Form # P 04

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

CITY OF PORTLAND

BU[illegible]TION PERMIT

Please Read Application And Notes, If Any, Attached

PERMIT ISSUED
Permit Number: 100447
JUN - 2 2010
CITY OF PORTLAND

This is to certify that Old Port Hospitality Llc/Opech[illegible] Construc[illegible]

has permission to New Commercial Project for H[illegible] (Hamp[illegible] Inn) [illegible]se One [illegible] concrete foundation, slab, structural steel joi[illegible] st and deck

AT 231 Fore St CB[illegible]029 L001006

provided that the person or persons, fi[illegible] or co[illegible]ation ac[illegible]pting this permit shall comply with all of the provisions of the Statutes of Ma[illegible]e and of the C[illegible]nces of the City of Portland regulating the construction, maintenance and use[illegible]f buildings and stru[illegible]ures, 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.	Noti[illegible]ation o[illegible]spectio[illegible]must b[illegible] give[illegible]nd writt[illegible]ermissi[illegible]procured befo[illegible]this bu[illegible]g or pa[illegible]hereof i[illegible] lath[illegible] or oth[illegible]sed-in. 2[illegible] HO[illegible] NOTICE IS REQUIRED.	A certificate of occupancy must be procured by owner before this building or part thereof is occupied.

OTHER REQUIRED APPROVALS

Fire Dept. CAPT. R. Gautreau

Health Dept. _____

Appeal Board _____

Other _____
Department Name

Director - Building & Inspection Services 6/2/10

PENALTY FOR REMOVING THIS CARD

City of Portland, Maine - Building or Use Permit Application

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

Permit No:	Issue Date:	CBL:
10-0447		029 L001001

Location of Construction:	Owner Name:	Owner Address:	Phone:
231 Fore St	Old Port Hospitality Llc	11 Corporate Dr	603-527-9090
Business Name:	**Contractor Name:**	**Contractor Address:**	**Phone**
Hampton Inn	Opechee Construction Corp	11 Corporate Drive Belmont	6033877145
Lessee/Buyer's Name	**Phone:**	**Permit Type:**	**Zone:**
		Commercial	B-3

Past Use:	Proposed Use:	Permit Fee:	Cost of Work:	CEO District:
Commercial / Jordans Meats	New Commercial Project for hotel (Hampton Inn) Phase One for concrete foundation, slab, structural steel joist and deck.	$7,520.00	$749,140.00	1

FIRE DEPT: ☑ Approved ☐ Denied

*See Conditions

Signature:

INSPECTION: Use Group: R1,2/A2 3/1B Type: 1B

Foundation & steel w/Decks

Signature: JMB 6/2/10

Proposed Project Description:

New Commercial Project for Hotel (Hampton Inn) Phase One for concrete foundation, slab, structural steel joist and deck.

PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)

Action: ☐ Approved ☐ Approved w/Conditions ☐ Denied

Signature: Date:

Permit Taken By:	Date Applied For:
gg	04/30/2010

1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.
2. Building permits do not include plumbing, septic or electrical work.
3. 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..

PERMIT ISSUED

JUN - 2 2010

CITY OF PORTLAND

Zoning Approval

Special Zone or Reviews	Zoning Appeal	Historic Preservation
☐ Shoreland N/A	☐ Variance	☑ Not in District or Landmark
☐ Wetland	☐ Miscellaneous	☐ Does Not Require Review
☐ Flood Zone Panel 14 Zone C	☒ Conditional Use Panel 5	☐ Requires Review
☐ Subdivision	☐ Interpretation PB	☐ Approved
☒ Site Plan #10-0970001	☒ Approved Street Bld-to-line	☐ Approved w/Conditions
Maj ☒ Minor ☐ MM ☐	☐ Denied	☐ Denied
Date: ok with Gnd 5/5/10	Date: 5/2/10	Date:

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

City of Portland, Maine - Building or Use Permit

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

Permit No:	Date Applied For:	CBL:
10-0447	04/30/2010	029 L001001

Location of Construction:	Owner Name:	Owner Address:	Phone:
231 Fore St	Old Port Hospitality Llc	11 Corporate Dr	603-527-9090
Business Name:	**Contractor Name:**	**Contractor Address:**	**Phone**
Hampton Inn	Opechee Construction Corp	11 Corporate Drive Belmont	(603) 387-7145
Lessee/Buyer's Name	**Phone:**	**Permit Type:**	
		Commercial	

Proposed Use:	Proposed Project Description:
New Commercial Project for hotel (Hampton Inn) Phase One for concrete foundation, slab, structural steel joist and deck.	New Commercial Project for Hotel (Hampton Inn) Phase One for concrete foundation, slab, structural steel joist and deck.

