom seal.
4. In other than Group I-3, and buildings having occupied floors located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, enclosed elevator lobbies are not required where the building is protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
5. Smoke partitions shall be permitted in lieu of fire partitions to separate the elevator lobby at each floor where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.
6. Enclosed elevator lobbies are not required where the elevator hoistway is pressurized in accordance with Section 707.14.2.

❖ An elevator lobby or one of its alternatives found in exceptions to Section 707.14.1 is required whenever an elevator shaft connects more than three stories. Most of the exceptions or alternatives to lobbies are found in some form in one or more of the legacy codes from which lobby provisions were developed. Elevator shafts often constitute the largest vertical shaft in multistory buildings. Hoistways can create a passageway for the accumulation and spread of hot smoke and gases from a fire to other floors in a building. Smoke is

well recognized as the major killer in fire situations, often migrating to areas remote from the source of the fire.

Chapter 7 provisions address the isolation by compartmentation of fire growth. Analyses of fires in multistory buildings have documented the movement of smoke to upper levels. In the 1980 fire at the MGM Grand Hotel in Las Vegas, 70 of the 84 deaths occurred on the 14th to 24th floors even though the fire was on the first level. The Johnson City Retirement fire in 1989 also had a fire originating on the first level with all but two of the 16 fatalities occurring on the upper floors due to smoke movement via vertical shafts that included the elevator hoistway.

The elevator lobby requirement further isolates the fire-rated elevator shaft enclosure and its doors from the remainder of the floor by fire partitions. The general requirement for the fire partition to have a rating that matches the corridor requirements is used since the lobby provisions were previously tied to the elevator opening into a fire-resistance-rated corridor instead of to the number of stories connected by the elevator shaft. Fire partitions require a fire-resistance rating and protection of openings as covered in Section 708.3 and the remaining portions of Section 708. Corridor requirements for egress are defined in Section 1017 and Table 1017.1. Opening protectives for the lobby reduce heat and smoke spread into the area immediately in front of hoistway doors and delay or prevent the vertical spread of smoke to other floors through the elevator shaft itself.

Multistory buildings have increasing security concerns that have often resulted in controlled access from elevator lobbies to the remainder of the floor. Section 707.14.1 clearly establishes that every elevator lobby shall have access to at least one means of egress; ensuring that no occupant in a lobby is left isolated from escape when elevators are recalled during Phase I elevator recall as required by Chapter 30. ASME A17.1, *Safety Code for Elevators and Escalators*, details recall requirements, which are adopted by reference in Chapter 30.

The six exceptions modify the base requirement for lobbies in some way. Exception 1 removes the requirement for an enclosed elevator lobby on the street floor of a building when the entire street floor is equipped with automatic sprinklers. This exception is notable in that it does not require sprinkler protection in the entire building, only the street floor. Buildings that are fully sprinklered would also be relieved of the requirement to provide a lobby on the street floor.

Exception 2 removes elevators not required to be in a shaft from having enclosed elevator lobbies. Section 707.2 contains 11 different exceptions for varied opening protectives. The exception to elevator shaft requirements are found in Exception 5 for atriums where the shaft is typically common to the openings between floors.

Exception 3 removes the requirement for elevator lobbies when additional doors are provided that meet

two separate criteria. First of all, the additional door must be operable from the car side of the elevator shaft without a key, tool, special knowledge or effort as stated in Section 3006.2. This ensures that if the door does close that it can be opened by someone who arrives at that level on the elevator. This could happen if the fire department is using the elevator to access the fire floor or staging for the fire on an adjacent level. The second issue is the testing of the door. Typically, the elevator doors at the hoistway opening already have a prescribed fire-resistance rating and none is required for the additional door. The exception does, however, require that the additional door must be tested in accordance with UL 1784 without an artificial bottom seal. The UL 1784 test is titled *Air Leakage Tests of Door Assemblies* and does not require any fire-resistance-rated testing. Air leakage testing does contain an elevated temperature test that exposes the opening protective to an air temperature of 400°F (204°C) in addition to measuring pressure differential performance at 0.10 inches of water gage (25 Pa). Doors are installed in the test according to the requirements of NFPA 105, *Standard for the Installation of Smoke and Draft Control Door Assemblies*, which is also referenced in the code. Side swinging doors that are tested to UL 1784 are often marked with an "S" label. The testing under UL 1784 to meet the Section 707.14.1 exception does not allow the use of an artificial bottom seal for the test as a measure of ensuring that smoke movement around all four sides of the opening protective does not leak significantly. There are three types of opening protectives that meet Exception 3; two are proprietary designs that consist of sliding or rolling barriers and the third is the traditional side swinging door. The requirement for this door to meet the air leakage requirements is to limit the spread of smoke or other gases to or from the elevator shaft and then to other levels. As mentioned earlier, the hoistway doors will typically provide the fire protection rating that is required by Sections 707.7 and 715.4. However, due to the typical operation and movement of the hoistway doors, they generally can not provide the level of reduced air leakage that is required to stop the spread of smoke.

Exception 4 applies to other than Group I-3 occupancies. Buildings having occupied floors not higher than 75 feet (22 860 mm) above the lowest level of fire department vehicle access are not required to have lobbies when the building is protected throughout by NFPA 13 or NFPA 13R automatic sprinkler systems installed in accordance with Section 903.3.1.1 or 903.3.1.2 requirements. Conversely, all high-rise buildings, regardless of occupancy, are required to have elevator lobby protection.

This exception is modified slightly from the exception that previously existed when the lobby provision was tied to an opening into a fire-resistive-rated corridor. Because of the inclusion of the 75-foot (22 860 mm) height limitation, this exception can virtually be used to eliminate the four-story threshold that is now

found in the base paragraph. Therefore, an elevator shaft that serves six or seven floors does not require a lobby, provided the building is sprinklered and it is not a high-rise or a Group I-3 occupancy.

Exception 5 provides an alternative means of constructing an elevator lobby. This exception allows the substitution of nonrated smoke partitions in lieu of 1-hour fire-resistance-rated fire partitions to separate the elevator lobby on each floor. The building must be protected throughout by NFPA 13 or NFPA 13R automatic sprinkler systems installed in accordance with Section 903.3.1.1 or 903.3.1.2 requirements. This exception is a recognition of the effectiveness of sprinklers in limiting fire spread and the continued concern over limiting smoke movement from the floor of fire origin.

Exception 6 allows the substitution of elevator hoistway pressurization for enclosed lobbies. Section 707.14.2 details the design of the pressurization system and is similar to smoke control requirements found in Section 909. Pressurization relies upon mechanical systems that provide air into the hoistway or shaft in excess of expected environmental (stack effect) and fire-generated pressures.

**707.14.2 Enclosed elevator lobby pressurization alternative.** Where elevator hoistway pressurization is provided in lieu of required enclosed elevator lobbies, the pressurization system shall comply with this section.

❖ Where elevator lobbies are required by Section 707.14.1 and Exception 6 of that section is used, the design and operation requirements of Section 707.14.2 are to be applied in the construction and testing of the elevator hoistway pressurization system. These requirements, while similar to the Section 909 smoke control requirements, are altered to meet specific vertical shaft concerns found in elevator hoistways. This pressurization system is considered as an equivalent approach to the typical option of using an elevator lobby to provide a barrier between the elevator shaft and the rest of the story.

This alternative was developed from provisions that were used in Portland, Oregon as a means to eliminate elevator lobbies. While Section 909.20.5 continues to provide pressurization criteria for smokeproof enclosures for stairways, the criteria were deemed to be inadequate and inappropriate for the protection elevator hoistways

**707.14.2.1 Pressurization requirements.** Elevator hoistways shall be pressurized to maintain a minimum positive pressure of 0.04 inches of water column (1.00 Pa) and a maximum positive pressure of 0.06 inches of water column (1.49 Pa) with respect to adjacent occupied space on all floors. This pressure shall be measured at the midpoint of each hoistway door, with all ground floor level hoistway doors open and all other hoistway doors closed. The supply air intake shall be from an outside, uncontaminated source located a minimum distance of 20 feet (6096 mm) from any air exhaust system or outlet.

❖ The pressurization requirements of Section 707.14.2.1 provide a minimum and maximum positive

pressure that must be achieved by the hoistway or shaft mechanical pressurization system. Positive pressure stairways have different limits. For hoistways, the range of pressurization is from 0.04 to 0.06 inches of water column (1.0-1.49 Pa) with regard to each occupied floor. The minimum pressure is to ensure that the stack effect is overcome and the maximum pressure is to ensure that the hoistway door operation will not be affected during Phase II operation by emergency responders. The design of the system must meet acceptance testing that verifies the pressure differential at the midpoint of each door on each floor is within the defined range. Section 3003.2 establishes that elevators shall have Phase I fire-fighter recall. Phase I recall returns elevators to a designated floor (usually the first floor or floor of fire department access) when smoke detectors located at any elevator landing or the elevator machine room detects smoke. Testing with the ground floor level hoistway doors open and all others closed duplicates the position of elevator doors in a fire emergency. Air supply intakes located remote from an uncontaminated source or 20 feet (6096 mm) from any air exhaust system or outlet help to ensure that the shaft will not become contaminated with smoke from a fire that is exhausted near the pressurization system. During Phase II fire fighter operations, fire fighters will use elevators to stage operations below the fire floor and rescue residents from upper floors. The air supply isolation requirements help to ensure that the elevator hoistway remains tenable through the fire event or well into it before elevators can no longer be used.

**707.14.2.2 Ducts for system.** Any duct system that is part of the pressurization system shall be protected with the same fire-resistance rating as required for the elevator shaft enclosure.

❖ Hoistway venting requirements in Section 3004 and ASME A17.1, *Safety Code for Elevators and Escalators* define fire-resistance ratings for the elevator shaft and penetrations into the hoistway. Section 707.14.2.2 requires the pressurization system ducts to comply with Chapter 30 and ASME A17.1 fire-resistance-rating requirements.

**707.14.2.3 Fan system.** The fan system provided for the pressurization system shall be as required by this section.

❖ Section 707.14.2.3 simply details that the fan system used for pressurization meets all of the section's subpart requirements.

**707.14.2.3.1 Fire resistance.** When located within the building, the fan system that provides the pressurization shall be protected with the same fire-resistance rating required for the elevator shaft enclosure.

❖ Fire-resistance requirements in Section 707.14.2.3.1 must duplicate shaft requirements in Section 3004 and ASME A17.1, *Safety Code for Elevators and Escalators*, which define fire-resistance ratings for the elevator shaft and penetrations into the hoistway.



# Certificate of Design Application

From Designer: Group One (Mary Faria - Architect) Goldstein - Milano (Brent Goldstein - Struc Engineer)

Date: 10-15-07

Job Name: Residence Inn By Marriott

Address of Construction: Corner of Hancock Street and Fore Street

## 2003 International Building Code

Construction project was designed to the building code criteria listed below:

Building Code & Year IBC 2003 Use Group Classification (s) R-1, A-3 & M (Seperated use groups)

Type of Construction 2A

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2003 IRC Yes

Is the Structure mixed use? Yes If yes, separated or non separated or non separated (section 302.3) Seperated use groups

Supervisory alarm System? Yes Geotechnical/Soils report required? (See Section 1802.2) Yes (Done)

### Structural Design Calculations

Fully engineer building system individual members will submit appon request Submitted for all structural members (106.1 - 106.11)

### Design Loads on Construction Documents (1603)

Uniformly distributed floor live loads (7603.11, 1807)

Floor Area Use	Loads Shown
Guest rooms	40 psf + partition load
Corridor abov 1st floor	80 psf
Courtyard stairs	100 psf
Storage	125 psf
Mechanical	150 psf or actual equipment weights, which ever greater

### Wind loads (1603.1.4, 1609)

ASCE 7, Methord 2 Design option utilized (1609.1.1, 1609.6)

90 mph Basic wind speed (1809.3)

1 Building category and wind importance Factor,  $I_w$  table 1604.5, 1609.5)

D Wind exposure category (1609.4)

+/- 0.18 Internal pressure coefficient (ASCE 7)

See calcs Component and cladding pressures (1609.1.1, 1609.6.2.2)

See calcs Main force wind pressures (7603.1.1, 1609.6.2.1)

### Earth design data (1603.1.5, 1614-1623)

Eq. Lat. Force Design option utilized (1614.1)

1 Seismic use group ("Category")

Sds=0.325 Sd1= 0.123 Spectral response coefficients,  $S_D$  &  $S_{D1}$  (1615.1)

D Site class (1615.1.5)

Per Code	Live load reduction
20 psf	Roof <i>live</i> loads (1603.1.2, 1607.11)
35 psf	Roof snow loads (1603.7.3, 1608)
50 psf	Ground snow load, $P_g$ (1608.2)
35 psf	If $P_g > 10$ psf, flat-roof snow load $I_T$
1.0	If $P_g > 10$ psf, snow exposure factor, $C_e$
1.0	If $P_g > 10$ psf, snow load importance factor, $I_T$
1.0	Roof thermal factor, $C_T$ (1608.4)
N/A	Sloped roof snowload, $P_s$ (1608.4)
B	Seismic design category (1616.3)
Ordinary steel moment frames	Basic seismic force resisting system (1617.6.2)
R=3.5. Cd =3	Response modification coefficient, $R_T$ and deflection amplification factor $C_d$ (1617.6.2)
Equiv. lateral force	Analysis procedure (1616.6, 1617.5)
See Cals	Design base shear (1617.4, 16175.5.1)
Flood loads (1803.1.6, 1612)	
	Flood Hazard area (1612.3)
1st fl. Elev 18.00	Elevation of structure
Other loads	
See drawings	Concentrated loads (1607.4)
See Cals	Partition loads (1607.5)
See drawings and Geotechnical report	Misc. loads (Table 1607.8, 1607.6.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404)



# Accessibility Building Code Certificate

**Designer:** Group One (Mary Faria)

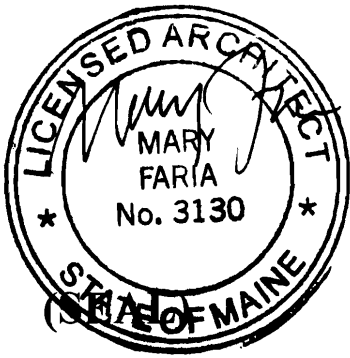
**Address of Project:** Corner of Hancock Street and Fore Street

**Nature of Project:** Hotel project with an street level merchantile space

\_\_\_\_\_

\_\_\_\_\_

The technical submissions covering the proposed construction work as described above have been designed in compliance with applicable referenced standards found in the Maine Human Rights Law and Federal Americans with Disability Act. Residential Buildings with 4 units or more must conform to the Federal Fair Housing Accessibility Standards. Please provide proof of compliance if applicable.



**Signature:** *Mary Faria*

**Title:** Principal

**Firm:** Group One

**Address:** 21 West Third Street  
Boston, MA 02127

**Phone:** 617-268-7000

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# Certificate of Design

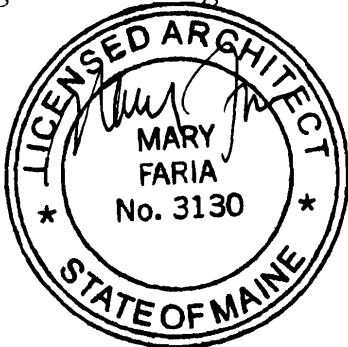
**Date:** 10-15-07

**From:** Group One (Mary Faria)

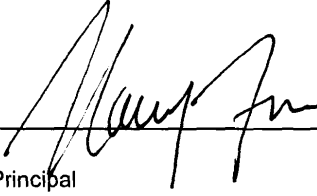
These plans and / or specifications covering construction work on:

Residence Inn by Marriott hotel at the corner of Hancock Street and Fore Steet in Portland, ME.

Have been designed and drawn up by the undersigned, a Maine registered Architect / Engineer according to the *2003 International Building Code* and local amendments.



**(SEAL)**

Signature: 

Title: Principal

Firm: Group One

Address: 21 West Third Street

Boston, MA 01217

Phone: 617-268-7000

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# Certificate of Design

Date: October 17, 2007

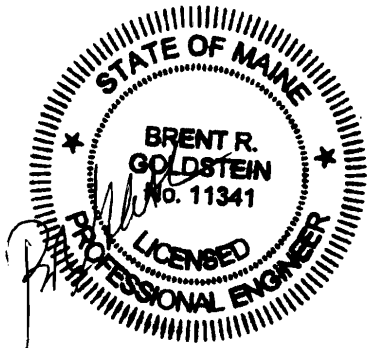
From: Goldstein-Milano LLC

These plans and / or specifications covering construction work on:

Residence Inn by Marriott hotel at the corner of Hancock Street

and Fore Street in Portland, ME

Have been designed and drawn up by the undersigned, a Maine registered ~~Architect /~~ Engineer according to the *2003 International Building Code* and local amendments.



(SEAL)

Signature: 

Title: Principal

Firm: Goldstein-Milano LLC

Address: 125 Main Street

Reading, MA 01867

Phone: (781) 670-9990

For more information or to download this form and other permit applications visit the Inspections Division on our website at [www.portlandmaine.gov](http://www.portlandmaine.gov)

# PROGRAM OF STRUCTURAL TESTS AND INSPECTIONS

## STATEMENT OF INSPECTIONS

**Project:** Portland Residence Inn

**Location:** Portland, Me.

**Owner:** Norwich Partners, LLC

**Owner's Address:** 306 Maine Street  
Norwich, Vermont 05055

**Architect of Record:** Group One Partners, Inc.


**Structural Engineer of Record (SER):** Goldstein-Milano, LLC

This program of structural tests and inspections is submitted as a condition for issuance of the building permit. It includes a program of inspections applicable to this project as well as the name of the inspector, and the identity of other approved agencies to be retained for conducting these inspections.

The inspector shall keep records of all inspections, and shall furnish inspection reports to the Code Official and to the Structural Engineer and Architect of Record. Discovered discrepancies shall be brought to the immediate attention of the Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Building Official and the Structural Engineer and Architect of Record. The inspection program does not relieve the Contractor of his or her responsibilities.

A final report of inspections documenting completion of all required inspections and correction of any discrepancies noted in the inspections shall be submitted prior to the issuance of a Certificate of Use and Occupancy.

Registered Structural Engineer of Record:

 1/23/08

Signature & Date

Building Owner's Authorization:

Signature & Date

Building Officials Authorization:

Signature & Date

H  
A  
R



**PROGRAM OF STRUCTURAL TESTS AND INSPECTIONS**

The following categories of structural tests and inspections, if checked, are included in the program for structural tests and inspections for this project. The specific tests and inspections required for each checked category are listed on the page noted opposite the category.

Category

- Soils and Shallow Foundations
- Pile Foundations
- Cast-in-Place Concrete
- Precast Concrete Construction
- Masonry Construction
- Structural Steel
- Miscellaneous
- Exterior Insulation and Finish System (EIFS)
- Sprayed-on Fireproofing

Inspection Agents	Firms	Address
1. Geotechnical	S. W. Cole Engineering, Inc.	286 Portland Road Gray, Maine 04039
2. Testing Agency	To Be Determined	To Be Determined
3. Structural Engineer of Record (SER)	Goldstein-Milano, LLC	125 Main St. Reading, MA 01867

### Quality Assurance Plan

#### Quality Assurance for Seismic Resistance:

Seismic Design Category: C  
Seismic-force-resisting system: Ordinary steel moment frames  
Quality Assurance Plan Required? Yes

Reference IBC 2003 Section 1707.2 and AISC 341 for special inspections required for structural steel. Reference IBC 2003 Section 1708.4, AISC 341, AWS D1.1, ASTM A 435, and ASTM A 898 for structural testing required for structural steel.

Note: This Quality Assurance Plan covers the seismic-force-resisting system only.

#### Quality Assurance for Wind Requirements:

Wind Exposure Category: D  
Basic Wind Speed (3-second gust): 90 mph  
Quality Assurance Plan Required? No

**Soils and Foundation Construction**

<b>Item</b>	<b>Agent</b>	<b>Scope</b>
1. Controlled Compacted Engineered Fill	1, 2	Confirm installation conforms to the project specifications and/or geotechnical report.
2. Shallow Foundations	1	Confirm installation conforms to the project specifications and/or geotechnical report.

**Pile Foundations**

<b>Item</b>	<b>Agent</b>	<b>Scope</b>
1. Pile material (780 CMR 1816.14)	1, 2	Inspect documents identifying pile material and certifying grade of material for conformance to the Contract Documents, and that the identification is maintained from the point of manufacture to the point of delivery to the site.
2. Pile material tests	2	If Item 1 is unsatisfactory, test material for conformance to the Contract Documents.
3. Pile installation	2	Perform full time inspection of installation. Maintain accurate records for each pile. Record final location of each pile in plan.

**Cast-in-Place Concrete Construction**

<b>Item</b>	<b>Agent</b>	<b>Scope</b>
1. Mix Design.	3	As per spec section 03001
2. Materials Certification	2	As per spec section 03001
3. Batching Plant	2	Review plant Quality Control procedures and Batching and Mixing Methods
4. Reinforcement Installation	2	As per spec section 03001
5. Concrete Placement	2	As per spec section 03001
6. Evaluation of Concrete Strength	2	As per spec section 03001
7. Curing and Protection	2	As per spec section 03001

**Precast Concrete Construction**

<b>Item</b>	<b>Agent</b>	<b>Scope</b>
1. Plant Certification/Quality Control Procedures.	2	Review Plant quality control procedures. Inspect plant storage and handling procedures. Confirm that approved submittals are in the plant and are being used for fabrication. Review welder's certifications. Monitor finished product for structural defects (cracks).
2. Material Certification.	2	Review for conformance to ACI 318, Chapter 3.
3. Formwork Geometry.	2	Inspect form sizes.
4. Reinforcement Installation.		Inspect reinforcing and prestressing strands for size, quantity, condition and placement for conformance with Contract Documents, SER approved submittals, and ACI 318, Sections 7.4, 7.5, 7.6 and 7.7. Inspect welding.
5. Mix Design.	3	Review for conformance to ACI 318 and Contract Documents. Inspect for proper mix proportions and mix technique per ACI 318 Chapter 4 and Sections 5.2, 5.3, 5.4 and 5.8.
6. Concrete Placement.	2	Inspect concrete placement procedures for conformance to ACI 318, Sections 5.9 and 5.10, and Contract Documents.
7. Curing and Protection.	2	Inspect for maintenance of specified curing temperatures and techniques per ACI 318 Sections 5.11, 5.12 and 5.13, and Contract Documents.
8. Evaluation of Concrete Strength.	2	Test for conformance to specifications in accordance with ACI 318, Section 5.6
9. Prestress Operation.	2	Inspect application of prestressing forces per ACI 318, Section 18.18. Inspect grouting of bonded, post-tensioned, prestressing tendons.
10. Assembled/Erected Precast Elements.	2	Inspect for compliance with SER approved submittals and Contract Documents. Review site storage and handling procedures for consistency with design of precast elements. Verify that SER approved erection drawings are on site and are being used for erection. Verify that SER approved erection procedures are being followed. Observe grouting for all bonded, post-tensioned, pre-stressing tendons. Review welder's certifications.
11. Connections/Embedded Items.	2	Inspect interface connections including end and edge doweling. Inspect embedments for proper location. Inspect shimming, bearing, bolting and welding of connections.

**Masonry Construction**

<b>Item</b>	<b>Agent</b>	<b>Scope</b>
1. Material Certification	2	As per spec section 04230
2. Evaluation of Masonry Strength	2	As per spec section 04230
3. Proportioning, Mixing and Consistency of Mortar and Grout	2	As per spec section 04230
4. Installation of Masonry	2	As per spec section 04230
5. Reinforcement Installation	2	As per spec section 04230
6. Grouting Operations	2	As per spec section 04230
7. Weather Protection	2	As per spec section 04230
8. Anchorage	2	As per spec section 04230

**Structural Steel Construction**

<b>Item</b>	<b>Agent</b>	<b>Scope</b>
1. Fabricator Certification/ Quality Control Procedures	2	As per spec section 05120
2. Fabricator Inspection. (1705.4.2 and R1705.4.2)	2	As per spec section 05120
3. Material Certification.	2	As per spec section 05120
4. Bolting *	2	As per spec section 05120
5. Welding *	2	As per spec section 05120
6. Shear Connectors	2	As per spec section 05120
7. Structural framing, Details and Assemblies	2	As per spec section 05120
8. Metal Decking	2	As per spec. section 05300

\* May include design by steel fabricator's registered professional engineer subject to performance specifications of approved permit documents.

**Miscellaneous Construction**

<b>Item</b>	<b>Agent</b>	<b>Scope</b>
1. Light Gauge Metal *	2	As per spec section 05400

\* May include design by steel fabricator's registered professional engineer subject to performance specifications of approved permit documents.

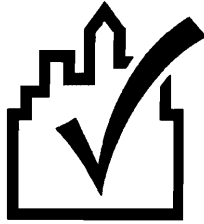
**Exterior Insulation and Finish System (EIFS)**

<b>Item</b>	<b>Agent</b>	<b>Scope</b>
1. Exterior Insulation and Finish System (EIFS)	2	Reference IBC 2003 Section 1704.12. As per spec section 07240.

**Sprayed-on Fireproofing**

<b>Item</b>	<b>Agent</b>	<b>Scope</b>
1. Sprayed-on Fireproofing	2	Reference IBC 2003 Section 1704.11. Thickness for structural framing members per UL Design Assembly and ASTM E 84, ASTM E 119, and as per spec section 07 81 00.





# COMcheck Software Version 3.4.2 Envelope Compliance Certificate

## 2003 IECC

Report Date: 01/16/08

Data filename: G:\DATA\802-Portland\802-comcheck\802-portland.cck

### Section 1: Project Information

Project Title: Residence Inn by Marriott

**Construction Site:**

Corner of Fore and Hancock Streets  
Portland, ME 04101

**Owner/Agent:**

Ara Aftandilian  
Norwich Partners LLC c/o: Summit  
Properties  
218 Boston Street  
Topsfield, MA, ME  
(978) 887-3640

**Designer/Contractor:**

James Ryan  
Group One  
21 West Third Street  
Boston, MA 02127  
617-268-7000  
jim@grouponeinc.com

### Section 2: General Information

Building Location (for weather data):

**Portland, Maine**

Climate Zone:

**15**

Heating Degree Days (base 65 degrees F):

**7378**

Cooling Degree Days (base 65 degrees F):

**268**

Project Type:

**New Construction**

Vertical Glazing / Wall Area Pct.:

**32%**

**Building Type**

Hotel Function

**Floor Area**

131871

### Section 3: Requirements Checklist

**Envelope PASSES:** Design 6% better than code.

#### Climate-Specific Requirements:

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor
Roof 1: Structural Slab	26001	---	23.0	0.041	0.053
Skylight 1: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC 0.63	252	---	---	0.600	0.053
Exterior Wall 1: Metal Frame, 16" o.c.	42279	19.0	5.0	0.073	0.075
Window 1: Metal Frame with Thermal Break:Double Pane with Low-E, Tinted, SHGC 0.58	6914	---	---	0.400	0.526
Window 2: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC 0.63	7354	---	---	0.400	0.526
Door 1: Glass, Clear, SHGC 0.87	157	---	---	0.920	0.526
Door 2: Solid	91	---	---	0.700	0.122
Exterior Wall 2: Metal Frame, 16" o.c.	13087	19.0	5.0	0.073	0.075
Window 3: Metal Frame with Thermal Break:Double Pane with Low-E, Tinted, SHGC 0.58	2685	---	---	0.400	0.526
Window 4: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC 0.63	308	---	---	0.400	0.526
Door 3: Glass, Clear, SHGC 0.87	63	---	---	0.920	0.526
Door 4: Solid	21	---	---	0.700	0.122
Floor 1: Slab-On-Grade:Heated, Horizontal 4 ft.	835	---	10.0	---	---

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.

### Air Leakage, Component Certification, and Vapor Retarder Requirements:

- 1. All joints and penetrations are caulked, gasketed or covered with a moisture vapor-permeable wrapping material installed in accordance with the manufacturer's installation instructions.
- 2. Windows, doors, and skylights certified as meeting leakage requirements.
- 3. Component R-values & U-factors labeled as certified.
- 4. Insulation installed according to manufacturer's instructions, in substantial contact with the surface being insulated, and in a manner that achieves the rated R-value without compressing the insulation.
- 5. Stair, elevator shaft vents, and other dampers integral to the building envelope are equipped with motorized dampers.
- 6. Cargo doors and loading dock doors are weather sealed.
- 7. Recessed lighting fixtures are: (i) Type IC rated and sealed or gasketed; or (ii) installed inside an appropriate air-tight assembly with a 0.5 inch clearance from combustible materials and with 3 inches clearance from insulation material.
- 8. Building entrance doors have a vestibule and equipped with closing devices.

*Exceptions:*

Building entrances with revolving doors.

Doors that open directly from a space less than 3000 sq. ft. in area.

- 9. Vapor retarder installed.

### Section 4: Compliance Statement

*Compliance Statement:* The proposed envelope design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed envelope system has been designed to meet the 2003 IECC requirements in COMcheck Version 3.4.2 and to comply with the mandatory requirements in the Requirements Checklist.

James Ryan - Associate  
Name - Title

[Signature]  
Signature

1/16/08  
Date



**Group One Partners, Inc.**  
**Transmittal Form**

21 West Third Street Boston, MA 02127  
(617) 268-7000 FAX (617) 268-0209

<b>DATE</b>	1-29-2008	<b>JOB #</b>	802
<b>PROJECT</b>	Residence Inn Portland, ME		

<b>TO</b>	Planning & Development Department Inspection Services Division 389 Congress Street Portland, Maine  Attention: Mike Nugent	Via: Fed Ex
-----------	---	-------------

<b>COPY TO</b>	Ara Aftandilian
----------------	-----------------

- |  |  |   |
|--|--|---|
| <input checked="" type="checkbox"/> <b>WE ARE SENDING HEREWITH</b> | <input checked="" type="checkbox"/> PRINTS | <input type="checkbox"/> TRACINGS         |
| <input type="checkbox"/> <b>UNDER SEPARATE COVER</b>               | <input type="checkbox"/> SAMPLES           | <input type="checkbox"/> SHOP DRAWINGS    |
|  | <input type="checkbox"/> SPECIFICATIONS    | <input type="checkbox"/> PHOTOGRAPHS      |
|  | <input type="checkbox"/> RENDERING         | <input type="checkbox"/> OTHER -see below |

**THE FOLLOWING ACTION APPLIES:**

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> NO EXCEPTIONS TAKEN   | <input type="checkbox"/> FOR APPROVAL         | <input type="checkbox"/> FOR DISTRIBUTION |
| <input type="checkbox"/> EXCEPTIONS NOTED      | <input type="checkbox"/> FOR COMMENT          | <input type="checkbox"/> FOR CONSTRUCTION |
| <input type="checkbox"/> RESUBMIT              | <input type="checkbox"/> FOR YOUR INFORMATION | <input type="checkbox"/> PER YOUR REQUEST |
| <input checked="" type="checkbox"/> FOR REVIEW | <input type="checkbox"/> FOR ESTIMATING       |   |

COPIES	DRAWING #	TITLE	DATE
1		Response letter	
1		Controlling the Transmission of Impact Sound through Floors	
1		Statement of special inspections	
1		Drawings: A0.6, A0.7 A3.0, A3.1, A3.2. A8.3, A8.4, H2.02 and E5.01	

<b>REMARKS</b>	Mike,  Please find attached information. Review the information, I hope it answers all your questions. Do no hesitate to call if you need any additional information or clarification.  Thank you,
----------------	--

<b>SIGNED</b>	Jim Ryan
---------------	----------

*Handwritten signature and date: 07/29/08*

## Controlling the Transmission of Impact Sound through Floors

by A.C.C. Warnock

This Update presents guidelines for controlling the transmission of impact sound through concrete-slab and wood-joint floor systems in multi-family dwellings. It is based primarily on industry-supported research conducted by IRC.<sup>1</sup>

Impact sounds, such as those created by footsteps, the dropping of an object or the moving of furniture, can be a source of great annoyance in residential buildings. While there are no requirements in the National Building Code for impact sound attenuation, some degree of control is necessary for occupant comfort and satisfaction. Although there is some commonality among the factors influencing the attenuation of airborne sound<sup>2</sup> and impact sound, the latter is by far the more complicated to measure, rate and control.

The character and level of impact noise generated in the living space below depends on the object striking the floor, on the structure of the floor assembly, and on the floor covering. Recently IRC conducted an extensive study to measure the attenuation of impact sound that can be achieved with different types of floor assemblies. For each floor assembly, IRC measured the impact noise level and calculated a rating called the Impact Insulation Class (IIC). The higher the IIC, the better the attenuation of impact sound, with 50 usually considered the minimum rating for occupant satisfaction in residential buildings.

The IIC of a particular floor assembly is derived using a standard tapping machine, as stipulated in ASTM method E492.<sup>3</sup> This machine incorporates five steel-faced hammers that strike the test floor and generate noise in a room below. The noise levels are measured and used to calculate the impact insulation class (IIC), following ASTM method E989.<sup>4</sup>

The calculation covers a frequency range of 100 to 3150 Hz. The measured noise levels in 16 standard frequency bands spanning this range are compared to a reference contour. The contour is adjusted until the levels above the contour (the most audible levels, in principle) satisfy criteria specified in ASTM classification E989.

The IIC rating and the ASTM tests have some limitations that have different implications for different types of floors. The tapping machine, for instance, does not accurately simulate the sound of people walking. This is especially true in the case of the low-frequency sound (less than 100 Hz) that characterizes the "thumping" of someone walking on a lightweight joist floor. Even though a joist floor has a good IIC rating, footstep sound with a frequency of less than 100 Hz can still be annoying to the people below.

**Characteristics of Impact Noise Depend on the Floor Structure**

Impact sounds on concrete slabs finished with a hard surface such as ceramic tile can be described by terms such as “click,” “clack” or “sharp tap.” Most of the energy of such sounds occurs at high frequencies. For typical concrete floors, the IIC is low and is determined by these high frequency sounds (Figure 1). While the sound made by a tapping machine is not all that similar to the sound of a person walking on concrete, the low IIC rating correctly reflects the fact that concrete floors finished with tile or other hard materials are responsible for complaints about noise produced by footsteps and the moving of furniture.

Impact sounds on lightweight joist floors, on the other hand, are usually described by terms such as “thump,” “boom” or “thud.” Most of the energy of these sounds occurs at low frequencies, sometimes below the frequency limit for the IIC tests. With typical joist floors, more low-frequency sound is transmitted than in the case of concrete floors, but the softer surface of the plywood or OSB subfloor changes the sound made by the hammers of the tapping machine.

Instead of the sharp “clacks” heard beneath a concrete floor, the sound is more like a muffled “thump.” Most of the sound energy that reaches the room below, and that determines the IIC rating, is in the low-frequency bands below 250 Hz (Figure 2). Reducing the high frequency levels by adding a resilient covering would not necessarily increase the IIC if the low frequency levels were not also reduced significantly. Both high- and low-frequency sounds can be annoying.

**IIC Values for Different Floor Structures**

There are two principal ways of providing an acceptable finished floor surface, or topping: 1) using resilient (flexible) layers, such as vinyl or carpet, and 2) using “floating floors,” which consist of a slab of rigid material supported on a resilient mat or pads. In some cases these may be combined for even greater effect. The choice of topping, combined with the type of floor structure, has a major effect on the attenuation of impact sound. IRC determined typical IIC values that can be achieved for both concrete-slab and wood-joist floor structures in combination with various floor coverings.

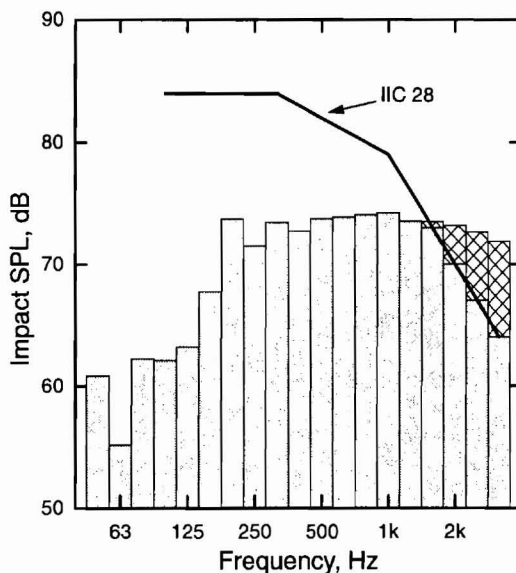


Figure 1: IIC contour fitted to impact sound pressure levels for 150-mm thick concrete slab. The cross-hatched areas at high frequencies show where the levels lie above the contour and determine IIC.

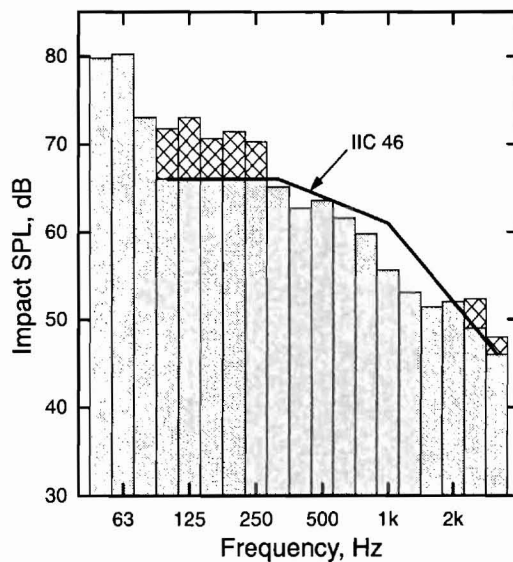


Figure 2: IIC contour fitted to impact sound pressure levels for the basic wood joist floor. The crosshatched areas at low and high frequencies determine IIC.

### Concrete-Slab Floors

Concrete slabs finished with a hard surface such as ceramic tile, marble or hardwood have low IIC ratings and are invariably judged as unacceptable. Impacts need to be cushioned by a resilient upper surface or a floating floor.

#### Toppings on concrete floors

Table 1 gives approximate IIC ratings for a 150-mm-thick concrete slab with various kinds of toppings. The numbered comments below correspond to the rows in the table.

1. Hard-finish flooring materials (e.g., ceramic tiles) adhered directly to concrete slabs do not improve upon the impact sound attenuation achieved by the concrete itself. To produce any improvement, the flooring material must be one that cushions the impact. Thus, concrete slabs finished with ceramic tiles or similar materials provide low IIC values.
2. Soft finishing layers play a very important role in determining impact sound attenuation; the softer and thicker the floor covering, the better the IIC (see carpet, Table 1, item 7). Vinyl coverings, though soft, are typically thin and not very resilient; thus, they produce only small increases in IIC.
3. Concrete slabs finished with wood flooring give only slightly better impact attenuation than bare concrete. Although the IIC may be increased slightly by the

adhesive used to attach the wood, without a resilient layer under the wood the impact insulation with this type of floor will not be adequate.





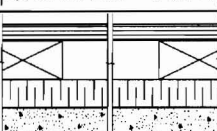
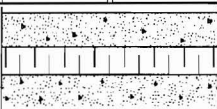

4. Wood flooring placed on top of a resilient layer can provide acceptable impact attenuation. The IIC value obtained depends mostly on the resilient material used — shredded or foamed rubber, foamed plastic or cork mats are commonly used and are effective. Increasing the thickness of the resilient material usually, but not always, increases the IIC.
5. A top layer of wood supported on strapping and a layer of fibrous material is an example of a floating floor. Although more complicated, it offers the most practical means of obtaining high impact sound attenuation where a hard surface finish such as hardwood or ceramic tile is required. Materials and systems to build floating floors are available commercially.
6. A concrete top layer over a layer of fibre board (e.g., glass or mineral fibre) gives an even better IIC rating than a layer of wood on strapping. The thickness of the concrete layer may range from 30 mm up to 100 mm in special circumstances. Resilient pads (e.g., made of cork, rubber or shredded recycled tires) and fibrous batts (e.g., glass fibre) can be used in place of fibre boards

7. Carpet with underlay usually provides very high IIC ratings because impacts are well cushioned. Experience with this type of topping on a concrete floor indicates that most occupants will not be disturbed by footstep noise.

Increasing the thickness of the concrete slab to 200 mm would increase all the IIC ratings in Table 1 by three or four points.

Gypsum board ceilings suspended resiliently (independently) from a concrete slab offer another approach for increasing the impact sound attenuation.

Table 1. Approximate IIC ratings for a 150-mm-thick concrete slab with various kinds of toppings. (Only part of the basic assembly is shown.)

Table 1		Topping	IIC
I-1		None, or ceramic or marble tiles	28
I-2		Vinyl flooring	35-40
I-3		Hardwood flooring	30-35
I-4		9-mm-thick hardwood on 6-mm-thick resilient layer	45-50
I-5		16-mm plywood or OSB on 40- x 90-mm wood strapping on 25-mm mineral fibre board	50-55
I-6		35-mm concrete on 25-mm mineral fibre board	60-65
I-7		Carpet and underlay	75-85

Unfortunately, there is little information available about the attenuation values of such floor systems. However, it is known that increasing the mass of the gypsum board, the depth of the cavity, or the amount of sound-absorbing material all increase the IIC relative to that of the bare slab. The increase can range from four or five points to more than 30. These three factors are the same ones that improve the control of airborne sound transmission.

### Joist Floors

For the current discussion, any differences in IIC due to different joist types — solid wood joists, I-joists, wood trusses, and steel joists — may be ignored. The basic joist floor depicted in Figure 3 exemplifies good acoustical principles: it has resilient metal channels supporting the gypsum board and sound-absorbing batts in the cavity. For a single-layer subfloor (plywood or OSB) with no topping, the IIC is about 45.

In such simple joist floors, the most important factor influencing the impact sound attenuation is the total mass of the subfloor and the ceiling layers. Each doubling of the total mass increases the IIC by about seven points. For example, doubling the mass of the subfloor gives an IIC of 47, doubling that of the ceiling gives 49, and doubling the mass of both gives 52. Increasing the spacing between resilient metal channels or the thickness of the sound-absorbing material increases the IIC by only one or two points.

Attaching gypsum board directly to the underside of the joists gives very poor impact sound attenuation. Mounting the gypsum board on wood or stiff metal furring gives a slight improvement relative to direct attachment, but the impact sound attenuation provided by the floor is still unsatisfactory — resilient support of the

gypsum board is essential. Spring hangers or separate joists can be used for this purpose, but resilient metal channels are less expensive and are adequate in most cases.

Occupants often complain about excessive “booming” or “thumping” sounds when people walk on joist floors even when the IIC rating is greater than 50. As mentioned previously, most of the energy in these sounds occurs at low frequencies, including frequencies that are lower than those used to determine the IIC — that is, the IIC rating does not fully reflect the degree of annoyance caused by these sounds on this type of floor. This problem has been studied extensively, but no standardized solutions have been established.

A common practical approach to the problem of thumping noise is to increase the mass of the floor by adding a layer of concrete or gypsum concrete on top. A heavier floor is less likely to vibrate when walked on, and thus is less likely to generate low-frequency sound. But, while adding concrete reduces noise levels at low frequencies, the hard surface increases noise levels at high frequencies, reducing the IIC for the floor system by several points. This negative aspect of concrete toppings can be dealt with using resilient layers as described below.

### Toppings on joist floors

Joist floors must also be provided with a finish layer. Table 2 gives approximate IIC ratings for basic joist floors with the same toppings as those described in Table 1.

1. Attaching ceramic tiles directly to the subfloor will actually reduce the IIC because the hardness of the tiles increases the high-frequency component of the sound. The same effect occurs if a layer of concrete is laid on top of the subfloor (See item 6 below).
- 2-4. While these toppings on a joist floor reduce impact noise levels at high frequencies, they do not actually improve the IIC, because the IIC in this case is determined mainly by noise levels at low frequencies. In other words, resilient floor coverings that significantly increase the IIC for concrete floors are normally much less effective on joist floors with wood subfloors.

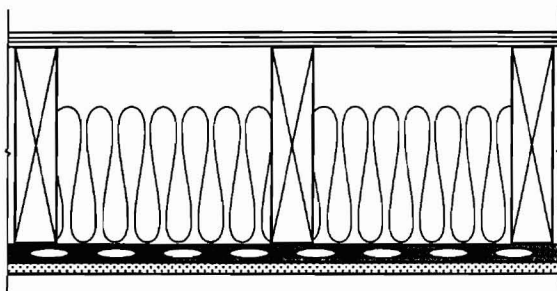




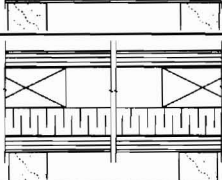
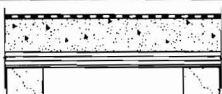
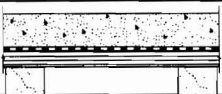




Figure 3: Basic joist floor

Table 2. Approximate IIC ratings for a basic joist floor (IIC 45) with different floor toppings. (Only part of the basic assembly is shown.)

Table 2		Topping	IIC
II-1		Ceramic or marble tiles	40
II-2		Vinyl flooring	47
II-3		Hardwood flooring	47
II-4		9-mm-thick hardwood on 6-mm-thick resilient layer	47
II-5		16-mm plywood or OSB on 40- x 90-mm wood strapping on 25-mm mineral fibre board	55-58
II-6		Resilient flooring on 35-mm concrete	52
II-7		35-mm concrete on resilient layer	55-65
II-8		Carpet and underlay	75-85
II-9		Carpet and underlay on 35-mm concrete	>85

the resilient material used (Figure 4). Manufacturers can usually provide test data for their products. A resilient layer on top of the concrete often gives further improvement of a few points.

8. High IIC values can be obtained with light-weight joist construction by using a carpet and pad. However, while the IIC rating will be high, such floors may engender complaints about low-frequency impact sound if the total mass of the layers is too low. Further, while the IIC rating may be high, the floor can still have a low airborne sound transmission class (STC).

- This floating floor, although more complicated than a concrete floating floor, gives a good IIC rating, similar to that provided by the concrete floating floor (Table 1, item 5).
- As mentioned earlier, adding concrete with a hard finish directly over the plywood or OSB subfloor reduces the IIC obtained because of the increase in sharp, high-frequency sound due to the hard surface. Adding a resilient topping on top of the concrete layer reduces noise levels at high frequencies and counteracts the effect of the concrete there. The combination of the two elements significantly increases the IIC (Figure 4). In other words, a soft floor covering combined with the additional layer of concrete improves impact sound attenuation at all frequencies, providing an IIC of 50 or higher.
- Another way to counteract the detrimental effect of concrete at high frequencies is to place a resilient material between the subfloor and the concrete. Such concrete floating floors permit high IIC even with hard toppings (e.g., ceramic tile). The effectiveness of this option depends on

- This combination gives very high IIC ratings and satisfies most occupants.

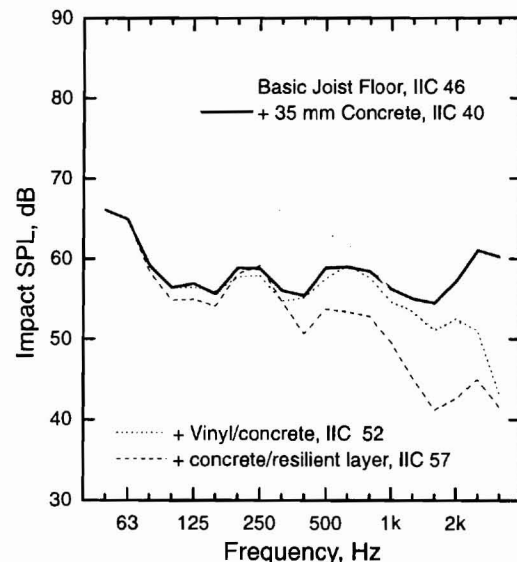


Figure 4: Adding a concrete topping on a joist floor. A resilient layer on top or beneath the concrete greatly improves the impact sound insulation.