Dept: Zoning **Status:** Approved with Conditions **Reviewer:** Marge Schmuckal **Approval Date:** 05/05/2010

Note: **Ok to Issue:** ☑

1) The maximum limitations for noise from hoods and/or HVAC that is required in the B-3 Zone SHALL be met in full.
2) This approval is based upon information supplied by Barry Stowe confirming the average grade and height of the building, which resulted in the maximum height limitation of 65 feet being met. If there are any changes to that submitted information, there shall be a separate review and approval for such changes.
3) Separate permits shall be required for any new signage.
4) This permit is being approved on the basis of plans submitted. Any deviations shall require a separate approval before starting that work.

Dept: Building **Status:** Approved with Conditions **Reviewer:** Jeanine Bourke **Approval Date:** 06/02/2010

Note: **Ok to Issue:** ☑

1) This permit is limited to the scope of work for phase 1, foundation, slabs, structural steel, joist and deck. Additional work requires separate application and approvals.
2) Special inspection reports shall be submitted to this office on a periodic basis. A final special inspection report must be submitted prior to issuance of a certificate of occupancy. This report must demonstrate any deficiencies and corrective measures that were taken.
3) Separate permits are required for any electrical, plumbing, sprinkler, fire alarm HVAC systems, heating appliances, commercial hood exhaust systems and fuel tanks. Separate plans may need to be submitted for approval as a part of this process.
4) Application approval based upon information provided by applicant. Any deviation from approved plans requires separate review and approrval prior to work.

Dept: Fire **Status:** Approved **Reviewer:** Capt Keith Gautreau **Approval Date:**

Note: **Ok to Issue:** ☑

Dept: Planning **Status:** Approved with Conditions **Reviewer:** William B. Needelman **Approval Date:** 06/01/2010

Note: **Ok to Issue:** ☑

1) Material details and design specifications for the roof cornice canopy and brackets at the Fore and Franklin Street corner of the building.
2) A revised glazing sample for review and approval of the Planning Staff showing clear or virtually clear glass for the street level openings and a suitable glass for upper floors consistent with the building program

Location of Construction:	Owner Name:	Owner Address:	Phone:
231 Fore St	Old Port Hospitality Llc	11 Corporate Dr	603-527-9090
Business Name:	**Contractor Name:**	**Contractor Address:**	**Phone**
Hampton Inn	Opechee Construction Corp	11 Corporate Drive Belmont	(603) 387-7145
Lessee/Buyer's Name	**Phone:**	**Permit Type:**	
		Commercial	

Comments:

5/17/2010-jmb: Spoke with Tim D. For required details from the plan review including a waiver request to use IBC 2006 for seismic design, complete design calculation certificate, all special inspector agents TBD. Also discussed method of communiction with abutters for any disruptive impacts during construction. They have a weekly system in place. He will submit the details.

5/18/2010-jmb: Received requested documents, emailed Tim D. For electronic file for the structural calcs. Ok to issue pending planning/DRC approvals

5/28/2010-jmb: Received memo from Bill N. That the PG and traffic contribution are pending and will be submitted ASAP for the work to commence on Tuesday. Recieved email from Bill N. That the PG is submitted and the other will be submitted Tuesday morning.

6/1/2010-jmb: Received email from Barbara B. That DRC is ok and Phil D. Will follow up when he returns this week, ok to issue

5/4/2010-mes: WAIT FOR PLANNING APPROVAL PRIOR TO ISSUING PERMIT

BUILDING PERMIT INSPECTION PROCEDURES

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

or email: buildinginspections@portlandmaine.gov

With the issuance of this permit, the owner, builder or their designee is required to provide adequate notice to the City of Portland Inspection Services for the following inspections. Appointments must be requested 48 to 72 hours in advance of the required inspection. The inspection date will need to be confirmed by this office.