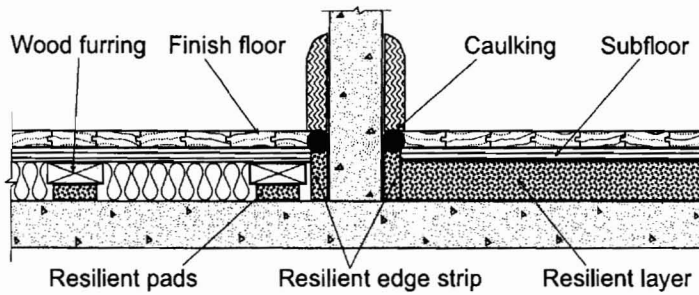


Figure 5: Installation and edge details for floating slabs

It is important to note that the IIC rating for a complete floor system including a floor topping tells us nothing about the floor topping itself. For example, vinyl attached to concrete improved the IIC by 8 points, but when added to a basic wood joist floor it offered no improvement. Similarly, the wood slab supported on wood strapping (Table 2, item 5) gave an improvement of 30 on a concrete slab but only 10 on the wood joist floor. The improvement derived from a particular topping depends on the basic floor system supporting it — to compare toppings, they must be tested on the same basic floor.

#### Installation of Floating Slabs

Floating floors must be carefully installed if they are to provide good impact sound attenuation. Figure 5 illustrates floating slabs installed on wood strapping and resilient pads and on a resilient mat. If pads are used, the fibrous material does not have to support a load and is usually soft. The resilient edge strip prevents the transmission of vibration in the subfloor to the walls, where it could bypass the floating floor. The caulking prevents the entry of debris or fluids. It is best if the baseboard does not contact the floor finish, as this also provides a path for sound energy to bypass the floating floor. The subfloor could be made of concrete rather than wood.

The research project was supported by a consortium that included Boise Cascade, Canada Mortgage and Housing Corporation, Canadian Home Builders' Association, Canadian Portland Cement Association, Canadian Sheet Steel Building Institute, Canadian Wood Council, Cellulose Insulation Manufacturers Association of Canada, Forintek Canada Corporation, Gypsum Association, Gypsum Manufacturers of Canada, Louisiana-Pacific Incorporated, Nascor Inc., Ontario New Home Warranty Program, Ontario Ministry of Housing, Owens Corning Fiberglas Canada, Roxul Inc., Trus Joist MacMillan, and Willamette Industries.

#### Summary

Controlling impact sound transmission through floor systems is a complicated subject. Floor toppings do not give the same degree of improvement on all types of floors. A good impact attenuation rating depends on the topping and on the type of floor used (concrete or joist). Sufficient floor weight and including resilient layers in the design ensures good impact sound attenuation.

#### References

1. Warnock, A.C.C. and Birta, J.A. Summary Report for Consortium on Fire Resistance and Sound Insulation of Floors: Sound Transmission Class and Impact Insulation Class Results. Institute for Research in Construction, National Research Council of Canada, Internal Report 766, 121 p., April 1998.
2. Warnock, A.C.C. Controlling the transmission of airborne sound through floors. Institute for Research in Construction, National Research Council of Canada, Construction Technology Update 25, 1999.
3. ASTM E492, Standard Test Method for Laboratory Measurement of Impact Sound Transmission through Floor-Ceiling Assemblies using the Tapping Machine. 1997 Annual Book of ASTM Standards, Vol. 04.06, pp. 780-787.
4. ASTM E989, Standard Classification for Determination of Impact Insulation Class (IIC). 1997 Annual Book of ASTM Standards, Vol. 04.06, pp. 851-853.

*Dr. A.C.C. Warnock is a senior research officer in the Indoor Environment Program of the National Research Council's Institute for Research in Construction.*

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December 1999  
ISSN 1206-1220

Canada

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National Research Council of Canada, Ottawa K1A 0R6  
Telephone: (613) 993-2607; Facsimile: (613) 952-7673; Internet: <http://irc.nrc-cnrc.gc.ca>



# COMcheck Software Version 3.4.2 Lighting Compliance Certificate

## 2003 IECC

Report Date: 01/18/08

Data filename: J:\2007 1920-2699\06 June 2260-2319\2273-00\Reports\802-portland (Lighting including Guestrooms).ckk

### Section 1: Project Information

Project Title: Residence Inn by Marriott

**Construction Site:**

Corner of Fore and Hancock Streets  
Portland, ME 04101

**Owner/Agent:**

Ara Aftandillan  
Norwich Partners LLC c/o: Summit  
Properties  
218 Boston Street  
Topsfield, MA, ME  
(978) 887-3640

**Designer/Contractor:**

James Ryan  
Group One  
21 West Third Street  
Boston, MA 02127  
617-268-7000  
jim@grouponeinc.com

### Section 2: General Information

Building Use Description by:

Project Type: **New Construction**

**Building Type**

Hotel Function

**Floor Area**

131871

### Section 3: Requirements Checklist

#### Interior Lighting:

1. Total actual watts must be less than or equal to total allowed watts.

Allowed Watts	Actual Watts	Complies
131871	62526	YES

2. Exit signs 5 Watts or less per side.

#### Exterior Lighting:

3. Efficacy greater than 45 lumens/W.

*Exceptions:*

Specialized lighting highlighting features of historic buildings; signage; safety or security lighting; low-voltage landscape lighting.

#### Controls, Switching, and Wiring:

4. Independent controls for each space (switch/occupancy sensor).

*Exceptions:*

Areas designated as security or emergency areas that must be continuously illuminated.

Lighting in stairways or corridors that are elements of the means of egress.

5. Master switch at entry to hotel/motel guest room.  
 6. Individual dwelling units separately metered.  
 7. Each space provided with a manual control to provide uniform light reduction by at least 50%.

*Exceptions:*

Only one luminaire in space;

An occupant-sensing device controls the area;

The area is a corridor, storeroom, restroom, public lobby or guest room;

Areas that use less than 0.6 Watts/sq.ft.

8. Automatic lighting shutoff control in buildings larger than 5,000 sq.ft.

*Exceptions:*

Areas with only one luminaire, corridors, storerooms, restrooms, or public lobbies.

9. Photocell/astronomical time switch on exterior lights.

*Exceptions:*

Lighting intended for 24 hour use.

10. Tandem wired one-lamp and three-lamp ballasted luminaires (No single-lamp ballasts).

*Exceptions:*

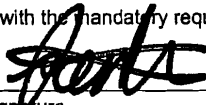
Electronic high-frequency ballasts; Luminaires on emergency circuits or with no available pair.

#### Section 4: Compliance Statement

*Compliance Statement:* The proposed lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 2003 IECC, Chapter 8, requirements in COMcheck Version 3.4.2 and to comply with the mandatory requirements in the Requirements Checklist.

Paul Sullivan, President

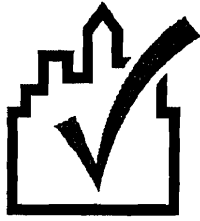
Name - Title



Signature

1-18-08

Date



COMcheck Software Version 3.4.2

# Lighting Application Worksheet

## 2003 IECC

Report Date:

Data filename: J:\2007 1920-2699\06 June 2260-2319\2273-00\Reports\802-portland (Lighting including Guestrooms).cck

### Section 1: Allowed Lighting Power Calculation

A	B Floor Area	C Allowed Watts / ft2	D Allowed Watts
Hotel Function	131871	1	131871
Total Allowed Watts =			131871

### Section 2: Actual Lighting Power Calculation

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
<b>Hotel Function (131871 sq.ft.)</b>				
Linear Fluorescent 1: C010: 48" T8 32W / Electronic	2	3	64	192
Linear Fluorescent 2: C020: 48" T8 32W / Electronic	4	17	128	2176
Linear Fluorescent 3: C030: 24" T8 17W / Electronic	1	12	20	240
Incandescent 17: D010: Incandescent 75W	3	3	225	675
Incandescent 2: D020: Incandescent 100W	2	1	200	200
Incandescent 3: D030: Incandescent 100W	2	2	200	400
HID 5: D050: Metal Halide 150W / Electronic	1	13	150	1950
HID 6: D060: Metal Halide 150W / Electronic	1	4	150	600
Incandescent 6: D070: Incandescent 100W	2	1	200	200
Incandescent 7: D080: Incandescent 60W	2	5	120	600
Incandescent 8: D090: LED / Other	1	1	60	60
Incandescent 9: D110: LED / Other	1	12	31	372
Incandescent 10: D120: Incandescent 60W	1	6	60	360
Compact Fluorescent 1: D4: Twin Tube 40W / Electronic	1	251	40	10040
Compact Fluorescent 9: D62: GUESTROOM / Twin Tube 40W / Electronic	1	13	40	520
Incandescent 18: D64: GUESTROOM / Incandescent 60W	1	8	60	480
Compact Fluorescent 10: D64A: GUESTROOM / Twin Tube 18W / Electronic	1	3	18	54
Linear Fluorescent 15: D65: GUESTROOM / 36" T8 25W / Electronic	2	12	50	600
Linear Fluorescent 16: D65A: GUESTROOM / 24" T8 17W / Electronic	2	3	34	102
Incandescent 19: D75B: GUESTROOM / Incandescent 60W	1	13	60	780
Compact Fluorescent 2: D77A: Quad 2-pin 18W / Electronic	2	179	26	4654
Linear Fluorescent 4: F010: 48" T8 32W / Electronic	2	43	64	2752
Linear Fluorescent 5: F020: 48" T8 32W / Electronic	3	66	96	6336
Linear Fluorescent 6: F050: Other / Electronic	3	25	120	3000
Linear Fluorescent 7: F17: 24" T8 17W / Electronic	2	2	34	68
Linear Fluorescent 8: F18: 48" T8 32W / Electronic	2	6	64	384
HID 1: R030: Metal Halide 100W / Electronic	1	41	100	4100
Compact Fluorescent 3: R040: Quad 2-pin 26W / Electronic	2	65	52	3380
Compact Fluorescent 3 copy 1: R040D: Quad 2-pin 26W / Electronic	2	8	52	416
Compact Fluorescent 4: R050: Quad 2-pin 26W / Electronic	1	28	26	728
HID 2: R060: Metal Halide 150W / Electronic	1	37	150	5550
Compact Fluorescent 5: R070: Quad 2-pin 26W / Electronic	2	19	52	988
Incandescent 11: R080: Incandescent 75W	1	15	75	1125
Compact Fluorescent 6: R090: Quad 2-pin 13W / Electronic	1	10	13	130

Incandescent 12: R100: Incandescent 75W	1	8	75	600
Incandescent 13: R101: Other	1	4	90	360
Incandescent 20: R27: GUESTROOM / Incandescent 35W	1	14	35	490
Incandescent 21: R29: GUESTROOM / Incandescent 50W	1	43	50	2150
Incandescent 14: RWH: EM LIGHT / Incandescent 60W	1	4	60	240
Linear Fluorescent 9: S1: 48" T8 32W / Electronic	2	21	64	1344
Incandescent 16: S2: Incandescent 150W	1	2	150	300
Incandescent 15: T010: Incandescent 75W	8	8	75	600
Linear Fluorescent 17: T03(ALT): BATHROOM / Other / Electronic	1	11	32	352
Linear Fluorescent 10: U010: Other / Electronic	1	6	13	78
Linear Fluorescent 11: U030: Other / Electronic	1	6	8	48
Compact Fluorescent 7: U040: Other / Electronic	1	8	3	24
Linear Fluorescent 12: U050: Other / Electronic	1	14	15	210
Compact Fluorescent 12: X020: EXIT SIGN / Other / Electronic	1	96	2	192
Compact Fluorescent 12 copy 1: X030: EXIT SIGN / Other / Electronic	1	2	2	4
Compact Fluorescent 14: X040: EXIT SIGN / Other / Electronic	1	4	2	8
Linear Fluorescent 14: Z010: EXTERIOR / Other / Electronic	2	2	80	160
Linear Fluorescent 15: Z020: EXTERIOR / Other / Electronic	2	4	78	312
HID 4: Z030: EXTERIOR / Metal Halide 100W / Electronic	1	1	100	100
Compact Fluorescent 12: Z050: EXTERIOR / Triple 4-pin 42W / Electronic	1	1	42	42
HID 3: Z250: EXTERIOR / Metal Halide 100W / Electronic	1	7	100	700

Total Actual Watts = 62526

### Section 3: Compliance Calculation

If the Total Allowed Watts minus the Total Actual Watts is greater than or equal to zero, the building complies.

Total Allowed Watts = 131871  
Total Actual Watts = 62526  
Project Compliance = 69345

**Lighting PASSES:** Design 53% better than code.



COMcheck Software Version 3.5.2  
**Mechanical Compliance Certificate**

## 2003 IECC

Report Date: 01/16/08

Data filename: J:\2007 1920-2699\06 June 2260-2319\2273-00\Reports\802-portland.cck

## Section 1: Project Information

Project Type: **New Construction**

Project Title : Residence Inn by Marriott

Construction Site:

Corner of Fore and Hancock Streets  
Portland, ME 04101

Owner/Agent:

Ara Aftandilian  
Norwich Partners LLC c/o: Summit  
Properties  
218 Boston Street  
Topsfield, MA, ME  
(978) 887-3640

Designer/Contractor:

James Ryan  
Group One  
21 West Third Street  
Boston, MA 02127  
617-268-7000  
jim@grouponeinc.com

## Section 2: General Information

Building Location (for weather data): **Portland, Maine**  
Climate Zone: **15**  
Heating Degree Days (base 65 degrees F): **7378**  
Cooling Degree Days (base 65 degrees F): **268**

## Section 3: Mechanical Systems List

### Quantity System Type & Description

- |   |  |
|---|--|
| 1 | HVAC System 1: Water Loop Heat Pump, Cooling Capacity >=760 kBtu/h, Water-Cooled Condenser / Single Zone w/ Perimeter System |
| 1 | Plant 1: Heating: Hot Water Boiler, Capacity >=600 kBtu/h, Gas, with Waterloop Heat Pump                                     |

## Section 4: Requirements Checklist

### Requirements Specific To: HVAC System 1 :

- 1. Equipment minimum efficiency: Heat Pump: 4.2 COP, 12.0 EER
- 2. Heat pump thermostat required when supplemental electric resistance heat is installed
- 3. Discharge dampers prohibited with fan motors >25 hp
- 4. Integrated air economizer required
- 5. Loop temperature controlled with 20 degrees F deadband where neither cooling tower/fluid cooler nor boiler can operate
- 6. Closed-circuit cooling tower has: a) automatic bypass valve for condenser water loop or b) dampers that shut-off air flow through the cooling tower
- 7. Open-circuit cooling tower has automatic bypass valve for condenser water loop
- 8. Open-circuit cooling tower with heat exchanger must have automatic shut-off controls for cooling tower
- 9. Two-position valve on each heat pump having total heat pump system power >10hp

### Requirements Specific To: Plant 1 :

- 1. Equipment minimum efficiency: Boiler Thermal Efficiency >= 75% Et
- 2. Newly purchased heating equipment meets the efficiency requirements - used equipment must meet 80% Et @ maximum capacity
- 3. Loop temperature controlled with 20 degrees F deadband where neither cooling tower/fluid cooler nor boiler can operate
- 4. Two-position valve on each heat pump having total heat pump system power >10hp
- 5. Systems with multiple boilers have automatic controls capable of sequencing boiler operation

- 6. Hydronic heating systems comprised of a single boiler and >500 kBtu/h input design capacity include either a multistaged or modulating burner

**Generic Requirements: Must be met by all systems to which the requirement is applicable:**

- 1. Load calculations per 2001 ASHRAE Fundamentals
- 2. Plant equipment and system capacity no greater than needed to meet loads
  - Exception: Standby equipment automatically off when primary system is operating
  - Exception: Multiple units controlled to sequence operation as a function of load
- 3. Minimum one temperature control device per system
- 4. Minimum one humidity control device per installed humidification/dehumidification system
- 5. Automatic Controls: Setback to 55 degrees F (heat) and 85 degrees F (cool); 7-day clock, 2-hour occupant override, 10-hour backup
  - Exception: Continuously operating zones
  - Exception: 2 kW demand or less, submit calculations
- 6. Automatic shut-off dampers on exhaust systems and supply systems with airflow >3,000 cfm
- 7. Outside-air source for ventilation; system capable of reducing OSA to required minimum
- 8. R-5 supply and return air duct insulation in unconditioned spaces R-8 supply and return air duct insulation outside the building R-8 insulation between ducts and the building exterior when ducts are part of a building assembly
  - Exception: Ducts located within equipment
  - Exception: Ducts with interior and exterior temperature difference not exceeding 15 degrees F.
- 9. Ducts sealed - longitudinal seams on rigid ducts; transverse seams on all ducts; UL 181A or 181B tapes and mastics
  - Exception: Continuously welded and locking-type longitudinal joints and seams on ducts operating at static pressures less than 2 inches w.g. pressure classification
- 10. Mechanical fasteners and sealants used to connect ducts and air distribution equipment
- 11. Hot water pipe insulation: 1 in. for pipes <=1.5 in. and 2 in. for pipes >1.5 in. Chilled water/refrigerant/brine pipe insulation: 1 in. for pipes <=1.5 in. and 1.5 in. for pipes >1.5 in. Steam pipe insulation: 1.5 in. for pipes <=1.5 in. and 3 in. for pipes >1.5 in.
  - Exception: Piping within HVAC equipment
  - Exception: Fluid temperatures between 55 and 105 degrees F
  - Exception: Fluid not heated or cooled
  - Exception: Runouts <4 ft in length
- 12. Operation and maintenance manual provided to building owner
- 13. Balancing devices provided in accordance with IMC 603.15
- 14. Hot water distribution systems >=300 kBtu/h must have one of the following: a) controls that reset supply water temperature by 25% of supply/return delta T b) mechanical or electrical adjustable-speed pump drive(s) c) two-way valves at all heating coils d) multiple-stage pumps e) other system controls that reduce pump flow by at least 50% based on load - calculations required
- 15. Stair and elevator shaft vents are equipped with motorized dampers

**Section 5: Compliance Statement**

*Compliance Statement:* The proposed mechanical design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2003 IECC requirements in COMcheck Version 3.5.2 and to comply with the mandatory requirements in the Requirements Checklist.

Paul Gullivan - Resident      [Signature]      1-18-08  
Name - Title      Signature      Date

# Group One Partners, Incorporated

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21 West Third Street Boston, Massachusetts 02127 Phone 617.268.7000 Fax 617.268.0209 www.grouponeinc.com

October 15, 2007

Residence Inn by Marriott  
Hancock Street and Fore Street  
City of Portland, ME

This letter is to accompany the drawings submitted for building permit for the above hotel project and should be filed with the Fire Department to clarify the locations in the drawing set where the required items can be found.

Owner:  
Shipyard Brewing Company LLC

Applicant:  
Norwich Partners LLC c/o:  
Summit Hotel Properties  
218 Boston Street  
Topsfield, MA

Architect:  
Group One  
21 West Third Street  
Boston, MA 02127

The building is designed per the International Building Code 2003, the building use group is to be mixed separated use with R-1 Hotel, A-3 Assembly and M Mercantile. This information can be found on the cover sheet with the fire resistance ratings of structural elements, fire resistance ratings and incidental use areas rating requirements. The occupancy and egress plans can be found on sheet A0.2; this sheet also has the allowable and proposed travel distance, occupancy loads for individual areas and per floors, as well as the egress paths. The fire resistance ratings of egress and area separations can be found on sheet A0.3 with rated shaft locations.

The fire extinguisher locations are indicated on the overall floor plans, designated by FEC, these sheets are A1.0, A1.1, and A1.2. The elevators specified on this project are sized to accept the required 80"x 24" stretcher.

The entire building is fully equipped with a fire suppression system and the design is located on the 11 sheets numbered FP0.01 through FP1.6. The fire alarm system can be found on the fire alarm plans sheets E3.01, E3.02, E3.03, and E3.04 for the main floors and E4.01, E4.02, E4.03 and E4.04 for the guestrooms and enlarged plans. The emergency lighting and exit signs are shown on the plans E1.01, E1.02, E1.03, and E1.04.

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Building Square Footage:

First Floor	27,876 sq. ft.
Second Floor	26,001 sq. ft.
Third Floor	26,001 sq. ft.
Fourth Floor	26,001 sq. ft.
<u>Fifth Floor</u>	<u>26,001 sq. ft.</u>
Total Building S.F.	131,871 sq. ft.

Please review this information and contact us if you required any additional information of clarification on any item.

Sincerely yours

A handwritten signature in black ink, appearing to read 'James M. Ryan', with a long, sweeping horizontal flourish extending to the right.

James M. Ryan  
Associate - Architecture

SPRINKLER SYSTEM HYDRAULIC ANALYSIS

DATE: 10/17/2007

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JOB TITLE: Residence Inn By Marriott

WATER SUPPLY DATA

SOURCE NODE TAG	STATIC PRESS. (PSI)	RESID. PRESS. (PSI)	FLOW @ (GPM)	AVAIL. PRESS. (PSI)	TOTAL @ DEMAND (GPM)	REQ'D PRESS. (PSI)
1	102.7	95.0	1423.0	102.2	331.9	77.1

AGGREGATE FLOW ANALYSIS:

TOTAL FLOW AT SOURCE	331.9 GPM
TOTAL HOSE STREAM ALLOWANCE AT SOURCE	250.0 GPM
OTHER HOSE STREAM ALLOWANCES	0.0 GPM
TOTAL DISCHARGE FROM ACTIVE SPRINKLERS	81.9 GPM

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)
1	14.0	SOURCE	77.1	81.9
3	21.0	- - - -	74.1	- - -
5	21.0	- - - -	74.1	- - -
7	21.0	- - - -	68.1	- - -
9	21.0	- - - -	68.1	- - -
11	35.0	- - - -	62.0	- - -
15	35.0	- - - -	62.0	- - -
17	35.0	- - - -	61.7	- - -
30	35.0	- - - -	61.0	- - -
64	72.5	- - - -	44.4	- - -
66	72.5	- - - -	42.8	- - -
68	72.5	- - - -	40.2	- - -
70	72.5	- - - -	35.3	- - -
72	72.5	- - - -	35.8	- - -
74	72.5	- - - -	37.1	- - -
76	72.5	- - - -	39.0	- - -
100	72.5	- - - -	35.2	- - -
102	72.5	- - - -	32.1	- - -
104	72.5	- - - -	25.1	- - -
106	72.5	- - - -	18.2	- - -
108	72.5	- - - -	17.3	- - -
110	72.5	- - - -	17.2	- - -
206	72.0	K= 4.90	17.7	20.6
208	72.0	K= 5.60	15.9	22.3
210	72.0	K= 4.90	16.7	20.0
211	72.0	K= 4.90	15.0	19.0

SPRINKLER SYSTEM HYDRAULIC ANALYSIS

DATE: 10/17/2007

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JOB TITLE: Residence Inn By Marriott

PIPE DATA

PIPE TAG	END	ELEV.	NOZ.	PT	DISC.	Q(GPM)	DIA(IN)	LENGTH	PRESS.
NODES	(FT)	(K)	(PSI)	(GPM)	VEL(FPS)	HW(C)	(FT)	SUM.	(PSI)
Pipe: 1									
1		14.0	SRCE	77.1	(N/A)	81.9	7.981 PL	10.50	PF 0.0
3		21.0	0.0	74.1	0.0	0.5	140 FTG	T	PE -3.0
							0.000 TL	57.05	PV
Pipe: 2									
3		21.0	0.0	74.1	0.0	81.9	7.981 PL	3.25	PF 0.0
5		21.0	0.0	74.1	0.0	0.5	120 FTG	E	PE 0.0
							0.000 TL	21.25	PV
Pipe: 3									
FIXED PRESSURE LOSS DEVICE									
5		21.0	0.0	74.1	0.0	6.0 psi, 81.9 gpm			
7		21.0	0.0	68.1	0.0				
Pipe: 4									
7		21.0	0.0	68.1	0.0	81.9	6.065 PL	4.00	PF 0.0
9		21.0	0.0	68.1	0.0	0.9	120 FTG	----	PE 0.0
							0.000 TL	4.00	PV
Pipe: 5									
9		21.0	0.0	68.1	0.0	81.9	6.065 PL	14.00	PF 0.0
11		35.0	0.0	62.0	0.0	0.9	120 FTG	CGA	PE -6.1
							0.000 TL	77.00	PV
Pipe: 6									
11		35.0	0.0	62.0	0.0	81.9	6.065 PL	7.00	PF 0.0
15		35.0	0.0	62.0	0.0	0.9	120 FTG	E	PE 0.0
							0.000 TL	21.00	PV
Pipe: 7									
15		35.0	0.0	62.0	0.0	81.9	3.068 PL	6.50	PF 0.3
17		35.0	0.0	61.7	0.0	3.6	120 FTG	EC	PE 0.0
							0.009 TL	29.50	PV
Pipe: 8									
17		35.0	0.0	61.7	0.0	81.9	3.068 PL	36.00	PF 0.7
30		35.0	0.0	61.0	0.0	3.6	120 FTG	5E	PE 0.0
							0.009 TL	71.00	PV
Pipe: 9									
30		35.0	0.0	61.0	0.0	81.9	3.068 PL	37.50	PF 0.4
64		72.5	0.0	44.4	0.0	3.6	120 FTG	E	PE -16.2
							0.009 TL	44.50	PV
Pipe: 12									
64		72.5	0.0	44.4	0.0	81.9	2.067 PL	7.50	PF 1.6
66		72.5	0.0	42.8	0.0	7.8	120 FTG	ECG	PE 0.0
							0.065 TL	24.50	PV
Pipe: 13									
66		72.5	0.0	42.8	0.0	81.9	2.067 PL	20.00	PF 2.6
68		72.5	0.0	40.2	0.0	7.8	120 FTG	2ET	PE 0.0
							0.065 TL	40.00	PV
Pipe: 14									
68		72.5	0.0	40.2	0.0	49.0	2.067 PL	196.00	PF 4.9
100		72.5	0.0	35.2	0.0	4.7	120 FTG	----	PE 0.0
							0.025 TL	196.00	PV

SPRINKLER SYSTEM HYDRAULIC ANALYSIS

DATE: 10/17/2007

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JOB TITLE: Residence Inn By Marriott

PIPE TAG	END	ELEV.	NOZ.	PT	DISC.	Q(GPM)	DIA(IN)	LENGTH	PRESS.		
NODES	(FT)	(K)	(PSI)	(GPM)	VEL(FPS)	HW(C)	FL/FT	(FT)	SUM.	(PSI)	
Pipe: 15						32.9	2.067	PL	2.50	PF	0.0
70	72.5	0.0	35.3	0.0	3.1	120	FTG	----	PE	0.0	
100	72.5	0.0	35.2	0.0		0.012	TL	2.50	PV		
Pipe: 16						-32.9	2.067	PL	28.25	PF	0.5
70	72.5	0.0	35.3	0.0	3.1	120	FTG	3E	PE	0.0	
72	72.5	0.0	35.8	0.0		0.012	TL	43.25	PV		
Pipe: 17						-32.9	2.067	PL	97.00	PF	1.3
72	72.5	0.0	35.8	0.0	3.1	120	FTG	2E	PE	0.0	
74	72.5	0.0	37.1	0.0		0.012	TL	107.00	PV		
Pipe: 18						-32.9	2.067	PL	140.50	PF	1.9
74	72.5	0.0	37.1	0.0	3.1	120	FTG	4E	PE	0.0	
76	72.5	0.0	39.0	0.0		0.012	TL	160.50	PV		
Pipe: 19						-32.9	2.067	PL	71.00	PF	1.2
76	72.5	0.0	39.0	0.0	3.1	120	FTG	3ET	PE	0.0	
68	72.5	0.0	40.2	0.0		0.012	TL	96.00	PV		
Pipe: 20						81.9	1.610	PL	6.50	PF	3.2
100	72.5	0.0	35.2	0.0	12.9	120	FTG	T	PE	0.0	
102	72.5	0.0	32.1	0.0		0.219	TL	14.50	PV		
Pipe: 21						81.9	1.610	PL	23.75	PF	7.0
102	72.5	0.0	32.1	0.0	12.9	120	FTG	T	PE	0.0	
104	72.5	0.0	25.1	0.0		0.219	TL	31.75	PV		
Pipe: 22						81.9	1.610	PL	19.50	PF	6.9
104	72.5	0.0	25.1	0.0	12.9	120	FTG	3E	PE	0.0	
106	72.5	0.0	18.2	0.0		0.219	TL	31.50	PV		
Pipe: 23						20.6	1.049	PL	0.50	PF	0.8
106	72.5	0.0	18.2	0.0	7.6	120	FTG	T	PE	0.2	
206	72.0	4.9	17.7	20.6		0.137	TL	5.50	PV		
Pipe: 24						61.3	1.610	PL	6.75	PF	0.9
106	72.5	0.0	18.2	0.0	9.7	120	FTG	----	PE	0.0	
108	72.5	0.0	17.3	0.0		0.128	TL	6.75	PV		
Pipe: 25						22.3	1.049	PL	5.50	PF	1.7
108	72.5	0.0	17.3	0.0	8.3	120	FTG	T	PE	0.2	
208	72.0	5.6	15.9	22.3		0.159	TL	10.50	PV		
Pipe: 26						39.0	1.380	PL	1.50	PF	0.2
108	72.5	0.0	17.3	0.0	8.4	120	FTG	----	PE	0.0	
110	72.5	0.0	17.2	0.0		0.118	TL	1.50	PV		
Pipe: 27						20.0	1.049	PL	0.50	PF	0.7
110	72.5	0.0	17.2	0.0	7.4	120	FTG	T	PE	0.2	
210	72.0	4.9	16.7	20.0		0.130	TL	5.50	PV		

SPRINKLER SYSTEM HYDRAULIC ANALYSIS

DATE: 10/17/2007

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JOB TITLE: Residence Inn By Marriott

PIPE TAG	Q(GPM)	DIA(IN)	LENGTH	PRESS.
END ELEV. NOZ. PT DISC. VEL(FPS) HW(C) (FT) SUM.				
NODES (FT) (K) (PSI) (GPM) FL/FT (PSI)				
Pipe: 28	19.0	1.049 PL	8.75	PF 2.3
110 72.5 0.0 17.2 0.0 7.1 120 FTG 3ET				PE 0.2
211 72.0 4.9 15.0 19.0 0.118 TL 19.75				PV

NOTES:

- (1) Calculations were performed by the HASS 7.8 computer program under license no. 38030982 granted by HRS Systems, Inc. 4792 LaVista Road Tucker, GA 30084
- (2) The system has been calculated to provide an average imbalance at each node of 0.004 gpm and a maximum imbalance at any node of 0.097 gpm.
- (3) Total pressure at each node is used in balancing the system. Maximum water velocity is 12.9 ft/sec at pipe 21.

(4) PIPE FITTINGS TABLE

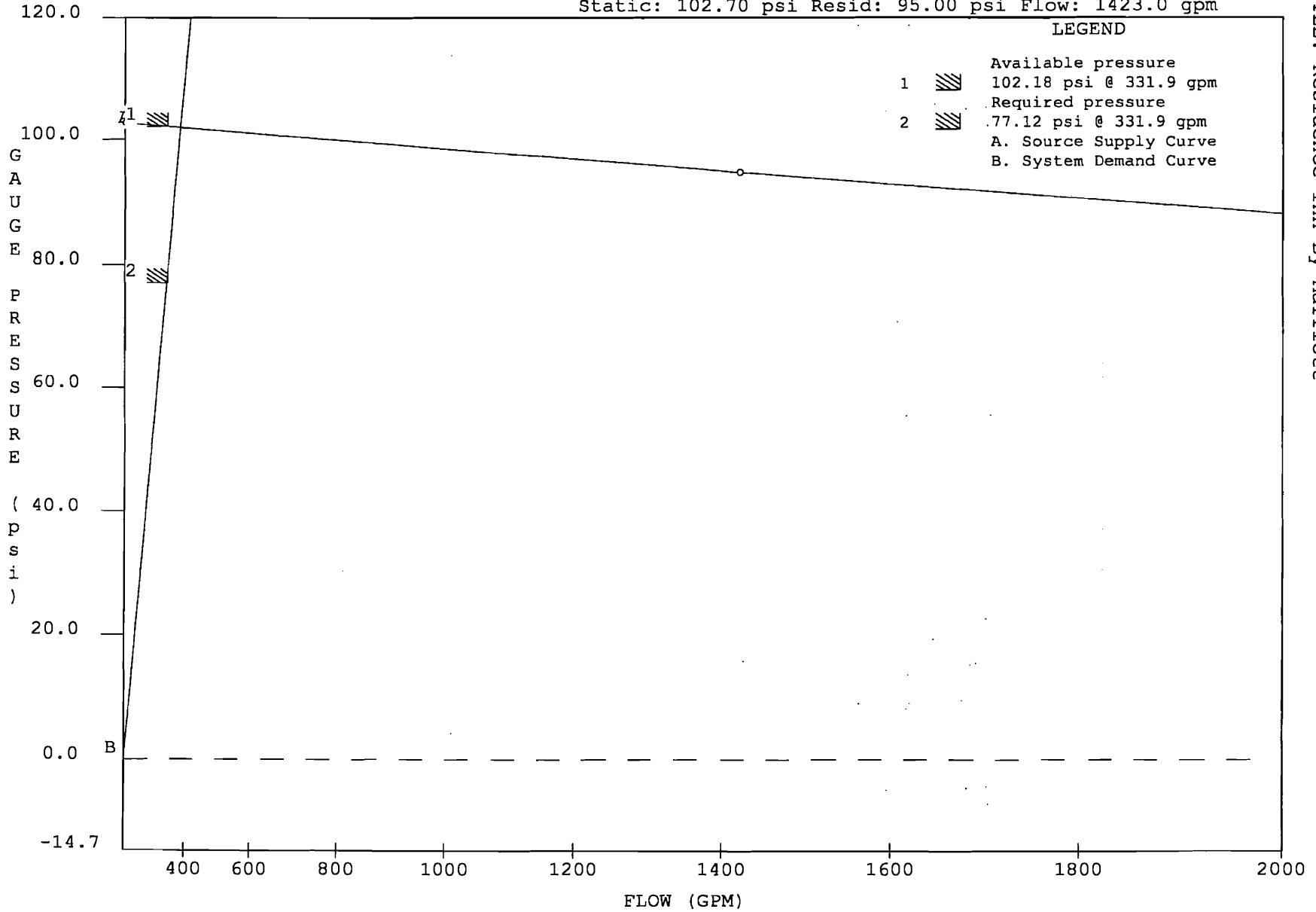
Pipe Table Name: STANDARD.PIP

PAGE: A MATERIAL: S40 HWC: 120

Diameter (in)	Equivalent Fitting Lengths in Feet									
	E	T	L	C	B	G	A	D	N	
	Ell	Tee	LngEll	ChkVlv	BfyVlv	GatVlv	AlmChk	DPVlv	NP Tee	
1.049	2.00	5.00	2.00	5.00	6.00	1.00	10.00	10.00	5.00	
1.380	3.00	6.00	2.00	7.00	6.00	1.00	10.00	10.00	6.00	
1.610	4.00	8.00	2.00	9.00	6.00	1.00	10.00	10.00	8.00	
2.067	5.00	10.00	3.00	11.00	6.00	1.00	10.00	10.00	10.00	
3.068	7.00	15.00	5.00	16.00	10.00	1.00	13.00	13.00	15.00	
6.065	14.00	30.00	9.00	32.00	10.00	3.00	28.00	28.00	30.00	
7.981	18.00	35.00	13.00	45.00	12.00	4.00	31.00	31.00	35.00	

WATER SUPPLY ANALYSIS

Static: 102.70 psi Resid: 95.00 psi Flow: 1423.0 gpm



DATE: 10/17/2007  
JOB TITLE: Residence Inn By Marriott

SPRINKLER SYSTEM HYDRAULIC ANALYSIS

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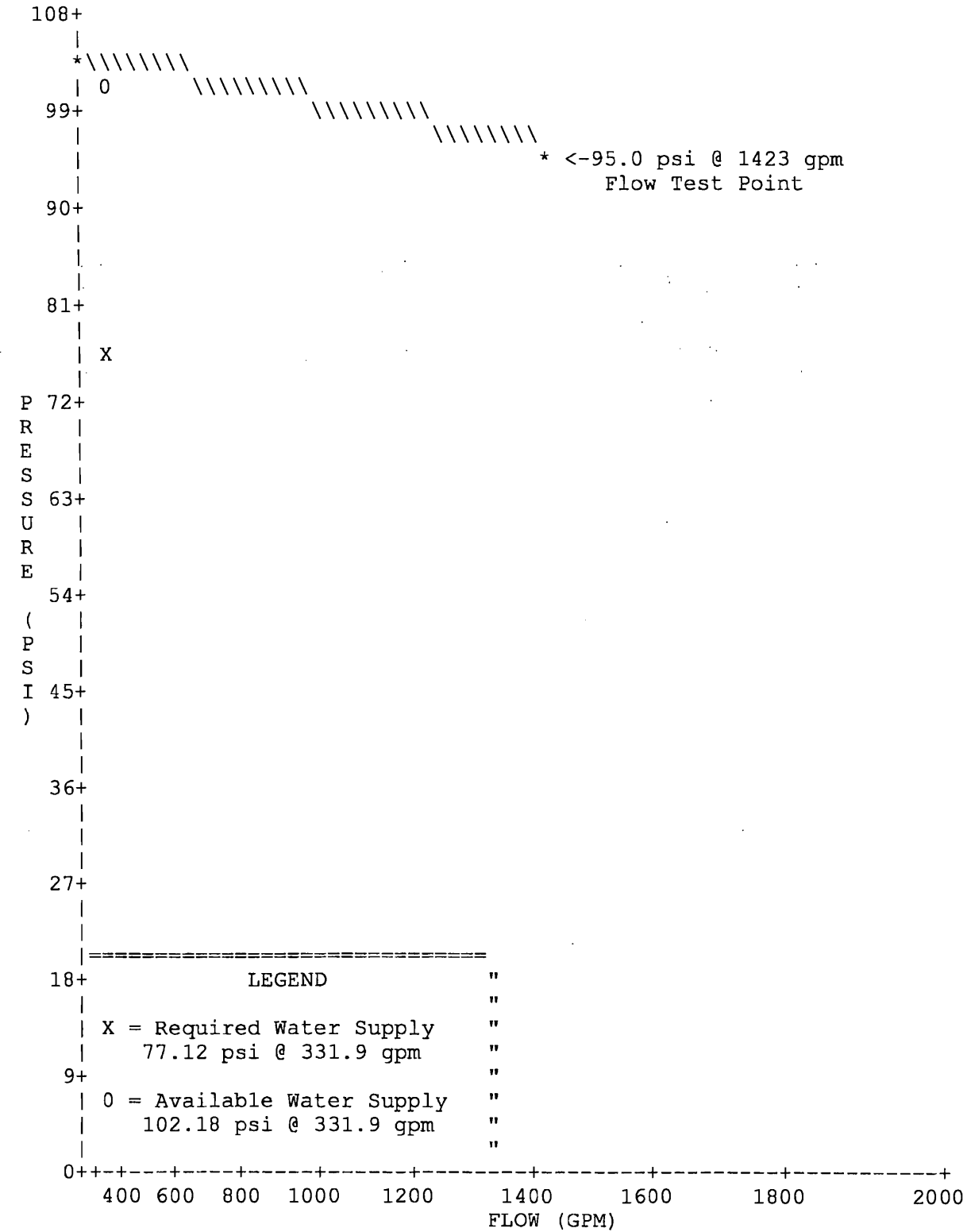
SPRINKLER SYSTEM HYDRAULIC ANALYSIS

DATE: 10/17/2007

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JOB TITLE: Residence Inn By Marriott

WATER SUPPLY CURVE



**GEOTECHNICAL ENGINEERING SERVICES  
PROPOSED MARRIOTT RESIDENCE INN  
FORE STREET AND HANCOCK STREET EXTENSION  
PORTLAND, MAINE**

**06-0726      September 25, 2006**

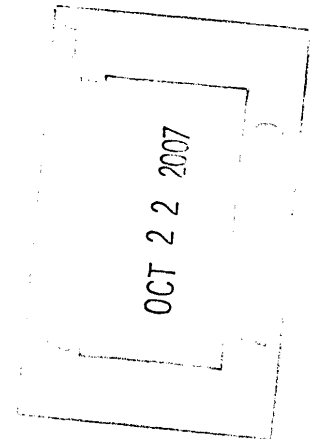
**Prepared for:**

Norwich Partners, LLC  
Attention: Mr. David Leatherwood  
306 Maine Street  
Norwich, Vermont 05055

**Prepared by:**



286 Portland Road  
Gray, Maine 04039





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Sheet 1	Exploration Location Plan
Sheets 2 - 9	Boring Logs
Sheet 10	Key to Notes and Symbols used on Logs
Sheet 11	Underdrain Detail

findings and considerations for development of the site will be provided by Ransom Environmental.

### **1.2 Proposed Construction**

Based on information provided by Group One Partners, Inc. (project architect), we understand development plans call for construction of a 5-story hotel building on previously developed land along the west side of Fore Street, north of its intersection with a planned extension of Hancock Street. We understand the existing buildings and site improvements will be demolished in favor of the proposed construction. We understand the proposed building will likely be a mix of steel framing and load bearing masonry walls with pre-cast concrete plank decks. Detailed structural loading information was not available at the time of this report.

We understand the building is proposed at a finished floor elevation of 18 feet (project datum) with an in-ground indoor pool extending about 6 feet below finished floor. Based on the site plans, we understand existing grades across the site slope upward from Fore Street at about elevation 18 feet to about elevation 22 feet within the existing warehouse structure that occupies the western portion of the site. Considering the existing and proposed grades, we anticipate tapered cuts approaching 5 feet will be need to reach bottom of slab grade with cuts approaching 8 feet needed to reach bottom of foundation excavations. Proposed and existing site features are shown on the "Exploration Location Plan" attached as Sheet 1.

## **2.0 EXPLORATION AND TESTING**

### **2.1 Exploration**

Five test borings (B-301 through B-305) were made at the site on August 16 and 17, 2006. The test borings were made by Northern Test Boring of Gorham, Maine working under subcontract to S. W. COLE ENGINEERING, INC. The exploration locations were selected and established in the field by S. W. COLE ENGINEERING, INC. based upon existing site features. The approximate exploration locations are shown on the "Exploration Location Plan" attached as Sheet 1. Logs of explorations are attached as Sheets 2 through 9. The elevations shown on the logs were estimated based on topographic information shown on Sheet 1. A key to the notes and symbols used on the logs is attached as Sheet 10.

## **2.2 Testing**

The test borings were made using cased wash-boring drilling techniques. Soil samples were obtained within the test borings at intervals of 2 and 5 feet using split-spoon and Standard Penetration Test (SPT) methods. Field Vane Shear Tests (VST) and Pocket Penetrometer Tests (PPT) were made where cohesive soil deposits were encountered in order to assess in-situ soil strength properties. The results of SPT, VST and PPT tests are noted on the logs.

Selected soil samples from the test borings were retained by Ransom Environmental (project environmental consultant) for analytical laboratory testing, as they deemed necessary.

## **3.0 SITE AND SUBSURFACE CONDITIONS**

### **3.1 Site Conditions**

The site is situated along the west side of Fore Street, just north of its intersection with the planned extension of Hancock Street, in Portland, Maine. We understand the site had been previously used as a manufacturing plant for industrial hardware and that several buildings associated with the past site use as well as underground storage tanks in the area of the proposed hotel have been removed or demolished. Several of the buildings from the past site use have been converted for the current site use as a brewery. Buildings existing in the proposed building footprint currently include a steel-framed single-story high-bay on-grade warehouse and a three-story brick building with full basement. The remainder of the site is covered by asphalt and concrete pavements.

### **3.2 Subsurface Conditions**

Beneath a surficial layer of asphalt or concrete, the test borings encountered a subsurface profile generally consisting of loose surficial fills overlying medium to soft glaciomarine clays overlying loose to medium dense glaciofluvial sands overlying loose to dense glacial till overlying bedrock at depths varying from 22 to 42 feet below the ground surface. The principal strata encountered are summarized below. Not all the strata were encountered at each of the explorations. Refer to the attached logs for more detailed subsurface information at the explorations.

Surficial Fills: The surficial fills varied widely from relatively clean gravelly sand just below the pavement surface transitioning to silty sand and clayey sand with brick fragments and organics. The surficial fills ranged from medium dense becoming loose to very loose with depth and varied from about 2 to 14 feet in thickness.

A relic concrete slab or possible old foundation was encountered below the surficial fills at test boring B-305 between a depth interval of 2 to 4 feet below the ground surface. A petroleum-like odor was noted in the soils below the relic slab at B-305.

Glaciomarine Clays: The glaciomarine clays were encountered at depths of 2 to 14 feet below the surficial fills and ranged from about 5 to 18 feet in thickness and extended to depths of 16 to 26 feet below the ground surface. The glaciomarine clays were found to be stiff near the top of this stratum quickly transitioning to soft. The glaciomarine clays are typical of coastal Maine which are relatively lean clays that are sensitive to strength loss when disturbed. PPT and VST Vane shear testing indicate the clays encountered in the test borings beneath this site have shear strengths as low as 300 to 500 psf.

Glaciofluvial Sands: The glaciofluvial sands generally consisted of silty fine sand with gravel and fine to medium sand with seams of silt and fine sand. The glaciofluvial sands were found to be very loose to medium dense ranging from about 2 to 19 feet thick where encountered.

Glacial Till: The glacial till deposit generally consisted of silty gravelly sand and gravelly sand with some silt. The glacial till deposit was found to be medium dense to dense and ranged from 7 to 12 feet thick where encountered.

Bedrock: The test borings encountered refusal surfaces (probable bedrock) at depths ranging from 22 to 42 feet below the ground surface. The drilling tools were advanced several feet into bedrock at B-302 and B-304 to confirm bedrock and a rock core was obtained at test boring B-301. The rock core obtained consisted of slightly weathered, closely fractured, very hard, gray phyllite with a rock quality designation (RQD) of 36 percent.

### **3.3 Groundwater Conditions**

During drilling, the test borings generally encountered groundwater at depths of about 6 feet within the surficial fill soils perched atop the relatively impervious glaciomarine clays. At test boring B-304, the groundwater elevation rose to the ground surface at the completion of drilling, which we interpret as possible artesian water from the glaciofluvial sands confined below the glaciomarine clays. It should be noted that B-304 was over-drilled nearly 4 weeks after the initial test boring to seal off artesian water pressure that had washed out the initial borehole backfill. Groundwater levels should be anticipated to fluctuate in response to precipitation patterns, seasonally during snowmelt and changes in on and off-site uses.

### **3.4 Seismic and Frost Conditions**

According to IBC 2003, we interpret the subsurface conditions to correspond to a seismic soil Site Class D. The design freezing index for the Portland, Maine area is approximately 1250 Fahrenheit-Degree-Days, which corresponds to a frost penetration on the order of 4.5 feet.

## **4.0 EVALUATION AND RECOMMENDATIONS**

### **4.1 General Findings**

Based on the subsurface findings and our understanding of the proposed construction, it is our opinion the proposed construction appears feasible from a geotechnical standpoint. We offer the following summary comments:

- **Foundation and Slabs:** We recommend that building foundations be supported by steel H-piles driven to end-bearing on bedrock. The ground floor slab may be soil-supported. The in-ground pool may be supported on a reinforced concrete mat foundation. Entrance slabs and sidewalks must be designed to control potentially adverse frost heaving.
- **Underdrains:** We recommend the on-grade floor slab be underlain with a sub-slab drainage system consisting of underdrains and a 12-inch layer of crushed stone overlying a geotextile filter fabric placed on properly prepared subgrades. Additionally, we recommend that foundation underdrains be installed around the perimeter of the building.

- **Demolition:** Foundations and slabs from previous and existing structures must be removed beneath the proposed building to reduce potential obstructions to pile driving. We anticipate that concrete, brick and asphalt from the demolition of buildings, foundations and pavements could be crushed on-site and blended with sand for reuse in construction. Reuse of recycled asphalt, concrete and brick must be in accordance with local, state and federal environmental regulations.
- **Excavations and Dewatering:** Excavations must be shored or sloped to prevent collapse and must not undermine adjacent buildings, pavements and sidewalks. For the anticipated excavation depths, we anticipate that sumping and pumping from crushed stone working pads at the base of foundation and utility excavations will be sufficient for construction dewatering. If deeper excavations are made, particularly excavations that would penetrate the glaciomarine clays, it may be necessary to install dewatering wells to control the apparent artesian water pressure observed at B-304.
- **Reuse of On-Site Soils:** The upper 1 to 2 feet of gravelly sand below existing pavements may be suitable for blending with crushed concrete, brick and asphalt for reuse in construction. Below the upper 1 to 2 feet of gravels below the pavements, the existing surficial fills are silty and thus unsuitable for reuse as foundation backfill, but may be suitable to backfill sub-slab utilities and excavations from demolition. The glaciomarine clays are unsuitable for reuse in construction and should be wasted off-site.