- **Please read the conditions of approval that is attached to this permit!! Contact this office if you have any questions.**
- **Permits expire in 6 months, if the project is not started or ceases for 6 months.**
- **If the inspection requirements are not followed as stated below additional fees may be incurred due to the issuance of a "Stop Work Order" and subsequent release to continue with construction.**

__X__ **Periodic Footing/Building Location Inspection: Prior to pouring concrete**

__X__ **Periodic Re-Bar Schedule Inspection: Prior to pouring concrete**

__X__ **Periodic steel erection inspections**

__X__ **The final report of Special Inspections shall be submitted prior to the final inspection or the issuance of the Certificate of Occupancy**

The project cannot move to the next phase prior to the required inspection and approval to continue, REGARDLESS OF THE NOTICE OR CIRCUMSTANCES.

IF THE PERMIT REQUIRES A CERTIFICATE OF OCCUPANCY, IT MUST BE PAID FOR AND ISSUED TO THE OWNER OR DESIGNEE BEFORE THE SPACE MAY BE OCCUPIED.

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: 207-209 FORE ST		
Total Square Footage of Proposed Structure/Area	Square Footage of Lot 76209	
Tax Assessor's Chart, Block & Lot Chart# Block# Lot# 29 L 1,2,&3	Applicant *must be owner, Lessee or Buyer* Name OLD PORT HOSPITALITY LLC Address 11 CORPORATE DRIVE City, State & Zip BELMONT, NH 03220	Telephone: 603-527-9090 603-387-7099 (C)
Lessee/DBA (If Applicable)	Owner (if different from Applicant) Name Address SAME City, State & Zip	Cost Of Work: $ 749,140.00 C of O Fee: $ Total Fee: $ 7520.00

RECEIVED
APR 30 2010
Dept. of Building Inspections
City of Portland Maine

Current legal use (i.e. vacant, 4 family): Received 11 x 17
If vacant, what was the previous use? JORDANS MEATS BUILDING
Proposed Specific use: HOTEL
Is property part of a subdivision? NO If yes, please name
Project description: HOTEL PROJECT.
* CONCRETE FOUNDATIONS, SLABS, STRUCTURAL STEEL, JOIST AND DECK. PHASE PERMIT. COST FOR THIS PORTION ONLY

Contractor's name: OPECHEE CONSTRUCTION
Address: 11 CORPORATE DR.
City, State & Zip BELMONT, NH 03220 Telephone: 603-527-9090
Who should we contact when the permit is ready: TIM DAIGNEAULT Telephone: 603-527-9090
Mailing address: SAME

Call first

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, 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: Date: 04-26-10

This is not a permit; you may not commence ANY work until the permit is issue

RECEIVED

0

Dept. of Building Inspections
City of Portland Maine

TO: Jeanie Bourke, Building Inspections

FROM: Bill Needelman, Senior Planner

DATE: May 28, 2010

RE: Opechee Request for Foundation-Only Building Permit at 207-209 Fore Street (former Jordan's Meats site)

CBL: 029-L-001,002,003
Appl. ID: 99700001

Opechee Construction is requesting their foundation only building permit so that they can begin to drive piles at the Jordan's site on Tuesday. The conditions of approval necessary to commence foundation work have been met, subject to receipt of the performance guarantee and a $1200 traffic contribution. According to Greg Kirsh, Opechee Vice Pres and Counsel, the PG has been signed and will be faxed today (original by Fed Ex by Tuesday) and the contribution will come in Tuesday morning.

When the two issues above are met, I will let Lannie know that Planning is has signed off. I will then document the sign off in Naviline.

The Foundation-Only permit should be subject to the following conditions, as per the Planning Board approval. Prior to issuance of the full building permit the applicant shall provide:

> A revised glazing sample for review and approval of the Planning Staff showing clear or virtually clear glass for the street level openings and a suitable glass for upper floors consistent with the building program.
>
> Material details and design specifications for the roof cornice canopy and brackets at the Fore and Franklin Street corner of the building.