These and other geotechnical considerations will be important in the planning, design and construction of the proposed hotel building.

#### **4.2 Site and Subgrade Preparation**

An erosion control system should be instituted prior to any construction activity at the site to help protect adjacent drainage ways. Existing foundations, pavements and vegetation should be removed prior to excavation and grading activities on the site.

**Demolition and Excavation Work:** Foundations and slabs from previous and existing structures must be removed beneath the proposed building to reduce potential

obstructions to pile driving. We anticipate that concrete, brick and asphalt from the demolition of buildings, foundations and pavements could be crushed on-site and blended with sand for reuse in construction. Reuse of recycled asphalt, concrete and brick must be in accordance with local, state and federal environmental regulations.

We anticipate excavated soils will consist principally of silty sand fills and saturated gray silty clay for deeper subslab utilities. It may be possible to reuse the silty sand fills to backfill excavations remaining from demolition activities, provided these fill soils are at a workable moisture content and the work is done during dry, non-freezing weather conditions; otherwise, these soils should not be reused in building construction. The glaciomarine clays are not suitable for reuse in building construction and should be wasted off-site.

Excavations must be properly shored and/or sloped in accordance with OSHA trenching regulations to prevent sloughing and caving of the sidewalls during construction.

Dewatering: In our opinion, ditching with sump and pump dewatering techniques should be adequate to control groundwater in foundation and utility excavations. The crushed stone working mats recommended herein will provide a drainage media from which to sump and pump for construction dewatering. If deeper excavations are made, particularly excavations that would penetrate the glaciomarine clays, it may be necessary to install dewatering wells to control the apparent artesian water pressure observed at B-304.

Grade Beam and Pile Cap Subgrades: Considering anticipated subgrade soil conditions, we recommend pile caps and grade beams be underlain with at least 6 inches of crushed stone overlying a geotextile filter fabric to provide a working surface and casting bed for foundation construction. We recommend that excavation to subgrade should be performed with a smooth-edged bucket to lessen subgrade disturbance.

On-Grade Floor Slab Subgrades: We recommend that the on-grade floor slab be underlain with at least 12 inches of  $\frac{3}{4}$ -inch crushed stone overlying a geotextile filter fabric overlying properly prepared subgrades. In areas where fill is need to backfill excavations from demolition, the fills should consist of compacted granular fills. In

areas where cuts are made to establish bottom of slab grade, existing granular fills should be densified with a ½-ton vibratory plate compactor prior to installing the filter fabric and crushed stone. We recommend that underdrains be installed within the crushed stone layer below the on-grade floor slab to provide long-term dewatering.

Utility and Trench Subgrades: For utility excavations, we recommend a 6 to 12 inch thick working mat of crushed stone placed over a geotextile filter fabric be installed below required bedding materials to help reinforced utility trench subgrades and to provide a drainage media from which to sump and pump.

### **4.3 Foundations**

#### **4.3.1 Pile Foundations**

Considering the subsurface conditions encountered and our understanding of the proposed construction, we recommend that building foundations be supported on steel H-Piles with cast driving tips driven to end-bearing on bedrock. Based on our understanding of the project, we offer the following pile sections and allowable axial compressive capacities for design consideration.

<b>PILE SECTION ASTM A572 Grade 50</b>	<b>ALLOWABLE AXIAL COMPRESSIVE PILE CAPACITY (1/8" Corrosion Allowance)</b>
HP12 x 53	100 kips
HP10 x 57	150 kips
HP12 x 74	200 kips
HP14 x 89	250 kips
NOTE: Axial capacity based on 1/8" corrosion allowance and working stress of 16.7 ksi or less.	

Piles should be spaced a minimum of two pile diameters, center-to-center, but not less than 24 inches. Pile caps and grade beams exposed to freezing must be founded at least 4.5 feet below exterior grade for frost protection. Post-construction settlement of piles driven to practical refusal on sound bedrock should not exceed ½-inch; elastic shortening of the pile should be evaluated on a pile cap by pile cap basis as deemed necessary by the structural engineer.



Lateral loads may be resisted by passive earth pressure acting against pile caps and grade beams. For pile caps and grade beams backfilled with properly compacted Structural Fill (clean, free-draining sand and gravel), we recommend a passive lateral earth pressure of 325 pcf (equivalent fluid) for design consideration. Additional lateral resistance can be provided by the piles, as deemed necessary by the structural engineer. We anticipate that uplift loads will be resisted by the dead weight of the foundations. S. W. COLE ENGINEERING, INC. is available to evaluate lateral and uplift pile capacity during detailed design of the building foundations.

The pile-driving contractor should submit information on the pile driving equipment and proposed 'set' or stop driving criteria to S. W. COLE ENGINEERING, INC. prior to the start of pile driving activities. S. W. COLE ENGINEERING, INC. should be on-site during the driving of piles to maintain pile-driving records and to monitor vibrations due to driving. Vibrations from pile driving activities can adversely affect adjacent structures. We recommend that a pre-driving survey be done on adjacent structures and facilities to establish a baseline prior to the start of pile driving activities.

The IBC 2003 requires that pile load tests be performed on piles with design capacities over 40 tons (80 kips). We recommend load testing for piles over 80 kips in capacity be completed by dynamic methods using a Pile Driving Analyzer (PDA) subcontracted by the pile subcontractor. S. W. COLE ENGINEERING, INC. should be engaged to review PDA results and to prepare a pile installation summary plan and letter stating that the piles were installed according to the recommendations in our geotechnical report.

#### **4.3.2 Mat Foundations**

We understand that a 6-foot deep in-ground pool is planned in the building. We recommend design consider constructing a reinforced concrete mat foundation to support the pool. We recommend that the mat foundation be founded on at least 2-feet of crushed stone wrapped in a geotextile filter fabric, such as Mirafi 160N, placed over properly prepared subgrades. The fabric wrapped crushed stone layer should extend at least 2 feet laterally beyond the outside edge of the mat foundation. We recommend that an underdrain with gravity outlet be installed within the crushed stone layer below the mat foundation of the in-ground pool. For the mat foundation of the in-ground pool founded on properly prepared subgrades, we recommend a net allowable bearing pressure of 1.0 ksf or less.

### 4.3.3 Backfilled Walls

Based on the proposed grading plans, we understand that foundations walls will be needed to retain up to 7 feet of backfill. For properly backfilled foundation walls, we offer the following geotechnical parameters for design consideration:

<b>Geotechnical Parameters for Backfilled Foundation Walls</b>	
At-Rest Lateral Earth Pressure	65 pcf (equivalent fluid)
Active Lateral Earth Pressure	42 pcf (equivalent fluid)
Passive Lateral Earth Pressure	325 pcf (equivalent fluid)

Foundation walls that are restrained from rotation, such as basement walls should be designed considering the at-rest lateral earth pressure. Surcharge loads due to surface loads behind backfilled walls must also be considered in design.

### 4.3.4 Seismic Considerations

According to IBC 2003, we interpret the subsurface conditions to correspond to a seismic soil Site Class D. Based on the subsurface findings and the locality of the project site, it is our opinion that soil liquefaction, seismically induced settlements and adverse seismic hazards are negligible design considerations for this site.

### 4.4 Foundation Drainage

We recommend that a perimeter foundation drainage system be provided near pile cap subgrade around the exterior side of the proposed building. The underdrain pipe should consist of 4-inch perforated foundation drain pipe enveloped in at least 6-inches of ¾-inch crushed stone that is wrapped in non-woven geotextile filter fabric with an AOS of 70. The underdrain must be placed at least 4.5 feet below exterior finish grades to provide frost protection and must have a positive gravity outlet protected from freezing temperatures and backflow. Additionally, we recommend that exterior water-proofing and 2-inch thick foundation insulation be installed on basement walls. General underdrain and foundation details are illustrated on Sheet 11.

### 4.5 Slab-On-Grade Floors

We recommend that on-grade floor slabs in heated spaces be underlain with a vapor retarder and at least 12 inches of crushed stone overlying a geotextile filter fabric, such as Mirafi 160N, overlying properly prepared subgrades. As presented herein, the on-

grade floor slab should have underdrains within the crushed stone layer to provide positive drainage. We recommend design of on-grade floor slabs consider a subgrade reaction modulus of 150 pci.

The vapor retarder should be placed directly below the concrete floor slab and should have a permeance that is less than the floor covering being applied on the slab. The vapor retarder should be installed according to the manufacturer's recommended methods including taping all joints and wall connections. Flooring suppliers should be consulted relative to acceptable vapor barrier systems for use with their products. The vapor retarder must have sufficient durability to withstand construction activity.

We recommend that control joints be installed within on-grade floor slabs to accommodate shrinkage in the concrete as it cures. In general, control joints are usually installed at 10 to 15 foot spacing; however, the actual spacing of control joints should be determined by the structural engineer. We recommend that floor slabs be wet-cured for a period of at least 7 days after casting as a measure to reduce the potential for curling of the concrete and excessive drying/shrinkage. We further recommend that consideration be given to using a curing paper or curing compound after the wet-cure period to improve the quality of the completed floor.

#### **4.6 Entrance Slabs**

Entrance slabs at door openings should be designed to reduce the potential for adverse differential frost action. We recommend that exterior entrance slabs be underlain with at least 4.5 feet of Structural Fill extending beneath the entire width and length of entrance slabs. The thickness of Structural Fill below the entrance slab should transition up to adjacent pavement subbase or sidewalk base gravels at a 3H:1V slope or flatter. This is to help avoid abrupt, differential heaving. All adjacent paved and grassed areas should be sloped to promote drainage away from the building periphery.

We recommend the valet drop-off loop also be underlain with at least 4.5 feet of Structural Fill in order to reduce the potential for adverse differential frost action that could result in reduced overhead clearance for vehicles.

#### **4.7 Backfill and Compaction**

The on-site soils are not suitable for re-use as foundation backfill, but, as presented herein, the silty sand fills may be suitable for re-use as backfill of excavations from demolition; otherwise, the on-site soils should be wasted off-site.

**Crushed Stone:** Crushed stone placed as working mats below pile caps, grade beams, and utilities, as base material below floor slabs, and as drainage aggregate around foundation underdrains should be clean, washed ¾-inch minus crushed stone meeting the gradation requirements for MDOT 703.23 Type C Underdrain Stone.

**Granular Fill:** We recommend that granular fill used to backfill excavations from demolition consist of sand and gravel, or crushed concrete, brick and pavement mixed with sand meeting the requirements of MDOT 703.19 Granular Borrow.

**Structural Fill:** We recommend backfill against foundations and basement walls consist of clean, free-draining, sand and gravel meeting the gradation requirements for Structural Fill, as given below:

<b>Structural Fill</b>	
Sieve Size	Percent Finer by Weight
4 inch	100
3 inch	90 to 100
¼ inch	25 to 90
No. 40	0 to 30
No. 200	0 to 5

**Geotextile Fabrics:** We recommend that geotextile filter fabrics used below crushed stone working mats beneath foundations, below the crushed stone base beneath the on-grade floor slab and pool mat foundation, as well as around underdrain stone, should consist of Mirafi 160N or approved equal with an AOS of 70.

**Placement and Compaction:** Fill should be placed in horizontal lifts and be compacted. Lift thickness should be generally limited to between 6 to 12 inches, as appropriate for the compaction equipment being used, such that the desired density is achieved throughout the lift thickness with 3 to 5 passes of the compaction equipment.

Foundation backfill and fills placed beneath slabs, paved areas and walkways should be compacted to at least 95 percent of its maximum dry density as determined by ASTM D-1557 (Modified Proctor). Crushed stone below pile-supported foundations should be compacted to provide stable access for foundation construction crews and stable subgrades for concrete placement. Crushed stone below the on-grade floor slab and mat foundation of the in-ground pool should be compacted to 100 percent of its maximum dry rodded unit weight as determined by ASTM C29.

#### **4.8 Weather Considerations**

If foundation construction takes place during cold weather, subgrades, foundations, and concrete must be protected during freezing conditions. Concrete and soil must not be placed on frozen soil and once placed, the soil and concrete must be protected from freezing. Further, the on-site fills are moisture sensitive and as such exposed soil surfaces will be susceptible to disturbance during wet conditions. Consequently, sitework and construction activities should take appropriate measures to protect exposed soils, particularly when wet.

#### **4.9 Construction Observations and Testing**

S. W. COLE ENGINEERING, INC. should be retained to provide testing and observation services during the excavation, pile-driving and foundation phases of construction. This is to observe compliance with the design recommendations, drawings and specifications and to allow design changes in the event that subsurface conditions are found to differ from those anticipated prior to the start of construction.

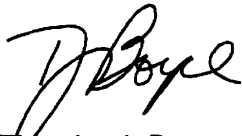
S. W. COLE ENGINEERING, INC. is also available to observe pile installation, and to provide special inspections and testing of soil, concrete, steel welding, spray-applied fireproofing and masonry construction materials.

## 5.0 CLOSURE

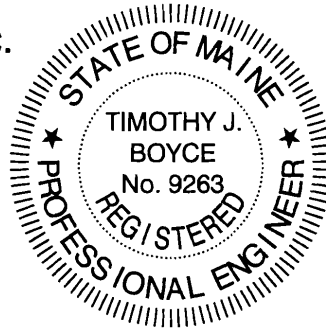
S. W. COLE ENGINEERING, INC. should be engaged to review the sitework and foundation design drawings to confirm that our recommendations have been appropriately interpreted and implemented. We look forward to working with you as the design progresses and during the construction phase.

Sincerely,

**S. W. COLE ENGINEERING, INC.**



Timothy J. Boyce, P.E.  
Senior Geotechnical Engineer



TJB:tjb/pfb

P:\2006\06-0726 S - Norwich Partners LLC - Portland, ME - Proposed Hotel - TJB\Reports and Letters\06-0726 Report.doc

## **Attachment A - Limitations**

This report has been prepared for the exclusive use of Norwich Partners, LLC for specific application to the proposed Marriot Residence Inn hotel at Fore Street and Hancock Street Extension in Portland, Maine. S. W. COLE ENGINEERING, INC. has endeavored to conduct the work in accordance with generally accepted soil and foundation engineering practices. No warranty, expressed or implied, is made.

The soil profiles described in the report are intended to convey general trends in subsurface conditions. The boundaries between strata are approximate and are based upon interpretation of exploration data and samples.

The analyses performed during this investigation and recommendations presented in this report are based in part upon the data obtained from subsurface explorations made at the site. Variations in subsurface conditions may occur between explorations and may not become evident until construction. If variations in subsurface conditions become evident after submission of this report, it will be necessary to evaluate their nature and to review the recommendations of this report.

Observations have been made during exploration work to assess site groundwater levels. Fluctuations in water levels will occur due to variations in rainfall, temperature, and other factors.

S. W. COLE ENGINEERING, INC.'s scope of work has not included the investigation, detection, or prevention of any Biological Pollutants at the project site or in any existing or proposed structure at the site. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria, and viruses, and the byproducts of any such biological organisms.

Recommendations contained in this report are based substantially upon information provided by others regarding the proposed project. In the event that any changes are made in the design, nature, or location of the proposed project, S. W. COLE ENGINEERING, INC. should review such changes as they relate to analyses associated with this report. Recommendations contained in this report shall not be considered valid unless the changes are reviewed by S. W. COLE ENGINEERING, INC.



# PORTLAND MAINE

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Lee Urban - Director of Planning and Development  
Jeanie Bourke - Inspection Division Services Director

## Kitchen Exhaust System Checklist and code Provisions

Dear Applicant,

The following is a checklist to assist you in filing for a permit for a Kitchen Exhaust system. The applicable Mechanical Code provisions have also been attached. Please complete this and submit job specific construction documents that demonstrate compliance with the attached information.

### Type of System:

Type I   X                        Type II \_\_\_\_\_

Type I systems are systems that vent fryers, grills, broilers, ovens or woks.

Type II systems are systems that vent steamers and other non grease producing appliances.

### Type of Materials:

Is the hood Stainless steel or other type of steel?   Yes   If Other, what Type?   Type 304 SS  

Is the duct work Stainless steel or other type of steel?   Other   If Other, what type?   Welded Black Iron  

Thickness of the steel for the hood   18 Gauge  

Thickness of the duct for the hood   16 Gauge  

Type of Hood and Duct Supports

  Hood - Hanging angles at all corners  

Type of seams and Joints \_\_\_\_\_

  Factory Built with welded -UL710 approved hems and joints



Grease Gutters provided? Yes (Grease Drain System - See attached cut)

Hood Clearance reduction to Combustibles design /specs:

Meets Nfpa96 - (See attached cut)

Duct Clearance reduction to Combustibles design /specs:

3 inches

Vibration Isolation System:

n/a - No inline fans - fan on roof

Air Velocity within the duct system 1700 FPM

Grease accumulation prevention system:

Filters and grease gutters at hood - gutters pitched to grease cups

Cleanouts Yes

Grease Duct enclosure 2 hour shaft

Exhaust Termination Roof X Wall \_\_\_\_\_

Fire Suppression System Ansul Piranha

Exhaust fan mounting and clearance from the roof / wall or Combustibles:

Mounted on roof

Exhaust fan distance from property lines 61 feet +

Exhaust fan distance from other vents or openings 20 feet +

Exhaust fan distance from adjacent buildings 70 feet +

Exhaust fan height above adjoining grade On roof at 50 feet +

### Hood Specs

Style of Hood Captive Aire - Type ND-PSP

Type of Filter Industrial grease baffle filters

Height of filter above nearest cooking surface 42 to 48"

Capacity of hood CFM 700

Make up Air system description and capacity

HP-7 - Ducted to prep kitchen



December 29, 2008

Planning & Development Department  
Inspection Services Division  
389 Congress Street  
Portland, Maine  
04101-3509

RE: Residence Inn by Marriott  
Hancock Street and Fore Street  
City of Portland, ME

H  
A

Dear Mike Nugent,

This letter is in response to your email dated January 20, 2008. Please see below your questions with the responses.

Thank you, please provide hard copies at City Hall as soon as you can, my home addition of the City Web services will not allow me to open most attachments.

**The Letter and attachments were all overnighted to City Hall on the 18th, please review this information and call if you need any additional info or if you did not receive it.**

I have completed my review otherwise and I have the following questions or require the following information:

1) Please confirm that the fire/smoke dampers in the guestroom bathroom fans. are protected at the shaft as shown in the riser detail on H2-02, and are below the fire rated floor ceiling assembly. Also please provide a detail the the typical guestroom Heat pump installation, want to review to insure that dampers are not required.

- **Guestroom bathroom exhaust is sub duct system as per 2006 IMC Section 607.5.5**
- **Vertical heat pump installation requires only that piping risers penetrate each floor slab. These penetrations are to receive fire stopping per details on sheet A0.4. Vertical heat pump enclosures to not penetrate the floor slab and would not require dampers**

2) Did the staff at City Hall provide a Kitchen Exhaust check list for you? I also noted that there is a Fire damper on the Kitchen Exhaust and Dryer systems (see H2-02) Are these allowed in these applications. Due to grease and Lint Build up, I think they're not allowed and an alternative design is required. Please look into this.

- **The kitchen check list was submitted in the last response package.**
- **The riser diagrams for the kitchen exhaust, guest laundry exhaust and hotel laundry exhaust have been revised to eliminate the fire dampers. The vertical ducts are in 2 hour shafts and will be required to receive fire stopping at the second floor penetration into the shafts. See attached revised sheet H2-02.**

3) Do you have provisions for emergency standby power for the elevator as required by section 1007.2.1 etc.

**Drawing E5.01 (Electrical Riser Diagram); show the elevators being fed from the generator upon loss of normal power. See attached copy of E5.01.**

4) Please confirm that the stair risers will not exceed 7 inches.

**Yes all stair risers are not to exceed 7 inches see attached stair detail sheets A3.0, A3.1 and A3.2.**

5) Please confirm that the circular stair comply with section 1009.7.

What is the tread depth at 12 inches from the narrow side , also please provide a tread riser profile detail.

**The treads at 12" from edge of stairs is more than 11 inches. See attached sheet A3.2. The stair profile will be similar to detail 2 on sheet A3.0.**

6) Have you provided the roof access stair and hatch detail yet?

**Yes this was addressed in the first response letter dated December 10<sup>th</sup> 2007.**

**We have added alternating tread access see attached sheet A3.1.**

7) STC's and IIC's (section 1207) My plan set page A5.4 has the STC's "XXX" and the wall sections don't have consistent STC info.

**The STC's are shown on sheet A0.6 and A0.7 (see attached). They all exceed the required 50 STC by code.**

**The floors are 8" concrete plank with both tile and carpet finish. The areas with tile would have an IIC of over 80 and at the carpet and pad areas the IIC would be over 200. See attached "Controlling the Transmission of Impact Sound through Floors" literature from IRC. The above IIC numbers are from table 1 page 3 with the increase of concrete to the 8". There is also a suspended ceiling under the areas receiving the tile that will also raise the IIC in these areas.**

**The floor construction exceeds the required IIC of 50.**

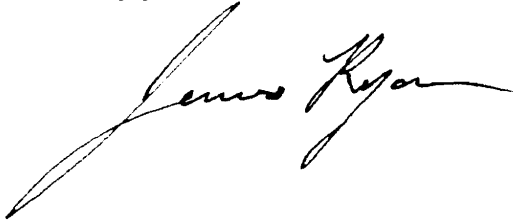
8) The statement of Special Inspections is incomplete. Need a seismic quality assurance plan, contractor's statement of responsibility and there is no program for sprayed on fire resistance materials and the testing agency has yet to be determined.

**Please find attached the revised statement of special inspections. The contractor has not been awarded, but the "contractor's statement of responsibility" can be supplied when they are awarded.**

9) The Window schedule on A8.4 shows window type "G1" for the Aluminum Storefront Windows, Do these need to be safety glazing?

**The window elevations have been modified. See attached sheets A8.3 and A8.4**

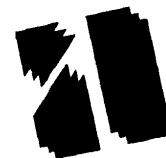
Sincerely yours

A handwritten signature in black ink, appearing to read "James M. Ryan". The signature is fluid and cursive, with a long, sweeping underline that extends to the left.

James M. Ryan  
Associate – Architecture

**Attachments**

**Drawings: A0.6, A0.7 A3.0, A3.1, A3.2. A8.3, A8.4, H2.02 and E5.01**  
**Controlling the Transmission of Impact Sound through Floors**  
**Statement of special inspections**



January 16, 2007

Planning & Development Department  
Inspection Services Division  
389 Congress Street  
Portland, Maine  
04101-3509

RE: Residence Inn by Marriott  
Hancock Street and Fore Street  
City of Portland, ME

Dear Mike Nugent,

This letter is in response to your email dated December 23, 2007. Please see below your questions with the responses. I have also addressed the items that Captain Cass had and they are address below under your comments.

*I'm continuing the review. I still await The Piling info & elevator lobby design. It appears that the structurals were designed as Seismic Design Category "C". Please confirm.*

- **We reviewed your request for more information on the piling with our geotechnical engineer Timothy Boyce from S. W. Cole Engineering. You and Tim have had phone conversations and email correspondence and this issue appears to be resolved.**
- **The elevator lobby doors have been added to the building. Please see attached sheets A1.0, A1.1, and A1.2.**
- **Yes the structural drawing were designed as Seismic Design Category "C" and this can be found on sheet S1.0 design loads note #6.**

*1) On the Code summary R-1 height and area section, assuming that there will be a FULL NFPA 13 fire suppression system, the building height can actually be 5 stories and 75 feet.*  
**This has been modified on our cover sheet please see attached drawing.**

*2) On the City's certification form, the applicant requested that this structure be reviewed with separated mixed uses. In looking at the use group separations, it appears that there is no separation between the A-3 courtyard and the R-1. Please provide a code justification.*  
**The courtyard area is an exterior space. The area is mainly a garden roof and the A-3 assembly was used for egress occupancy loads only.**

3) Please contact Lannie Dobson at City Hall and have her provide a copy of the City's Kitchen Exhaust system checklist. Once you have it please complete it and provide it for review.

**Please find attached the completed checklist.**

4) Was a COMCheck report provided to establish compliance with the 2003 IECC?

**Please find attached the completed COMCheck reports.**

5) There was a note on the plans from Captain Cass that the 44 inch stairway on the East end of the building, needs to be 53.4 inches using a .3 multiplier, has this been resolved?

**We have added an additional egress door out of the hearth room and have revised the assembly areas using net square footage. This has reduced the required width of the stair to 37.8", so the 44" stairway meets the egress requirement. When reviewing the stair widths we noticed that the exit door from this stair needed to be wider and this has been incorporated into the modification. We have also modified the "Code Review Occupancy and Egress" sheet to incorporate the egress multipliers from NFPA 101. Please find attached the modified sheet A0.2**

6) Because the proposed structure will be 10 feet from the "rear" and "side" lot lines, Please provide a detailed elevation for the North (Rear) and East (side) elevations that establishes compliance with Table 602 and Table 704.8

**These walls are greater than 10 feet and less than 30 feet from the lot lines and are required to be 1 hour walls. These walls are 1 hour construction and shall be constructed per wall types 7 and 7A see sheet A0.6. The allowable area of openings in table 704.5 and section 704.8.1 with the building equipped with automatic sprinkler system is 45%. The rear elevation is 34.26% and the side elevation is 14.33%. Both of these elevations meet the allowable area. Please see attached sketch showing the areas.**

Captain Cass's additional comments:

*He had asked for more information on the BBQ pit and gas shut off.*

**This information has been added to the drawings. Please see attached sheets P0.6 and P1.1 and burner cut sheet.**

*He asked to relocate the fire department connections from the side of the building to the front along the sidewalk.*

**This modification has been incorporated. Please see attached sheets A1.0 and A1.6.**

*Another item was that the laundry storage and two other storage rooms on the lower level are not shown to be rated rooms.*

**These rooms are rated rooms; the walls are rated 1 hour and the doors are rated to be 45 minutes. Sheet A0.3 has been modified to showing these areas being rated. Please see attached sheet A0.3.**

*The last item Captain Cass mentioned was about the stair egress width and this is addressed above in item number 5.*

Please review the above comments and the attached information and call if you have any addition questions.

Sincerely yours

A handwritten signature in black ink, appearing to read "James Ryan", with a long, sweeping underline.

James M. Ryan  
Associate – Architecture

Attachments: Drawings: Cover sheet, A0.2, A0.3 A1.0, A1.1, A1.2, A1.6, P0.6, and P1.1  
Kitchen exhaust system checklist  
Kitchen Exhaust hood Cut Sheets  
COMCheck reports  
Elevation sketch with opening areas  
BBQ Burner cut sheet



# Hearth Products Controls

706 Congress Park Dayton, Ohio 45459 (937) 436 9800

From: **Hearth Products Controls**  
RE: **Fire Ring & Fire Pit Testing**

**Vented Decorative Appliances:** Included in this category are appliances listed to two standards for products that offer a view of the flames however are not subject to AFUE testing requirements:

- 1) **ANSI Z21.60/CGA 2.26:** Decorative Gas Appliances for installation in solid-fuel fireplaces.
- 2) **ANSI Z21.50/CGA 2.22:** Vented Gas Fireplaces.

**Document Number:** ANSI Z21.50-2003/CSA 2.22-2003

**Document Number:** ANSI Z21.60-2003/CSA 2.26-2003

**Title:** Vented Gas Fireplaces

**Title:** American National Standard/CSA Standard for Decorative Gas Appliances for Installation in Solid-Fuel Burning Fireplaces

**Scope:**

This standard applies to newly produced vented gas fireplaces (See Part IV, Definitions), hereinafter referred to as appliances, constructed entirely of new, unused parts and materials, and having input ratings up to and including 400,000 Btu per hour.

Screen Friendly

**Scope:**

Details test and examination criteria for decorative appliances for installation in solid-fuel burning fireplaces for use with natural gas and propane. This appliance is defined as a self-contained, free-standing, gas-burning appliance designed for installation only in a solid-fuel burning fireplace and whose primary function lies in the aesthetic effect of the flame

Screen Friendly

**Publication Date:** 7/10/2003

**Publication Date:**

**Ansi Approved:** Yes

**Date file last updated on NSSN:** 1/24/2006 12:34:06 PM

**Date file last updated on NSSN:** 1/24/2006 12:35:00 PM

**SDO Approval Date:** Not Available

**SDO Approval Date:** Not Available

**ANSI Approval Date:**

**ANSI Approval Date:** 7/10/2003

CSA

(CSA America, Inc.)



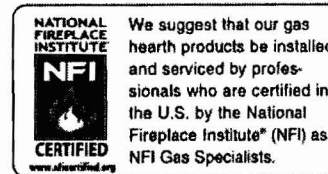
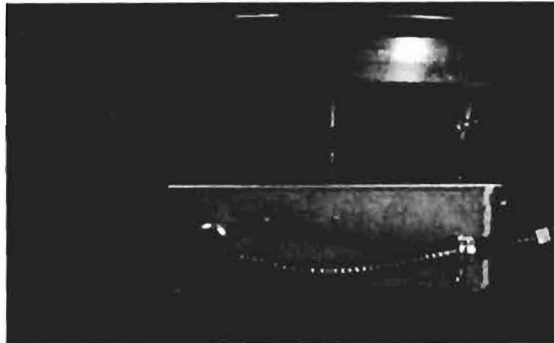


**Hearth Products Controls Co**  
**706 Congress Park Dr**  
**Dayton, OH 45459**

www.hearthproductscontrols.com

Toll Free: (877) 585-9800 Fax: (877) 433-0704

**DIRECT SPARK IGNITION FIRE PITS**  
**(All Sizes....SS90 DSI, SS150 DSI & SS300 DSI)**



**If the information in this manual is not followed, an explosion or fire could result causing property damage, personal injury, or loss of life.**

We recommend that our products be installed and serviced by professionals who are certified in the U.S. by NFI (National Fireplace Institute) or in Canada by WETT (Wood Energy Technical Training). Installer must follow all instructions carefully to ensure proper performance and safety.

**INSTALLATION PREPARATION**

Please carefully follow the steps below when: 1) Selecting the Location. 2) Construction of the Enclosure. 3) Installation of the Complete Fire Pit. **It is the responsibility of the installer to follow all Local and State Codes concerning the installation and operation of the fire pit.**

The steps listed as **WARRANTY REQUIREMENT** must be strictly followed to qualify for product 3 year warranty. **Warranty will be void if not followed.**

**1) SELECTING THE LOCATION:**

**COMPLETE FIRE PITS ARE DESIGNED STRICTLY FOR OUTDOOR USE ONLY. HEARTH PRODUCTS CONTROLS CO. MUST BE NOTIFIED OF ANY OTHER USE. FIRE PITS CREATE VERY HIGH TEMPERATURES- IT IS VERY IMPORTANT THAT COMBUSTIBLES BE KEPT AT SAFE DISTANCES.**

- **WARRANTY REQUIREMENT:** For installation of 110vac powered control systems, it is required to install a wall switch on the fire pit main power line away from the pit enclosure to prevent unauthorized ignition of the fire pit.
- **WARRANTY REQUIREMENT:** The fire pit location must accommodate a gas shut off outside of fire pit enclosure. The gas line should be a minimum of 3/4" or larger based on fire pit size.
- To enjoy your fire pit, select a well drained location that allows for sufficient clearance from combustible materials.
- Choose a location that allows easy access for installation and maintenance of the fire pit. Make sure that trees and shrubbery are well clear around and above the fire pit.

- Pick a location that allows sufficient horizontal room to enjoy the fire pit while allowing a safe distance from the heat and flame.
- Select a location where the fire pit can be attended during operation. Never leave an operating fire pit unattended or by someone not familiar with its operation or emergency shut off locations.  
Wooden or solid surfaces such as granite or marble must be located far enough away that they do not reach a temperature of more than 100 degrees F plus ambient air temperature. **Example:** If surrounding air temperature is 70, the wood surface temperature must stay at or below 170 degrees F.

**Complete Fire Pit with Valve box**

Under Valve Box	6"
Sides Surrounding Fire Pit	14"
Above Fire Pit	96"

**2) CONSTRUCTION OF THE ENCLOSURE:**

██████████ THERE MUST BE AN ELECTRICAL AND GAS SHUTOFF ON THE EXTERIOR OF THE FIRE PIT TO ALLOW FOR EASY ACCESS IN THE CASE OF AN EMERGENCY.

██████████ ALWAYS USE PROPER MATERIALS AND CONSTRUCTION FOR GAS SUPPLY, POWER, AND ENCLOSURE.

- A template is provided with your fire pit that can be used to draw the I.D. of the enclosure. Simply trace the circumference of the template with a marking device to provide a visual aid, and then erect your stone or brick structure around the marking. The enclosure I.D. will be the size of your Complete Fire Pit + 1.25". Example: 25" Fire Pit + 1.25" = 26.25" enclosure I.D. If using installation collar (optional), the template can still be used.
- **WARRANTY REQUIREMENT:** The enclosure must be constructed on a stable surface. Make sure that the fire pit is high enough that the control box is above the grade to prevent water damage to the controls inside the box. **NEVER** install a fire pit below ground level. Drainage must be provided for the enclosure to prevent water accumulation leading to damage to components in the valve box.
- **WARRANTY REQUIREMENT:** The enclosure must incorporate a vent on at least one side at a minimum size of **18 sq. inches** (Example: 3"x 6" or larger) to allow heat within the enclosure to escape from void around valve box. Failure to do so will result in the fire pit automatically shutting down when internal valve box temperature reaches 175° F. This could lead to heat damage to internal components. **Some enclosures may require more ventilation based on material, size, and extended use.** This vent may work as a drain as well to prevent water build up in enclosure.
- **WARRANTY REQUIREMENT:** The interior void space of the enclosure surrounding the valve box cannot be filled with any material (gravel, crushed rock, concrete, etc.)- It is a requirement to have a **minimum of 6"** under the valve box for proper ventilation.
- Select materials that are non-combustible in both initial installation as well as over time.
- Make sure that the structure is level. We recommend the use of the installation collar (optional) that may be mortared into the surround.

**3) INSTALLATION OF THE COMPLETE FIREPIT ASSEMBLY:**

- **WARRANTY REQUIREMENT:** The fire pit assembly should be **recessed a minimum of 4"** from the top of the enclosure to protect flame from being blown out. Some areas may require more- 8" is not uncommon.
- **WARRANTY REQUIREMENT:** All firepits come with a 2' x 2' sheet of insulation between the pan and valve box to protect internal components from heat damage. This may need to be trimmed on smaller enclosures for proper fit. **PLEASE USE THIS AT ALL TIMES.**
- **WARRANTY REQUIREMENT:** When filling the pan with lava rock and/or decorative glass, the instructions on Pg. 5 must be followed. **Only use stainless mesh provided on fire ring.**
- **Gas Pressure Input:** The input should be: Natural Gas- 5~7" W/C; LP Gas- 13 ~ 15" W/C. **Anything above this could damage unit.**
- The main gas should already be plumbed to the location of the fire pit area. The 24" flex line coming from the fire pit should be connected to the main gas line. Tighten the flex line fittings to the gas supply stub and to the fire pit. **Avoid sharp bends with flex line to prevent whistling.**

- Turn on main gas supply and check all fittings in and around fire pit for leaks using a leak reactant, leak detector or soapy water. If leaks are found, shut off gas supply repair leaks and retest.
- The 3' power cord can be either tied into the main power supply for use with wall switch or directly plugged into an outlet to use remotely.

## **COMPLETE FIREPIT OPERATION**

BEFORE USE, BE SURE TO TEST ALL GAS CONNECTIONS FOR LEAKS. DO NOT USE FIRE PIT IF THERE IS ANY EVIDENCE OF LEAKING GAS. IF LEAKING GAS IS SUSPECTED, TURN OFF THE MAIN GAS SUPPLY AND REPAIR IMMEDIATELY.

WHEN FIRE PIT IS NOT IN OPERATION, ELECTRIC POWER AND GAS SUPPLY MUST BE TURNED OFF AT LOCATION OUTSIDE ENCLOSURE.

NEVER USE ANY MATERIAL THAT IS NON-POROUS AND HOLDS MOISTURE LIKE GRAVEL, PEBBLES, RIVER ROCK, ETC. THIS MATERIAL, WHEN HEATED WILL CAUSE THE TRAPPED MOISTURE TO BOIL, AND FRACTURE UNEXPECTEDLY. THIS MATERIAL IS NOT SUFFICIENTLY POROUS TO ALLOW HEATED STEAM TO READILY ESCAPE WHICH CAN BREAK AND CAUSE PERSONAL INJURY OR DAMAGE.

LEAVES, STICKS, WOOD, PAPER, CLOTHING, FOOD MATERIAL, SHOULD ALWAYS BE KEPT AWAY FROM THE FIREPIT. MAKE SURE THAT THERE IS NO VEGETATION OR OTHER OBJECTS OVER THE TOP OR SIDES OF THE FIREPIT THAT COULD INTERFERE WITH SAFE & PROPER OPERATION.

IF LAVA ROCK IS WET, ALLOW FIRE PIT TO BURN FOR 30 MINUTES PRIOR TO COMING 15 FEET WITHIN FIRE PIT.

### **Fire Pit Start Up:**

**Initial Start Up:** Several "on / off" cycles may be necessary to purge air in gas lines after pit installation. On pits built for LP (propane) usage, adjust air mixer under pan- turn nut to increase or reduce air mixture to gas.

#### **Normal Operation:**

- 1) Turn "on" electrical power and gas to fire pit.
- 2) Confirm there is no debris in fire pit (as mentioned in warnings) including water.
- 3) Using remote or wall switch, turn "on" fire pit- this may take a few cycles to purge any air.
- 4) Once fire pit has ignited, do NOT leave unattended.

**OVERHEATING:** The firepit will automatically close gas valve if temperature exceeds 175° F inside valve box to prevent component damage. When unit cools below 175° F, the unit will automatically restart. To correct overheating, ensure enclosure has adequate ventilation- see "Construction of Enclosure".

### **Fire Pit Shutdown:**

- 1) Turn "off" fire pit using remote or wall switch.
- 2) Turn "off" electrical power and gas to fire pit.
- 3) Once fire pit has cooled completely, use appropriate cover to protect fire pit.

### **Fire Pit Maintenance:**

- 1) Keep fire pit covered at all times when not in use.
- 2) Keep any debris out of fire pit- clean as needed.
- 3) **Flame Sensor Cleaning of Soot:** Remove lava rock or glass from stainless mesh. Remove stainless mesh over flame sensor assembly cage as shown in Fig. 1. Clean flame sensor, spark igniter, and inside of cage of any soot. Be careful not to damage ceramic insulators. Place stainless mesh back in place and cover per instructions on Page 5. **For LP usage, this will be every ~15 hrs. of use is normal; for Natural Gas usage, this will be every ~50 hrs of use is normal.**



**Fig. 1**

**Here is some additional helpful information to keep in mind:**

**Fire Pits Dimensions:** Are approximately 12” from the bottom of the valve box to the lip of the burner pan. HPC can provide drawings if so desired.

**Installation Collars** are available that can be mortared into enclosure and allow for fire pit to be easily removed for maintenance. Installation Collars measure as follows:

<u>Fire Pit Size</u>	<u>Collar I.D.</u>	<u>Collar O.D.</u>
19”	20”	26”
25”	26”	32”
31”	32”	38”
37”	38”	44”

**Gas Line Construction:** Main fire pit gas supply lines that transition from large ID to smaller ID (i.e. 1” ID supply line to ½” ID) line will result in more noticeable noise when burner is in operation. This is particularly noticeable when transition is installed inside fire pit structure. Installer should also minimize long runs of corrugated supply lines to fire pit. Utilizing smooth bore gas supply (hard pipe) lines, shorter flex lines and avoid steep ID transitions near interior of fire pit will reduce but not eliminate operational noise. Some noise is normal in burner operation.

**FIRE PIT ACCESSORIES**

You may want to use one of our log sets to further enhance the appearance. Our log sets come in Campfire style and Woodland style and are especially made for outdoor use.

You can visit our website at [www.hearthproductscontrols.com](http://www.hearthproductscontrols.com) to view our entire line of indoor and outdoor products. We design and build “CUSTOM FIRE PITS”

**3 Year Limited Warranty**

Hearth Products Controls Company (HPC) warranties complete firepits against manufacturing defects that prevent safe and correct function for a 3 year period-commencing from the date of original sale / shipment from HPC FOB Dayton, Ohio.

This warranty is for parts and in-house (HPC) labor. The defective product must be sent back to HPC with a Return Merchandise Authorization (RMA) issued by HPC for that specific product and any other additional information for the nature of the defect or warranty claim.

The warranty does not cover items that have been damaged by overheating, modification, abuse, or improper storage. Also any labor involving installation or maintenance with the unit is not covered.

This warranty excludes claims for consequential, indirect-collateral expenses arising from product defects or warranty recovery.

## Lava Rock & Glass Application

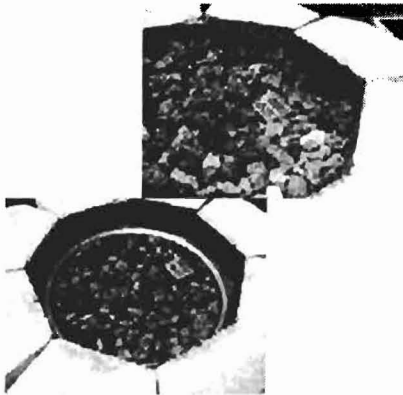
Please follow the instructions below to add the finishing touch to your fire pit. Remember the deeper your lava rock or glass the more risk of reducing if not smothering the flame. Particular attention needs to be on the sensor assembly area- if sensor is covered too much, this will cause the pit to shutdown due to smothering flame around sensor.

### Lava Rock Only Application

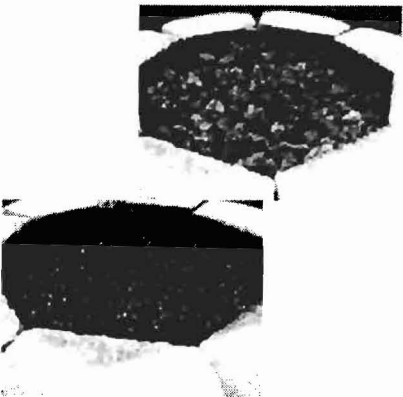
- 1) Install your fire pit per instructions. Place mesh over sensor assembly.



- 2) Apply lava rock deep enough to just hide fire ring and pan- less than 2" slightly above ring.



- 3) Cover mesh with lava rock- again only deep enough to hide mesh.

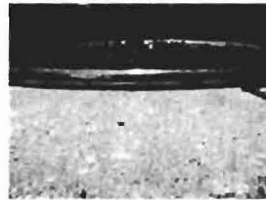


### Decorative Glass Application

- 1) Install your fire pit per instructions. Place mesh over sensor assembly.



- 2) Add base layer of lava rock as filler and to enhance flame. Height should be above fire ring- use **smaller** pieces of rock supplied on top of ring. DO NOT cover mesh over sensor assembly with lava rock- will do in Step #4 with glass.



- 3) Apply top coat of glass to lava rock, again just deep enough to hide lava rock and pan.



4) Add log set to lava rock if desired.

4) **IMPORTANT:** Lightly cover the mesh with glass as shown below to prevent smothering flame around sensor.



# Exhaust Hood

Mark # 071

**MANUFACTURER** Captive Aire

**MODEL #** Type ND-PSP

- FEATURES**
- Wall hung hood size and shape as shown on plans or required by code.
  - Include SS closure panel to ceiling.
  - Include SS filters.
  - Hood to be UL Listed, NFPA 96.
  - All Type 304 SS.
  - (3) incandescent light fixtures pre-wired to top-mount junction box .
  - Mount hood at +7'-0" AFF to bottom edge.
  - Pre-pipe hood with water spray fire suppression system per General Specifications, spray nozzles, chrome sleeved drops, and Quik Seals at all penetrations.
  - Verify local code requirements for hood size and utility requirements.

<b>AREA</b>	Back of House	<b>ROOM COUNTS</b>	
<b>LOCATION</b>	Kitchen	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>FINISH</b>	100% Type 304 stainless steel	92	124

## ELECTRICAL

<b>CONNECTION</b>	JB	<b>VOLTS</b>	120	<b>PHASE</b>	1	<b>AMPS</b>	
<b>KW</b>	300W	<b>HP</b>		<b>ROUGH-IN HEIGHT</b>	DFA +112"		
<b>ROUGH-IN COMMENTS</b>	Lights, to wall switch						

## PLUMBING

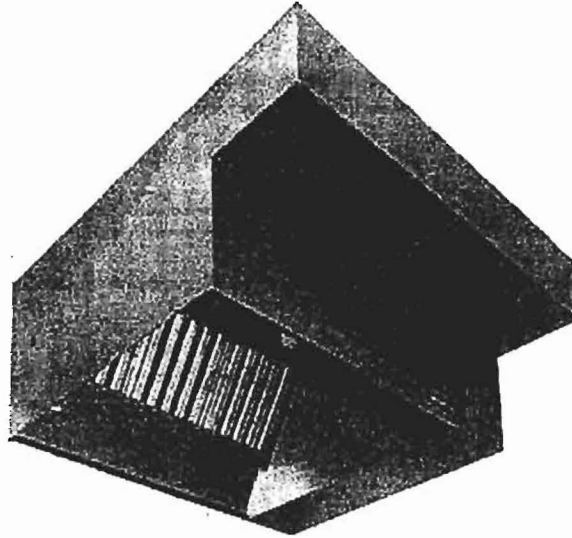
<b>HW</b>		<b>CW</b>		<b>WASTE</b>	
<b>ROUGH-IN COMMENTS</b>					

## GAS

<b>GAS SIZE</b>		<b>MBH</b>		<b>HEIGHT</b>	
<b>COMMENTS</b>					

## VENTILATION

<b>CONNECTION TYPE</b>	Exhaust	<b>CFM Vfy.</b>		<b>STAT. PRESS. Vfy.</b>	
<b>DUCT SIZE</b>	Vfy.		<b>VENT HEIGHT</b>	+9'-3"	
<b>COMMENTS</b>	Verify - Per local code and cooking equipment line				



## ND Series with PSP Accessory

### Exhaust Only Hood with Front Supply Plenum

Captive-Aire's exhaust only, low CFM ventilation hood is UL Listed for use over 450°F, 600°F and 700°F cooking surface temperatures. Front supply plenum provides up to 80% make-up air.



Offering A Fully Integrated Package, Pre-Engineered For Optimum Performance

#### ADVANTAGES

- **Exhaust Flow Rates:** Superior exhaust flow rates. A 4' Hood can operate at 150 CFM/ft or 600 total CFM.
- **UL Listed:** UL Listed for use over 450°F, 600°F and 700°F cooking surface temperatures, provides flexibility in designing kitchen ventilation systems. UL Listed to Canadian safety standards, NSF Listed and built in accordance with NFPA 96. Recognized by ICBO, BOCA and SBCCI.
- **Front Design:** Double Wall front design prevents condensation and directs grease-laden vapors toward the exhaust filter bank.
- **Stainless Steel Construction:** Polished stainless steel on the interior and exterior of the front enhance aesthetics.
- **Sturdy Construction:** Sturdy stainless steel construction with double wall, insulated front panel.
- **Pre-wiring at Factory:** Factory pre-wired lighting to illuminate the cooking surface.
- **Industrial Grease Baffle Filters:** All hoods come standard with aluminum baffle filters. Stainless steel filters are optional. High velocity cartridge filters are available on the CND series.
- **Clearance to Combustibles:** Optional integral clearance to combustibles reduction system to meet NFPA 96 requirements.
- **Face Mounted Controls:** Optional UL Listed light and fan control switches flush mounted and pre-wired through electrical chaseway.
- **Capture & Containment:** Exceptional capture and containment of cooking vapors. This is accomplished with the signature ND "triangle" on the front of the hood's capture area and the "C-shaped" design of the hood's capture area.
- **UL Listed Fire Damper:** Optional UL Listed exhaust fire damper on the ND-100 model.
- **80% Make-Up Air:** Delivers up to 80% make-up air via the hood's perforated supply plenum(PSP).
- **Low Make-Up Air Discharge Velocities:** At 80% of 225 cfm/ft, the discharge velocity is 150 ft/min.
- **Directs Make-Up Air Into Hood's Capture Area:** A large percentage of the make-up air discharged from the front perforated supply plenum(PSP) is directed into the hood's capture area. See Video.
- **Even Distribution of Make-Up Air Across Length of Hood:** The perforated supply plenum(PSP) delivers the make-up air evenly along the length of the hood. See Video.