Please call or email with any questions. Thank you

Jeanie Bourke - Re: Jordan's site -LOC is in

From: Barbara Barhydt
To: Bourke, Jeanie
Date: 6/1/2010 4:08 PM
Subject: Re: Jordan's site -LOC is in
CC: DiPierro, Philip; Needelman, William

Hi Jeanie:

I believe that is what we said last week. They will need to install their erosion control measures and Phil will check it when he is back. Phil, please arrange the construction site meeting when you return.

Thank you.

Barbara

>>> Jeanie Bourke Tuesday, June 01, 2010 4:04 PM >>>
Yes, it is just for foundation only....I will issue this to them if you feel Phil can check in when he gets back
Thanks

>>> Barbara Barhydt 6/1/2010 4:01 PM >>>
Hi Jeannie:

There is a Performance Guarantee in the file that is dated May 28th. They have paid their inspection fee and infrastructure account fees. I don't believe they have had a pre-construction meeting. The pre-construction could be scheduled (or maybe it has) as everything else is in place. Phil returns from vacation on Thursday.

Are they still looking for the foundation permit only at this point in order to drive some piles. I believe he was okay with that amount of limited work.

Thanks.

Barbara

>>> Jeanie Bourke Tuesday, June 01, 2010 11:03 AM >>>
Unfortunately (or fortunately for us) UI is all we use here right now. Ok, so I just deleted the SP#2005-0089 from the BP and it did delete all the previous planning conditions of approval. So now I have a clean slate to work from, I will add the conditions you gave me for planning approval.

Barbara - I understand Phil is on vacation, do you know if DRC is signed off for this project?
Thanks

>>> William Needelman 6/1/2010 10:34 AM >>>
Jeanie,

The 2005 permit is for a different project, different developer, different everything. Please, by no means use ANYTHING from that project Number for the Opechee project.

If you need to use Urban Insight, and there isn't a project for the current process, work with Jen to start a fresh project.

Thank you.

Bill

Bill Needelman, AICP
Senior Planner
Planning and Development Department
City of Portland, Maine
389 Congress Street
Portland, Maine 04101-3509

(207) 874-8722 tel.
(207) 756-8258 fax.
wbn@portlandmaine.gov

>>> Jeanie Bourke 6/1/2010 10:16 AM >>>
Yeah, I don't know how it all ties in....but when I print the conditions of approval from UI it will include the 2005 notes from Kandl.
So do these planning conditions need to be entered into UI....Jenn can you do that....located at 231 Fore ST.
Thanks

>>> William Needelman 6/1/2010 9:27 AM >>>
Jeanie,

UI (?). I've been in Naviline. If I am supposed to be working in both..... Who knew.

I'd sent you a word doc previously with the conditions. Hear they are again. Thank you.

Bill

The Foundation-Only permit should be subject to the following conditions, as per the Planning Board approval. Prior to issuance of the full building permit the applicant shall provide:

A revised glazing sample for review and approval of the Planning Staff showing clear or virtually clear glass for the street level openings and a suitable glass for upper floors consistent with the building program.

Material details and design specifications for the roof cornice canopy and brackets at the Fore and Franklin Street corner of the building.

>>> Jeanie Bourke 6/1/2010 8:38 AM >>>
Thanks Bill,

Jeff from Opechee came in as you thought, they are still working on demo and test drilling today, so at some point today we can issue the permit.

The only planning info in UI is from 2005. When I print the conditions from UI, I'm not sure if the current information from Planning will be included. Do you need me to add anything or do you send a separate planning condition of approval?
Jeanie

>>> William Needelman 5/28/2010 3:11 PM >>>
Jeanie,

The LOC is in. Once the $1200 comes in Tuesday, we'll be good. My assumption is that they will drop the check on our desk first thing Tuesday and then camp on your counter. The LOC was the biggest issue.

Bill

Bill Needelman, AICP
Senior Planner
Planning and Development Department
City of Portland, Maine
389 Congress Street
Portland, Maine 04101-3509

(207) 874-8722 tel.
(207) 756-8258 fax.
wbn@portlandmaine.gov

>>> Greg Kirsch <gregk@opechee.com> 5/28/2010 2:37 PM >>>
[Greg Kirsch] See below - Thanks to all and enjoy the holiday weekend.

Greg

From: Chuck Black [mailto:cblack@bankofnewengland.com]
Sent: Friday, May 28, 2010 2:30 PM
To: Greg Kirsch
Subject: LC

Here is a copy f the executed Letter of Credit the original is being mailed sent via Fed Ex
Have a good weekend
Chuck

--
Charles E. Black
Vice President
Bank of New England
31 Pelham Rd.
Salem, NH 03079
Direct Ph 603 870 6305

Marge Schmuckal - Re: Fore & India - old Jordan Meats

From: Phillip DiPierro
To: Needelman, William; Schmuckal, Marge
Date: 5/4/2010 1:19 PM
Subject: Re: Fore & India - old Jordan Meats

I have not received the cost estimate, PG, site inspection fee, infrastructure contribution, and we have not had the preconstruction meeting yet. There are also some conditions of approval for architectural features that need to be met prior to the issuance of the BP, but there may be some flexibility on that.

Since they already have a project started on the site, I'm OK with the construction trailer.

Phil

>>> Marge Schmuckal 5/4/2010 12:00 PM >>>
We have received a permit to begin work on the foundation and erection of steel for the building. Can the permit be issued yet? What about for a construction trailer?
Marge

Comments Submitted

Marge Schmuckal - Building Height & Average Building Grade

From: Barry Stowe <barrys@opechee.com>
To: "'mes@portlandmaine.gov'" <mes@portlandmaine.gov>
Date: 3/17/2010 12:01 PM
Subject: Building Height & Average Building Grade
CC: 'Dan Riley' <driley@sebagotechnics.com>, Don Blajda <donb@opechee.com>, ...
Attachments: Average Building Grade & HeightJordan Site Portland 03-17-10.pdf

#10-9970001

Hi Marge,

Attached are the building height calculations for your review. Sebago Technics is working on revising the grading plan to reflect the attached grades around the building. That plan set will be submitted on March 23rd. The average grade is calculated to be 18.5. However, the average grade on the attached elevations is shown as 18.6. We will have this elevation changed on the elevations to 18.5 for the revised submittal. In conclusion, I calculate the building to be 64' 9" in height, and in compliance with the required 65'.

Please call with any questions you may have.

Thanks,

Barry Stowe

OPECHEE
CONSTRUCTION CORPORATION

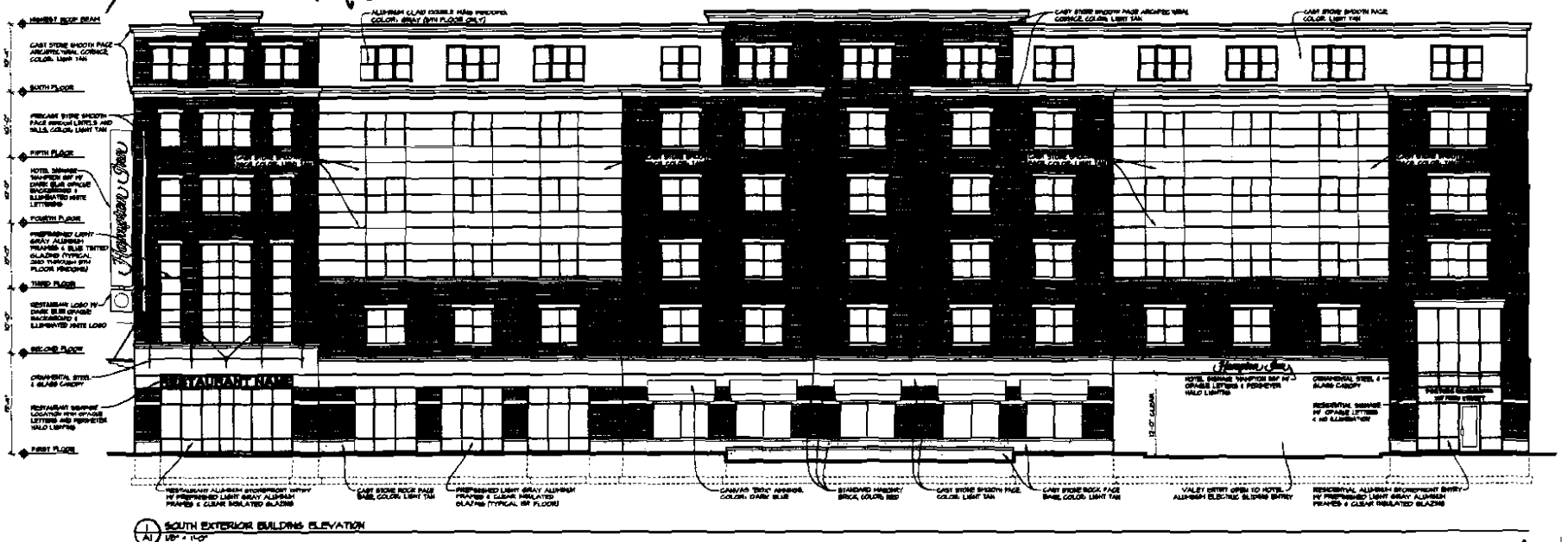
Opechee Construction Corporation
11 Corporate Drive
Belmont, NH 03220
P (603) 527-9090
F (603) 527-9191