**PERFORMANCE**

Max. Avg. Cooking Surface Temperature (°F)/Cooking Surfaces	Configuration	Exhaust CFM/Ft.	Suggested Supply CFM/Ft. via Front Supply Plenum
450°F - Ovens, Steamers, Kettles, Open-Burner Ranges, Griddles, Fryers	Wall Hood	150	120
	2-piece island back to back wall hoods	300	240
600°F - Gas Charbroilers, Electric Charbroilers, Woks	Wall Hood	200	160
	2-piece island back to back wall hoods	400	320
700°F - Mesquite Grills, Charcoal Charbroilers, Gas Conveyor Charbroilers	Wall Hood	250	200
	2-piece island back to back wall hoods	500	400

\*Supply CFM/Ft. Consult factory representative if higher values are required.

**FEATURES**

- Available in single wall type or two piece back-to-back island configuration.
- Fabricated of Type 430 stainless steel, #3 or #4 polish, on all exposed surfaces. Optional type 304 stainless steel available.
- Double-wall, insulated front increases rigidity and reduces condensation.
- Fitted with UL Classified, aluminum filters, removable for cleaning. Optional stainless steel and UL Listed high velocity cartridge filters available. (Model CND)
- Grease drain system (1/8" per foot minimum slope) with removable pint cup for easy cleaning.
- Pre-punched hanging angles on each end of hood. Additional set provided for hoods longer than 12'.
- Optional integral clearance to combustibles reduction system to meet NFPA 96 requirements.
- Fitted with UL Listed, pre-wired, incandescent light fixtures and plastic-coated glass globes to hold up to a standard 100 watt bulb. Recessed incandescent and recessed fluorescent lights optional.
- A built-in wiring chase provided for optimal positioning of electrical controls and outlets on the front face of the hood without penetrating capture area or requiring external chaseway.
- Optional UL Listed exhaust fire damper (Model ND-100).
- UL Listed for 450°F, 600°F and 700°F cooking surfaces (File MH 12106 without exhaust damper; File MH 14540 with exhaust damper), UL Listed to Canadian safety standards, NSF Listed and built in accordance with NFPA Standard 96. Recognized by ICBO, BOCA, and SBCCI.
- A perforated supply plenum(PSP) delivers up to 80% make-up air(MUA). MUA emitted at low discharge velocities. Evenly distributes MUA along the length of the hood. Directs a large percentage of MUA into hood's capture area.

**OPTIONS**

**Utility Cabinet:** UL Listed for integral side mount on the Captive-Aire Systems ventilation hood...fabricated of same material as hood...the cabinet houses factory pre-piped UL Listed fire suppression system\* and UL Listed, pre-wired electrical controls...pre-wire package\* contains light switches, lighted fan control switches and internal factory wiring and components (starters, relays, etc.) to reduce field wiring requirements. UL tests confirm temperatures do not exceed 120°F inside the cabinet during fire condition. (120°F is the maximum allowed storage temperature for the UL Listed fire suppression system and the UL Listed Industrial control panel.) (\*Dimensional restrictions may apply)

**Rear Make-Up Air Plenum:** Provides make-up air for the kitchen, discharged below cooking equipment...welded...stainless steel exposed surfaces...unexposed surfaces made of aluminized metal...shipped separately, requiring field connection...insulated to prevent condensation...perforated diffuser plates for even air distribution. Provides required clearance from limited combustibles per NFPA 96 Standards.

**Removable, UL Listed, High Velocity Cartridge Filters:** Constructed of stainless steel...uses centrifugal force to remove grease and other particulates...National Institute of Standards and Technology methodology used by an independent agency to evaluate performance...tests indicate 95 percent extraction efficiency.

**Enclosure Panels:** Constructed of stainless steel...mounting channel factory-welded to hood for field installation of panels over 11" high...under 11", factory-welded and integrally installed into hood front ends...sized to extend from

hood top to ceiling, enclosing pipe and hanging parts.

**End Panels:** Should be used to maximize hood performance and eliminate the effects of cross drafts in kitchen...units constructed of stainless steel and sized according to hood width and cooking equipment. Exposed edges hemmed for safety and rigidity.

**Exhaust Fire Damper:** UL Listed...installed in exhaust collar...activated by a UL Listed, 212°F, 10-lb. minimum rated fusible link.

**Roof Top Package:** Combination UL Listed exhaust/supply air unit with factory prewired and mounted motors, UL Listed trunkline and curb vented on exhaust side. Various models perform up to 14,000 CFM exhaust and up to 3 inches static pressure...weatherproofed...galvanized construction... washable mesh filters...exhaust/supply air fans share common roof penetration...internal wiring drops directly through curb, requiring no pitch pockets...exhaust outlets/air intakes spaced to conform to code regulations...automatic reset/thermal overload protection on all single phase motors and on three phase motors if pre-wire assembly is included in package...standard single-point power connections...UL 705, 762 Listed exhaust fans rated for high grease applications...optional backdraft dampers.

**Separate Exhaust and/or Make-Up Air Fans:** UL Listed single exhaust fans and supply-air fans and curbs available...same features, construction methods and performance ratings as roof top package above.

**Heated Make-Up Air Unit:** UL Listed direct fired gas heated make-up air unit manufactured... UL Listed for natural gas and propane... design integrates the blower and burner into a single package... heavy duty, weather resistant, galvanized steel construction... units available in Roof Top Package or as a stand alone heated make-up air module... several sizes available to meet almost any performance rating specification.

**Fire Suppression System:** UL 300 pre-piped fire suppression system...Custom designed to your cooking equipment line-up.

**Construction:** 430 and 304 stainless steel construction...On exposed surfaces or 100%.

**Clearance to Combustibles:** Integral clearance to combustibles system that meets NFPA 96 requirements.

**Electrical Controls:** UL listed controls... Face mounted switches.

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**FULLY INTEGRATED PACKAGE**

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Captive-Aire sells this hood as a stand-alone appliance to be integrated into a kitchen ventilation application. Captive-Aire also provides this hood as part of a **FULLY INTEGRATED PACKAGE** designed by Captive-Aire and pre-engineered for **OPTIMUM PERFORMANCE**. The package consists of the hood, an integral UL Listed utility cabinet, factory pre-wired UL Listed electrical controls, and a factory pre-piped UL Listed fire suppression system. Other options include a UL Listed exhaust damper, a UL Listed exhaust fan, a UL Listed non-tempered make-up air fan, and/or a UL Listed direct-fired heated make-up air unit. Fire suppression systems include final hookup and inspection.

Ara Aftandilian

Summit Hotel Properties, Inc.

218 Boston Street, Suite 109

P.O. Box 394

Topsfield, MA 01983

tel 978.887.3640

fax 978.887.3644

mob 617.872.7480

aa.summit@prodigy.net

**From:** "Hollie Porter" <hollie@norwichpartners.biz>  
**To:** "Lannie Dobson" <LDobson@portlandmaine.gov>  
**Date:** 10/22/2007 2:55:54 PM  
**Subject:** RE: Residence Inn Portland building permit fee

Lannie,

Can I have your phone number for the FedEx? Thanks!!

Hollie Porter

Office Manager

Norwich Partners LLC

T (603) 643-2206

F (603) 643-2209

[www.norwichpartners.biz](http://www.norwichpartners.biz)

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**From:** Ara Aftandilian [mailto:aa.summit@prodigy.net]  
**Sent:** Monday, October 22, 2007 2:28 PM  
**To:** Lannie Dobson; Hollie Porter  
**Cc:** Jeanie Bourke  
**Subject:** Residence Inn Portland building permit fee

Lannie, we have determined that HVAC/fire protection is around \$1.75M of the \$18.35M cost of work. Can you revise the Application and insert \$16,600,000 for cost of work and a total fee of \$166,095.

Hollie, please FedEx a check for \$166,095 to Lannie Dobson, Portland City Hall, Inspectional Services Division, 389 Congress Street, Portland ME 04101.

I am emailing the geotechnical report per Mike Nugent's request.

Please call or email with any questions. Thank you.



# General Building Permit Application

If you or the property owner owes real estate or personal property taxes or user charges on any property within the City, payment arrangements must be made before permits of any kind are accepted.

Location/Address of Construction: <u>Fore Street &amp; Hancock Street Extension</u>		
Total Square Footage of Proposed Structure/Area <u>131,871 SF</u>		Square Footage of Lot <u>34,069 SF</u>
Tax Assessor's Chart, Block & Lot Chart#      Block#      Lot# <u>20            C            9</u> <u>(portion of)</u>	Applicant * <u>must be owner, Lessee or Buyer</u> * Name <u>Norwich Partners LLC</u> <u>c/o Summit Hotel Properties, Inc</u> Address <u>PO Box 394</u> City, State & Zip <u>Topsheld, MA 01983</u>	Telephone: <u>978 887 3640</u>
Lessee/DBA (If Applicable)	Owner (if different from Applicant) Name <u>Shipyard Brewing Company LLC</u> Address <u>86 Newbury St</u> City, State & Zip <u>Portland, ME 04102</u>	Cost Of Work: \$ <u>18,350,000</u> C of O Fee: \$ <u>75</u> Total Fee: \$ <u>18,350,075</u> <u>16,600,000</u>
Current legal use (i.e. single family) <u>warehouse</u>		
If vacant, what was the previous use? _____		
Proposed Specific use: <u>hotel</u>		
Is property part of a subdivision? <u>yes</u> If yes, please name <u>(subdivision plan creating hotel site)</u>		
Project description: <u>Residence Inn by Marriott Hotel (179 rooms) w/ 2000 sq ft</u> <u>180 rooms approved by PR</u> <u>extended stay</u> <u>ground floor retail space</u>		
Contractor's name: <u>TBD</u>		
Address: _____		
City, State & Zip _____ Telephone: <u>2/22/08</u>		
Who should we contact when the permit is ready: <u>Ara Attandian</u> Telephone: <u>only down 179 Rooms</u>		
Mailing address: <u>PO Box 394, Topsheld MA 01983 (9788873640)</u>		

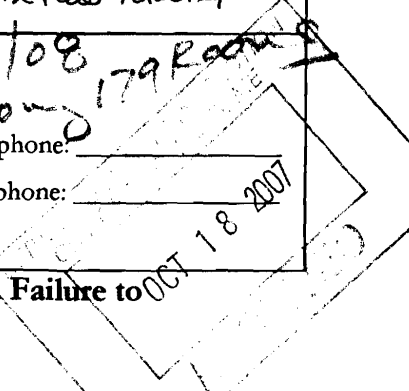
Please submit all of the information outlined on the applicable Checklist. Failure to do so will result in the automatic denial of your permit.

In order to be sure the City fully understands the full scope of the project, the Planning and Development Department may request additional information prior to the issuance of a permit. For further information or to download copies of this form and other applications visit the Inspections Division on-line at [www.portlandmaine.gov](http://www.portlandmaine.gov), or stop by the Inspections Division office, room 315 City Hall or call 874-8703.

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 Code Official'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.

Signature: <u>[Signature]</u>	Date: <u>10/18/07</u>
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This is not a permit; you may not commence ANY work until the permit is issue



Applicant: Ara Aftandilian / Norwich Partners, LLC  
Date: 11/27/06 - in urban in sign

Address: 127 Fore St  
part of Shipyard Brewery site  
C-B-L: 020-C-009  
CHECK-LIST AGAINST ZONING ORDINANCE  
# 07-1325

Date -

Zone Location - B-5b

Interior or corner lot -

Proposed Use/Work - to Construct Extended Stay Hotel

Seavage Disposal - City 179 ~~100~~ room hotel - 5 story / 133,003 sq ft  
confirmed (ground cov. to ~30,800 sq ft)

Lot Street Frontage - None req 2/2/08  
No pool - No restaurant

Front Yard - No min

Max front yd - 10' - 4' scaled + The bulk of Bldg - There are 1st floor insets

Rear Yard - No min - 13' scaled for car drop off; corner entry

Side Yard - No min - 4' & 15' scaled

Projections -

Width of Lot - N/A

Height - 65' MAX from lowest to highest is 65' without averaging & 56' given at equidistant points around the bldg

Lot Area - NO min ~~34,000~~ 34,000 sq ft given for new lot

Lot Coverage/ Impervious Surface - 100% Allowed

Area per Family - N/A

ok per PB

Off-street Parking - Parking for the hotel will be provided at the adjacent Ocean

Loading Bays - None req. in zone - over 50,000 sq ft to be (Gateway Garage)  
Actually reviewed & determined by PB  
Doesn't have the loading section under B-5b

Site Plan - # 2006 - 0226 MARGOT  
Hotels over 100,000 sq ft require 1-14' x 50' loading Bay

Shoreland Zoning/ Stream Protection - N/A

Flood Plains - Panel 14 - Zone C

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**MEMORANDUM**

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**To:** FILE

**From:** Marge Schmuckal

**Dept:** Zoning

**Subject:** Application ID: 2006-0226

**Date:** 1/18/2007

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I have not seen any methodology for the height yet, and would still like to confirm before a final sign-off. The loading section of the ordinance requires one loading bay for hotels over 100,000 square feet in gross floor area. This hotel is given to have 129,085 square feet of floor area. A loading bay size is 14' x 50'. The most recent plans show the loading size to be deficient (12' wide instead of 14' wide) in size. It is also not depicting a loading area on the plan, nor showing an easement on the adjoining property as to how to access and use the loading area. I will wait to confirm compliance with this section of the ordinance.

Plans dated 1/17/07

**From:** Marge Schmuckal  
**To:** William Needleman  
**Date:** 11/27/2006 4:07:34 PM  
**Subject:** 127 Fore Street - Hotel

Bill,

I put my comments in urban insight. My only "concern" is how height was determined. I would like to keep consistent with previous methodology in determining the height. I am not sure it is a proble at this point.

Marge



**From:** Marge Schmuckal  
**To:** William Needleman  
**Date:** 10/31/2007 12:30:40 PM  
**Subject:** 127 Fore Street

Bill,  
I have received plans for the new Residence Inn. Can I get a stamped approved site plan for this project?  
How close are you to a sign-off?  
thanks,  
Marge

**From:** William Needelman  
**To:** Schmuckal, Marge  
**Date:** 10/31/2007 2:50:04 PM  
**Subject:** Re: 127 Fore Street

Marge,

You're ahead of me. Let me check with the developer.

Bill

>>> Marge Schmuckal 10/31/2007 12:30:40 PM >>>

Bill,

I have received plans for the new Residence Inn. Can I get a stamped approved site plan for this project?

How close are you to a sign-off?

thanks,

Marge

**CITY OF PORTLAND, MAINE**  
**DEVELOPMENT REVIEW APPLICATION**  
**PLANNING DEPARTMENT PROCESSING FORM**  
**Zoning Copy**

*urban ms-ght 11/15/06*

**2006-0226**  
 Application I. D. Number  
**11/15/2006**  
 Application Date  
**Hotel**  
 Project Name/Description

**Shipyards Brewing Company**  
 Applicant  
**86 Newbury St, Portland, ME 04102**  
 Applicant's Mailing Address

Consultant/Agent  
**Applicant Ph: (207) 761-0807 Agent Fax:**  
 Applicant or Agent Daytime Telephone, Fax

**127 - 127 Fore St, Portland, Maine**  
 Address of Proposed Site  
**020 C009001**  
 Assessor's Reference: Chart-Block-Lot

Proposed Development (check all that apply):  New Building  Building Addition  Change Of Use  Residential  Office  Retail  
 Manufacturing  Warehouse/Distribution  Parking Lot  Apt 0  Condo 0  Other (specify) **Hotel**

Proposed Building square Feet or # of Units **34015** Acreage of Site **B-5b** Zoning

**Check Review Required:**

- Site Plan (major/minor)  Zoning Conditional - PB  Subdivision # of lots \_\_\_\_\_
- Amendment to Plan - Board Review  Zoning Conditional - ZBA  Shoreland  Historic Preservation  DEP Local Certification
- Amendment to Plan - Staff Review  Zoning Variance  Flood Hazard  Site Location
- After the Fact - Major  Stormwater  Traffic Movement  Other \_\_\_\_\_
- After the Fact - Minor  PAD Review  14-403 Streets Review

Fees Paid: Site Plan **\$3,000.00** Subdivision \_\_\_\_\_ Engineer Review \_\_\_\_\_ Date **11/15/2006**

**Zoning Approval Status:**

Reviewer *manager S-Inspector*

- Approved  Approved w/Conditions See Attached  Denied

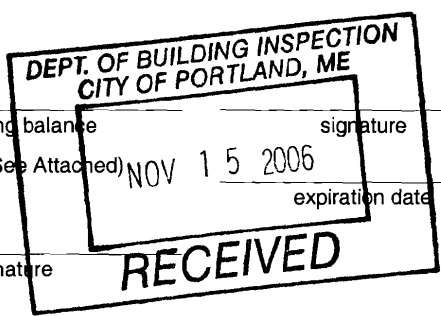
Approval Date \_\_\_\_\_ Approval Expiration \_\_\_\_\_ Extension to \_\_\_\_\_  Additional Sheets Attached

Condition Compliance \_\_\_\_\_ signature \_\_\_\_\_ date \_\_\_\_\_

**Performance Guarantee**  Required\*  Not Required

\* No building permit may be issued until a performance guarantee has been submitted as indicated below

- Performance Guarantee Accepted \_\_\_\_\_ date \_\_\_\_\_ amount \_\_\_\_\_ expiration date \_\_\_\_\_
- Inspection Fee Paid \_\_\_\_\_ date \_\_\_\_\_ amount \_\_\_\_\_
- Building Permit Issue \_\_\_\_\_ date \_\_\_\_\_
- Performance Guarantee Reduced \_\_\_\_\_ date \_\_\_\_\_ remaining balance \_\_\_\_\_ signature \_\_\_\_\_
- Temporary Certificate of Occupancy \_\_\_\_\_ date \_\_\_\_\_  Conditions (See Attached) **NOV 15 2006** expiration date \_\_\_\_\_
- Final Inspection \_\_\_\_\_ date \_\_\_\_\_ signature \_\_\_\_\_
- Certificate Of Occupancy \_\_\_\_\_ date \_\_\_\_\_
- Performance Guarantee Released \_\_\_\_\_ date \_\_\_\_\_ signature \_\_\_\_\_
- Defect Guarantee Submitted \_\_\_\_\_ submitted date \_\_\_\_\_ amount \_\_\_\_\_ expiration date \_\_\_\_\_
- Defect Guarantee Released \_\_\_\_\_ date \_\_\_\_\_ signature \_\_\_\_\_





*Strengthening a Remarkable City, Building a Community for Life* [www.portlandmaine.gov](http://www.portlandmaine.gov)

**Planning and Development Department**  
Lee D. Urban, Director

**Planning Division**  
Alexander Jaegerman, Director

January 28, 2008

Ara Aftandilian  
Summit Hotel Properties  
218 Boston Street, Suite 109  
PO Box 394  
Topsfield, MA 01983

RE: 127 Fore Street, Residence Inn, (Project # 2006-0226), (CBL 20-C-009)

Dear Mr. Aftandilian or Representative:

Regarding the Residence Inn project approved by the Portland Planning Board on June 12, 2007. As provided in City Land Use Code Section 14-528, this letter serves as the written permission from the Planning Authority to commence with demolition of a portion of the existing Shipyard Brewery Building prior to posting the site performance guarantee.

The commencement of site work is limited to the extent of work outlined in your email dated January 28, 2008 and is subject to the conditions below:

1. Demolition approved herein is limited to the structure of the rear (southerly) portion of the metal warehouse shown on the existing conditions the "Amended Brewery Site Plan" submitted with the application packet, Gorrill Palmer plan C103
2. Concrete removal shall wait until there is a demolition and site stabilization plan submitted for Planning Authority review and approval
3. Required erosion control measures shall be adhered to as described on the approved Gorrill Palmer plan labeled C405.
4. Prior to commencing the demolition, there must be an on-site meeting with Planning Development Review Coordinator, Phil DiPierro (in addition to any staff meeting requirements outlined by City Inspections and/or Public Works authorities.)

Please be advised that you must obtain a demolition permit from the City's Inspection Division prior to commencing the demolition and obtain any permits that may be required from Public Works for the temporary closing of any sidewalks and any temporary loss of on-street parking.

# CITY OF PORTLAND, MAINE

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## PLANNING BOARD

Michael Patterson, Chair  
Janice E. Tevanian, Vice Chair  
Kevin Beal  
Bill Hall  
Lee Lowry III  
Shalom Odokara  
David Silk

Ara Aftandilian, President  
Summit Hotel Properties  
PO Box 394  
Topsfield, MA 01983

June 14, 2007

RE: Residence Inn, Extended Stay Hotel, Fore and Hancock Streets  
Norwich Partners LLC, Applicant.

CBL: 20-C-009

127 Fore St

Dear Mr. Aftandilian:

On June 12, 2007, the Portland Planning Board voted 4-0 (Beal and Odokara absent, Lowry recused) to approve the following motions regarding MDOT Traffic Movement Permit, Subdivision, waiver of certain Technical Standards, and Site Plan for the above referenced application.

### A. Traffic Movement Permit

The Planning Board finds that the project is in conformance with the standards of a Traffic Movement Permit subject to the following conditions of approval. Prior to issuance of a building permit:

- i. *The applicant shall contribute \$4,000 toward improvements at the India Street/Middle Street intersection and \$4,500 towards the conduct of a neighborhood traffic monitoring study with the contribution to be placed in an escrow account. If the escrow money is not used within ten years of the escrow agreement date, the money shall be returned to the applicant.*
- ii. *The applicant provides a revised pavement marking plan for Fore Street between India Street and Mountfort Street for review and approval by City traffic staff. Implementation of the plan, including design and material (removing existing conflicting painting, application of new paint, signs, and other miscellaneous items), is the responsibility of the applicant.*
- iii. *The applicant shall submit for review and approval by the City Public Works and Planning Authorities a traffic management plan for the valet area to ensure vehicles do not queue onto the sidewalk or other create other hazardous conditions.*

### C. Subdivision

The Planning Board finds that the plan is in conformance with the subdivision standards of the land use code subject to the following condition of approval:

- i. *That the applicant provides a recording plat for Planning Board signature prior to issuance of a building permit.*

**D. Waivers**

**1. Stormwater Quantity Standard**

The Planning Board finds that an increase in the stormwater flow in the City drainage system will not cause negative downstream impacts, and therefore waives the technical standards for stormwater quantity.

**2. Lighting Standard**

The Planning Board finds that the architectural lighting proposed by the applicant (namely uplighting of the building face and cornice shown on Attachments B.4, B5, and B.6) will not cause undue glare or light trespass, and therefore waives the full cutoff requirement for these fixtures in the locations shown on the submitted lighting plan. This waiver is subject to the condition that the applicant submits an updated lighting plan showing wattage, location, and installation details for all fixtures.

**E. Site Plan**

The Planning Board finds that the plan is in conformance with the Site Plan Standards of the Land Use Code subject to the following conditions of approval:

- i. *The applicant shall submit the terms of the final lease for parking spaces in the Ocean Gateway Garage for review and approval of Corporation Counsel prior to issuance of a building permit. An executed lease for the spaces must be provided prior to issuance of a certificate of occupancy of the hotel.*
- ii. *The applicant shall submit a revised utility plan for underground electrical/telephone/cable connections to Public Works for review and approval prior to issuance of a building permit. This plan shall be coordinated and integrated with an electrical distribution plan under development for the district.*
- iii. *The applicant shall obtain all necessary licenses for activities in public rights of way, including foundations, utility work, awnings and overhangs.*
- iv. *The final location of the Longfellow commemorative stone is be coordinated and confirmed in the field with Public Works prior to installation.*
- v. *Utility capacity letters for sewer and water shall be provided prior to issuance of a building permit.*
- vi. *The applicant shall submit for review and approval by the City Public Works and Planning Authorities approval prior to issuance of a building permit a traffic management plan for the valet area to ensure vehicles do not queue onto the sidewalk or other create other hazardous conditions.*
- vii. *The applicant shall submit for review and approval by the Planning Authorities prior to issuance of a building permit a screening plan for roof-top mechanical installations.*

The approval is based on the submitted site plan and the findings related to site plan and subdivision review standards as contained in Planning Report #24-07, which is attached.