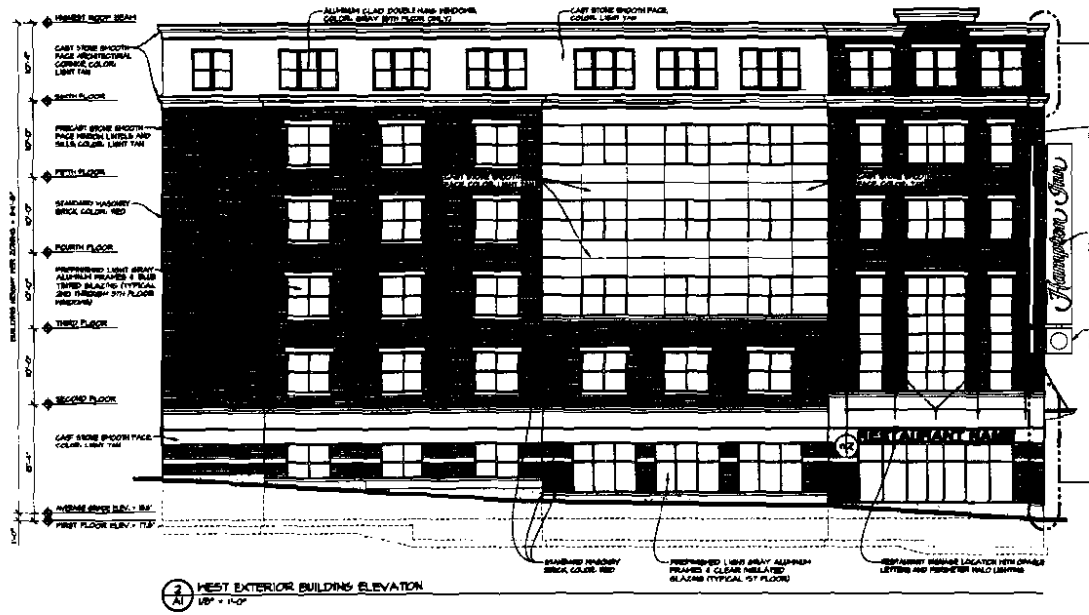
barrys@opechee.com

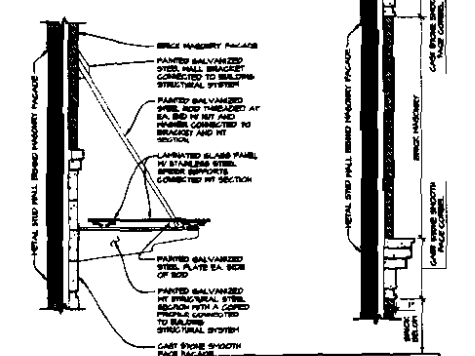
3/19/10 called 10:15 Am - RE: figures for height - mine are dif to
called back 3:00pm 3/22/10 - discussed further

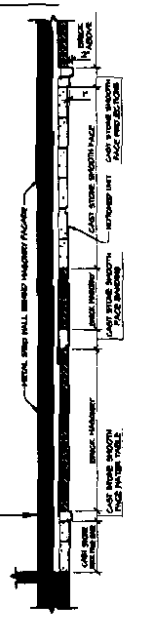
Add Noise Limitations

3/22/10
↑ Barry will confirm this
I thought the top of the roof beam would be lower









REVISION SCHEDULE

NO	DATE	DESCRIPTION	BY
1	09-04-10	ADD ADDITIONAL DIMENSIONS AND ELEVATION DETAIL	LJD

COMMERCIAL CONSTRUCTION CORPORATION
11 LOCUST POINT DRIVE, FREEPORT, ME 04032
PHONE (207) 865-4888 FAX (207) 865-4121

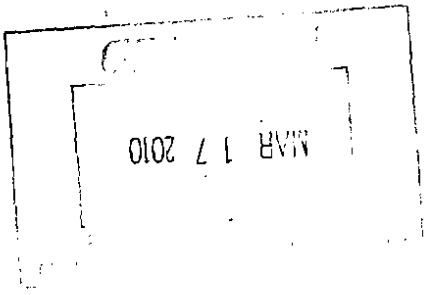
SOUTH & WEST EXTERIOR BUILDING ELEVATIONS

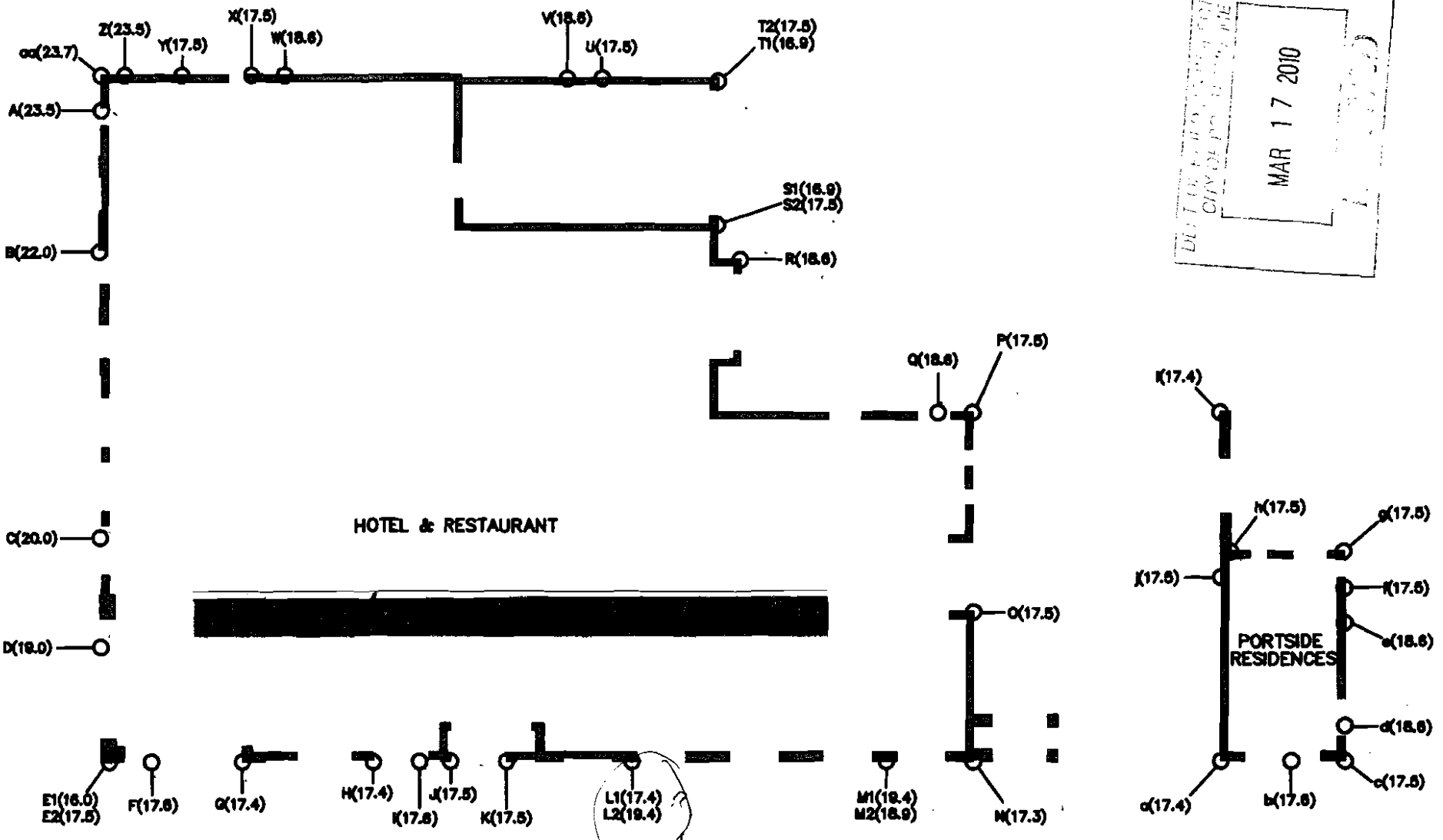
PROJECT:
HOTEL, RESTAURANT, & RESIDENCES - OLD PORT
201 & 209 FORE STREET, PORTLAND, ME