Please note the following provisions and requirements for all site plan approvals:

1. Where submission drawings are available in electronic form, the applicant shall submit any available electronic AutoCAD files (\*.dwg), release 14 or greater, with seven (7) sets of the final plans.
2. A performance guarantee covering the site improvements as well as an inspection fee payment of 2.0% of the guarantee amount and 7 final sets of plans must be submitted to and approved by the Planning Division and Public Works prior to the release of the building permit. If you need to make any modifications to the approved site plan, you must submit a revised site plan for staff review and approval.
3. The site plan approval will be deemed to have expired unless work in the development has commenced within one (1) year of the approval or within a time period agreed upon in writing by the City and the applicant. Requests to extend approvals must be received before the expiration date.
4. A defect guarantee, consisting of 10% of the performance guarantee, must be posted before the performance guarantee will be released.
5. Prior to construction, a pre-construction meeting shall be held at the project site with the contractor, development review coordinator, Public Work's representative and owner to review the construction schedule and critical aspects of the site work. At that time, the site/building contractor shall provide three (3) copies of a detailed construction schedule to the attending City representatives. It shall be the contractor's responsibility to arrange a mutually agreeable time for the pre-construction meeting.
6. If work will occur within the public right-of-way such as utilities, curb, sidewalk and driveway construction, a street opening permit(s) is required for your site. Please contact Carol Merritt at 874-8300, ext. 8828. (Only excavators licensed by the City of Portland are eligible.)

The Development Review Coordinator must be notified five (5) working days prior to date required for final site inspection. The Development Review Coordinator can be reached at the Planning Division at 874-8632. Please make allowances for completion of site plan requirements determined to be incomplete or defective during the inspection. This is essential as all site plan requirements must be completed and approved by the Development Review Coordinator prior to issuance of a Certificate of Occupancy. Please schedule any property closing with these requirements in mind.

If there are any questions, please contact Bill Needelman, Senior Planner at 874-8722.

Sincerely,



Michael J. Patterson, Chair  
Portland Planning Board

cc: Lee D. Urban, Planning and Development Department Director  
Alexander Jaegerman, Planning Division Director  
Barbara Barhydt, Development Review Services Manager  
Bill Needelman, Senior Planner  
Philip DiPierro, Development Review Coordinator  
Marge Schmuckal, Zoning Administrator  
Michael Bobinsky, Public Works Director  
Jeanie Bourke, Inspections Division  
Kathi Earley, Public Works  
Bill Clark, Public works  
Jim Carmody, Transportation Manager  
Michael Farmer, Public Works  
Jessica Hanscom, Public Works  
Jeff Tarling, City Arborist  
Captain Greg Cass, Fire Prevention  
Assessor's Office  
Approval Letter File



**RESIDENCE INN BY MARRIOT HOTEL**

**SUBDIVISION, MAJOR SITE PLAN AND TRAFFIC MOVEMENT PERMIT  
REVIEW**

**IN THE VICINITY OF FORE STREET AND HANCOCK STREET**

**NORWICH PARTNERS, LLC., AND ARA AFTANDILIAN, SUMMIT HOTEL  
PROPERTIES, INC. APPLICANTS**

Submitted to:  
Portland Planning Board  
June 8, 2007

For the:  
June 12, 2007 Public Hearing

Submitted by:  
Bill Needelman, Senior Planner

## **Extended Stay Hotel, Fore Street and Hancock Street**

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### **I. INTRODUCTION**

#### **Background**

Summit Hotel Properties, and Norwich Partners, LLC request a public hearing with the Planning Board to review a 180 room hotel proposal for the corner of Fore Street and Hancock Street extension. The project site is currently a portion of the Shipyard Brewery complex. The site is entirely located within the B-5b zone.

The project is to be reviewed under the standards for major site plan, and as an amended subdivision (associated with the recent Longfellow Garage project, also formerly a portion of the Shipyard Brewery site.) The project additionally requires an MDOT Traffic Movement Permit to be reviewed by the Board under delegated authority.

The Planning staff is concurrently reviewing an administrative amendment to the Shipyard Brewery site plan associated with the subdivision and reconfiguration of the brewery warehousing associated with the hotel proposal.

The Board has held two workshops on the proposal on January 23, and March 13, 2007. This project was previously noticed for the May 8 public hearing to 143 area property owners as well as having been advertised in the Portland Press Herald and on the City website. At the May 8 meeting, the project was tabled to a date and time certain to the June 12, 2007 meeting.

#### **Site Description**

Prior to the Longfellow Garage subdivision, the Shipyard Brewery site contained approximately four acres. With the extension of Hancock Street from Middle Street to Fore Street, the site was split leaving the brewery operations and the proposed hotel site located on the remaining easterly block of land. The hotel site is proposed as a roughly triangular 34,000 square foot out-parcel cut from the remaining brewery site located along both the Hancock Street and Fore Street rights of way.

The Shipyard site was previously developed for heavy industrial manufacturing by the Crosby-Laughlin company. The hotel portion of the site is currently occupied by a metal sided storage building connected to the brewery on the westerly side of the site. A five-story vacant warehouse was recently demolished toward the easterly end of the site, with the vacant portions of the site having been used for commercial parking and random storage associated with the brewery. At the previous workshop, Planning Board members requested a copy of the previously approved brewery site plan. Copies of this plan will be provided to the board at the public hearing under separate cover.

## Proposed Development

*Final bldg permit 179 rooms  
confirmed 2/22/09*

The five-story, 133,000 square foot, 180 room hotel proposed for the site is intended as an "extended stay" facility, marketed toward business and vacation travelers who plan to stay for more than one or two nights. Its construction will require removal of the metal sided storage building referenced above as well as other operational and circulation changes for the brewery. Associated brewery site plan amendments are provided in the plan set Attachment A.4.

The main pedestrian entry of the proposed hotel is shown at the Fore Street and Hancock Street corner. Vehicles are provided with an internal valet/drop-off circle drive located at the center of the Fore Street façade, which also serves as a pedestrian entrance. Service vehicles are provided access to the brewery site via an existing curb cut on Fore Street to the east of the hotel serving both hotel deliveries and pick up of solid waste.

Both pedestrian entries access a lobby/common area on the first floor. A 2500 square foot retail space is proposed at the Fore Street frontage adjacent to the Hancock Street corner. Given that there is a +/- eight foot drop from Middle Street to Fore Street, there are no pedestrian entrances proposed to along Hancock Street. Meeting rooms are shown along both the Fore Street and Hancock Street frontages. The balance of the first floor includes service uses, a pool, and guest rooms at the rear. A revised ground level floor plan is provided in Attachment B.

Upper floors are dominated by guest rooms wrapping the exterior of the building on all sides.

The exterior design shows a traditional, classically influenced composition. In addition to the previously provided drawings, please find colored renderings provided in plan set Attachment F. At the previous workshop, Urban Designer, Carrie Marsh, provided a design review memo for the Board's consideration included in Attachment 10. The new architectural plans provided (Attachment B) respond to the comments in Ms. Marsh's memo by providing detail but retaining the design of the building. Additionally, as requested, the applicants have provided material samples (photos included in Attachment G.2) along with architectural context and similar project examples.

One design issue raised at the previous meeting was the design of a corner tower feature provided at the northerly end of the Hancock Street façade. This feature will become the terminating view of Middle Street as seen from India Street and is proposed to be illuminated at night. Ms. Marsh's memo questioned how well integrated the feature is with the main portion of the building and Board members also raised this issue at the previous workshop. The applicant continues to propose the tower feature as previously designed.

The Board should note that the construction of Hancock Street extension is to be performed by the City, though the project will provide sidewalks and lighting. The Fore Street frontage of the site is to be improved with new 10 foot wide brick sidewalks.

## **Zoning:**

As stated above, the site is located in the B-5b zone. Building heights are allowed to be 65 feet and buildings are required to be located within 10 feet of adjacent street rights of way. The proposal satisfies these requirements and hotels are a permitted use in the B-5b.

Additionally, as a building of over 100,000 square feet, the project is required to provide an off-street loading facility. As noted above, loading for the hotel is proposed to be accommodated from the adjacent brewery site. Zoning Administrator, Marge Schmuckal indicates that this will satisfy the off-street loading requirements of the code as long as there is a satisfactory easement provided to ensure long-term access for hotel loading needs. Easement language for the loading area is provided in the applicant's written statement (Attachment 1a) and shown on the subdivision plan. Please see the subdivision discussion below.

## **Subdivision:**

As stated in the introduction, the project is an out-parcel of the Shipyard Brewery site and is to be reviewed as an amendment to the recent Longfellow Garage subdivision. The draft subdivision plan is provided in Attachment C. It is required that all functional easements required by both the brewery and hotel sites to be shown and adequately notated on the subdivision plan. In addition to the loading easement noted above, the applicant's written statement includes easement language from the brewery site to the hotel site ensuring a 10 foot "no-build" strip north of the proposed hotel (which would also accommodate a revised drainage plan for the brewery.) Additionally, the subdivision plan shows the location of subsurface foundation structures in areas noted as "foundation easements." City Corporation Counsel may request that these areas be noted as "license" areas as they would be revocable if the building were ever removed. The plan as shown also requires a signature block for the Planning Board and a condition of approval requiring a revised recording plat is suggested in the motions below.

## **Shipyard Brewery Site Plan:**

The Shipyard Brewery site plan has evolved over time as a collection of Board and staff approved changes to the old Crosby Laughlin site. With the proposed division of the hotel parcel, the site for the brewery, as well as its building configuration due to the removal of the metal-sided shed building, will change significantly. However, given that the hotel site is proposed over the footprint of a recently removed vacant build and much of this portion of the site was dedicated to off-site parking uses, the functional impacts to the brewery are not as great as one might imagine.

Included as Attachment D is a conceptual site plan revision for the brewery showing revised parking, and a revised stormwater system for the brewery's southeasterly parking and circulation areas. This image is provided as the minimum necessary site improvements on the remaining Brewery site needed for the hotel. Should these improvements not be executed by the Brewery, they are shown here as a necessary component of the hotel project. Board members should note that a new Brewery building

addition, previously shown at the March workshop, is not part of this proposal but is currently under review for minor site plan by the Planning staff.

### **Traffic, Circulation and Parking:**

#### *Traffic:*

As stated above, the project requires a Traffic Movement Permit and the applicant has provided a Traffic Impact Study (Attachment 3). The findings of the study have been reviewed by the City traffic engineering staff and consultants and there is a general agreement that the existing street system, with little augmentation, will accommodate the traffic generate by the proposal.

The traffic movement permit is required due to the projected peak hour volume of traffic, which is estimated as follows: AM weekday, 88 trips; PM weekday, 118 trips; Saturday peak hour, 159 trips. Given that the parking is to be provided at the Longfellow Garage, projected vehicle trips will be distributed between the hotel entry and the Middle Street entrance to the garage. Truck, waste pick-up, and service deliveries utilize a Fore Street curb cut located to the east of the hotel.

The Traffic Impact Study suggests that the majority of impacts will be felt at the Middle Street/India Street intersection. While the incremental impacts of the proposal do not yet warrant major changes to the intersection, taken in conjunction with other traffic changes and future traffic growth, improvements are anticipated. The City has been recently asking developers in the area to contribute funds toward future improvements to the India Street area as well as toward future monitoring of traffic to identify problems as they might develop. Consulting traffic engineer, Tom Errico has provided suggestions for contributions (based on comparative impacts to other area developments) as follows:

- \$4,000 toward improvements at the India Street/Middle Street intersection
- \$4,500 towards the conduct of a neighborhood traffic monitoring study

To ensure coordination between the adjacent Riverwalk projects (the Ocean Gateway Garage and the Longfellow condominium project), City traffic staff requested a pavement marking plan for Fore Street between India Street and Mountfort Street. As provided in Attachment E, the center stripe on Fore Street shows a slight offset at the Hancock Street intersection. Traffic staff request that the plan be revised to eliminate the offset. It appears that this can be accommodated with no further revisions to on-street parking or curb line designs. Traffic staff further suggest that the implementation of the plan, including design and material (removing existing conflicting painting, application of new paint, signs, and other miscellaneous items), is the responsibility of the applicant.

#### *Pedestrians:*

As stated above, new 10 foot wide brick sidewalk (expanded from 9 feet previously) is proposed for Fore Street along the parcel frontage and the developer is responsible for the brick sidewalk associated with the Hancock Street extension. City Traffic Engineer, Jim Carmody, had previously asked for additional detail as to the relative elevations of the valet area, sidewalk and Fore Street to ensure that the pedestrian experience for people walking in front of the valet area retains the feeling of sidewalk as opposed to driveway.

With the current site plan (Attachment A.2), Mr. Carmody's concerns have been met. A detail of valet drop-off area is shown on the site plan. The plan also shows metal bollards at the sidewalk to protect pedestrians. At the previous meeting, Board members asked that management of the area include provisions for addressing cars queuing onto the sidewalk. The applicant has not provided any additional information on this issue and the Board may want to further explore management of the valet area with the applicant.

*Parking:*

In general, the site is provided with no on-site parking with the project having secured a commitment to rent 140 spaces in the proposed Longfellow Garage. The terms of the final parking lease for these spaces will be needed for review and approval of Corporation Council prior to issuance of a building permit. A condition of approval is suggested in the minutes.

As a development over 50,000 square feet, the amount of parking is to be determined by the Planning Board. The City review staff, including traffic engineering and the parking manager, has not expressed concern with the proposed parking numbers.

**Stormwater:**

Currently, the site is 100% impervious and discharges through subsurface collection and surface sheet flow into the Fore Street combined sewer system. A revised stormwater management report is provided in Attachment 8. The stormwater design for the site has been coordinated with Public Works' design of Hancock Street and the recently constructed Ocean gateway system. Originally, the applicant proposed to discharge stormwater into the combined Fore Street system, but Public Works requested that the new separated Hancock system be utilized (as designed, the new Hancock Street system will cross Fore Street and join the separated Ocean Gateway system which provides water quality treatment prior to outletting into the harbor.) Capacity limitations in the Ocean Gateway system require that the hotel (and other private developments – including the Longfellow projects and the Village Café site) utilize on-site underground stormwater detention.

The applicants have designed the detention system to Public Works specifications and the engineering review staff recommends its approval. As designed, the stormwater detention unit would require a license from the City.

**Utilities:**

Stormwater and sewer are proposed to route into the proposed Hancock Street system in separate lines. Capacity for the storm system is well understood (see above), but the applicant has not yet received a sanitary sewer capacity letter.

Gas and water are to be accessed from existing lines in Fore Street. A water capacity letter has been requested, but has not yet been supplied.

The project proposes to use underground electrical lines and vaults within the Hancock Street extension. The proposed electrical distribution system shown on the utility plan (Attachment A.2) is currently under evaluation and redesign by Central Maine Power.

Given the amount of construction activity in the Eastern Waterfront area, CMP has requested that an integrated distribution system for the area be developed and that work has begun. Staff suggests the following language in the motions section to ensure coordination of electrical work between the various projects. "The applicant shall submit a revised utility plan for underground electrical/telephone/cable connections to Public Works for review and approval prior to issuance of a building permit. This plan shall be coordinated and integrated with an electrical distribution plan under development for the district."

### **Landscaping and Lighting:**

Landscaping plans have been provided in Attachment D. These plans show street tree locations, street light locations, treatment of the "Longfellow" stone (see below), pavement changes at the valet area and limited site plantings. The "details" sheet also shows the type of decorative fencing, bollard details and tree grate style and installation. The City Arborist recommends approval of these plans.

The proposed street lights are to be an "esplanade" fixture on a pole type consistent with the Longfellow project (noted on the site plan, Attachment A.2.) Building mounted lights are proposed and are intended to up-light the building as would shielded cornice lighting. Photometrics for the architectural lighting are provided with the architectural plans (Attachment B4, with cornice lighting details, B.5, B6). A waiver of the cut-off fixture requirements is needed for building up-lighting and a motion is suggested below. The applicant significantly reduced the amount of up-lighting originally proposed and the current design appears consistent with up-lighting approved for other buildings on the peninsula, including the nearby Hilton Garden hotel. Building mounted lighting fixture details will be provided at the Public Hearing.

### **Historic Features:**

The site is of special historic significance to Portland as the birthplace of Henry Wadsworth Longfellow. While the Federal-styled Longfellow house was demolished in the 1950's, a commemorative stone marks the site and retains an historic easement requiring its maintenance. The Longfellow stone's relocation has been provided in the redevelopment plan for the hotel site and its treatment is shown in the landscape plans.

Public Works engineering staff recommends that the final location of the stone be confirmed in the field prior to installation. A suggested condition of approval is included in the motions.

## **II. STAFF REVIEW OF APPLICABLE STANDARDS**

### **A. Site Plan Standards Review**

Please note that the standards are shown in italics with staff comments provided below.

#### ***Sec. 14-526. Standards.***

### ***Traffic and Parking***

- (1) *The provisions for vehicular loading and unloading and parking and for vehicular and pedestrian circulation on the site and onto adjacent public streets and ways; and the incremental volume of traffic will not create or aggravate any significant hazard to safety at or to and including intersections in any direction where traffic could be expected to be impacted; and will not cause traffic congestion on any street which reduces the level of service below Level "D" as described in the 1985 Highway Capacity Manual published by the Transportation Research Board of the National Research Council, a copy of which manual is on file with the public works authority, or substantially increase congestion on any street which is already at a level of service below Level "D";*

The traffic and circulation for the project is described above. The project is not anticipated to reduce levels of service to below "D" assuming improvements to be constructed as part of other approved projects in the area. Please see the traffic discussion above.

- (2)
  - a. NA
  - b. *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, which shall be reviewed by the city traffic engineer, and upon the recommendation of the city traffic engineer.*

The parking supply is anticipated to be sufficient for the proposed project and is located in a site appropriate to serve the project.

- (3)(4) *The bulk, location or height of proposed buildings and structures.*

The bulk, height and location of the proposed structure are not anticipated to cause harm to or substantially diminish the value of neighboring structures.

- (5) *The development will not overburden the sewers, sanitary and storm drains, water, solid waste disposal or similar public facilities and utilities;*

The proposal has been designed to integrate with the planned and newly developed infrastructure in the Eastern Waterfront area. As stated above, design for electrical distribution for the area is still under development.

Utility capacity letters for sewer and water are needed be provided prior to issuance of a building permit.

- (6) *The on-site landscaping provides adequate buffering between the development and neighboring properties so as to adequately protect each from any detrimental features of the other;*



The proposed landscape plan has been developed with the input of the City arborist and has been designed in conjunction with neighboring development.

- (7) *The site plan minimizes, to the extent feasible, any disturbance or destruction of significant existing vegetation;*

There is no significant vegetation on site.

- (8) *The site plan does not create any significant soil and drainage problems, whether on- or off-site, and adequately provides for control of erosion and sedimentation during construction and afterward;*

The submittal contains a sedimentation and control plan that has received review and a recommendation for approval by City review staff.

- (9) *The provision for exterior lighting will not be hazardous to motorists traveling on adjacent public streets; is adequate for the safety of occupants or users of the site; and such lighting will not cause significant glare or direct spillover onto adjacent properties and complies with the applicable specifications of the City of Portland Technical and Design Standards and Guidelines;*

Site lighting is described above and is not anticipate to create glare or significant tress pass. Up-lighting and non-cutoff fixtures require a waiver of the technical standards.

- (10) *The development will not create fire or other safety hazards and provides adequate access to the site and to the buildings on the site for emergency vehicles;*

An existing hydrant is located at the corner of Fore and Mountfort Street and the building is to be fully sprinklered.

- (11) *The proposed development is designed so as to be consistent with off-premises infrastructure, existing or planned by the city;*

As stated previously, the site has been anticipated for intensive redevelopment as part of the Eastern Waterfront Master Plan and is consistent with existing and planned off-site infrastructure.

(12) NA

(13) NA

(14) NA

(15) NA

(16) NA

- (17) *The applicant has submitted all information required by this article and the development complies with all applicable provisions of this Code;*

With the exception of utility capacity letters, the project application is complete.

- (18) *If any part of a proposed structure or object is within one hundred (100) feet of any landmark, historic district, or historic landscape district...*

The site is not within 100 feet of any designated landmarks or sites. Please see the discussion of the Longfellow commemorative stone.

- (19) *View corridors: The placement and massing of proposed development shall not substantially obstruct those public views to landmarks and natural features from those locations identified on the View Corridor Protection Plan, a copy of which is on file in the department of planning and urban development;*

No identified view corridors are impacted

- (20) *The proposed development shall have no adverse impact upon the existing natural resources including groundwater quantity and quality, surface water quantity and quality, wetlands, unusual natural areas, and wildlife and fisheries habitats. Stormwater runoff from paved areas shall be treated to the extent practicable to minimize contaminants;*

There are no existing natural resources and with the conversion of gravel and paved parking to roof run-off, the stormwater exiting the site should be significantly cleaner. Additionally, by utilizing the new Hancock Street stormwater system the project is removing stormwater from the Fore Street combine sewer and treating stormwater prior to discharge to the harbor.

- (21) *The proposed development shall not pose an unreasonable risk that a discharge to a significant groundwater aquifer will occur.*

No groundwater impacts are anticipated

- (22) *Signs:*

Signage information has been provided on the architectural plans (Attachment B.2) and appears consistent with other approved hotel projects in the downtown. Final sign approval will not be provided until an application is made to the Inspections Division for a sign permit.

- (23) *NA*

- (24) *All major or minor businesses shall meet the following requirements:*

- a. *Signs: Signs shall not adversely affect visibility at intersections or access drives. Such signs shall be constructed, installed and maintained so as to ensure the safety of the public. Such signs shall advertise only services or goods available on the premises.*

The signs shown are consistent with this standard.

- b. *Circulation: No ingress or egress driveways shall be located within thirty (30) feet from an intersection. No entrance or exit for vehicles shall be in such proximity to a playground, school, church, other places of public assembly, or any residential zone that the nearness poses a threat or potential danger to the safety of the public.*

Please see traffic section above.

- c. *Drive-up features:*

The valet area, while technically not a “drive thru” is designed to reasonably minimize impacts to the sidewalk and Fore Street.

- d. *Car washes:*

NA

(25) NA

(26) *Development located in the B-5 and B-5b zones shall meet the following additional standards:*

- a. *Shared infrastructure:*

The project provides shared parking and loading for other uses in the vicinity, as suggested by this standard.

- b. *Buildings and uses shall be located close to the street where practicable. Corner lots shall fill into the corner and shall provide an architectural presence and focus to mark the corner.*

The proposed hotel is consistent with this standard.

- c. *Buildings shall be oriented toward the street and shall include prominent facades with windows and entrances oriented toward the street. Uses that include public access to a building or commercial/office uses in mixed-use developments shall be oriented toward major streets whenever possible.*

Given the change in grade on Hancock Street, there are no entrances provided. However, the proposal includes generous clear glazing on both

street fronts and a prominent entrance at the Fore Street/Hancock Street corner.

- d. *Parking lots shall be located to the maximum extent practicable toward the rear of the property and shall be located along property lines where joint use or combined parking areas with abutting properties are proposed or anticipated.*

No surface lots are proposed.

- e. *Modifications to siting standards for the B-5 zone: In the B-5 zone, the planning board may modify or waive standards a. through d. of this subsection as may be reasonably necessary to suit the operational or marketing needs of the user(s) of the property.*

NA

#### **4. Subdivision Review under Sec. 14-497**

(a) *Review criteria. When reviewing any subdivision for approval, the planning board shall consider, among others, the following review criteria and before granting approval shall determine that the proposed subdivision:*

- (1) *Will not result in undue water or air pollution. In making this determination it shall at least consider the elevation of land above sea level and its relation to the flood plains, the nature of soils and subsoils and their ability to adequately support waste disposal; the slope of the land and its effect on effluents; the availability of streams for disposal of effluents; the conformity to the applicable state and local health and water resources regulations;*

No undue pollution is anticipated. Given the reduction in flow of stormwater to the combined system, fewer raw sewer overflows are hoped for at the India Street outfall.

- (2) *Has sufficient water available for the reasonably foreseeable needs of the subdivision;*

A water capacity letter is needed. Water supply for the area is not anticipated to be a problem

- (3) *Will not cause unreasonable burden on an existing water supply;*

A sewer capacity letter is needed. Given the reduced stormwater flow to the combined system from this and surrounding projects (as provided by the Hancock Street separated line) sewer capacity for the Eastern Waterfront is not anticipated to be a problem.