DATE: 02/04/10
SCALE: 1/8" = 1'-0"
DRAWN BY: LJD

A1

SHEET: 1 of 2


MAR 17 2010



BUILDING GRADES AND ASSIGNED NODE LABEL
SCALE: 1"=16'

PROJECT: HOTEL, RESTAURANT AND PORTSIDE RESIDENCES
APPLICANT: OLD PORT HOSPITALITY, LLC
ADDRESS: 207 & 209 FORE STREET

Project: Hotel, Restaurant and Portside Residences
Applicant: Old Port Hospitality, LLC
Date: March 16, 2010

Average Building Grade Calculation

Node	Spot Elevations	Nodes	Average Grade	Interval (feet)
A	23.5	A-B	22.8	24.58
B	22.0	B-C	21.0	49.17
C	20.0	C-D	19.5	18.83
D	19.0	D-E1	18.5	21.19
E1	18.0	E1-E2	17.8	0.00
E2	17.5	E2-F	17.6	7.33
F	17.6	F-G	17.5	15.83
G	17.4	G-H	17.4	23.00
H	17.4	H-I	17.5	8.00
I	17.6	I-J	17.6	5.33
J	17.5	J-K	17.5	9.67
K	17.5	K-L1	17.5	21.59
L1	17.4	L1-L2	18.4	0.00
L2	19.4	L2-M1	19.4	43.75
M1	19.4	M1-M2	18.2	0.00
M2	16.9	M2-N	17.1	14.99
N	17.3	N-O	17.4	25.66
O	17.5	O-P	17.5	34.33
P	17.5	P-Q	18.1	6.00
Q	18.6	Q-R	18.6	68.33
R	18.6	R-S1	18.1	10.01
S1	17.5	S1-S2	17.2	0.00
S2	16.9	S2-T1	16.9	24.83
T1	16.9	T1-T2	17.2	0.00
T2	17.5	T2-U	17.5	20.50
U	17.5	U-V	18.1	6.00
V	18.6	V-W	18.6	49.42
W	18.6	W-X	18.1	6.00
X	17.5	X-Y	17.5	12.08
Y	17.5	Y-Z	20.5	10.00
Z	23.5	Z-aa	23.6	4.08
aa	23.7	aa-A	23.6	6.00
A	23.5			
a	17.4	a-b	17.5	12.00
b	17.6	b-c	17.6	9.00
c	17.5	c-d	18.1	6.00
d	18.6	d-e	18.6	17.73
e	18.6	e-f	18.1	6.00
f	17.5	f-g	17.5	6.27
g	17.5	g-h	17.5	19.33
h	17.5	h-i	17.5	25.67
i	17.4	i-j	17.5	28.33
j	17.5	j-a	17.5	31.67
a	17.4			

Building Perimeter: 708.50

Weighted Average Grade: 18.5

593.3
177.1
770.4 ÷ 42 = 18.3

stairwell
SHEDSout-5ft

MAR 17 2010

Applicant: OLD Port Hospitality LLC Date: 2/16/10

Address: 207 & 209 Fore St (Old Jordan meats) C-B-L: 29-L-1-2, 29-L-3

CHECK-LIST AGAINST ZONING ORDINANCE #10-0447

Date -

Zone Location - B-3 NOT in PAD - PAD Encouragement along middle St

Interior or corner lot - redevelop site - change of use - yes - 122 Rm Hampton INN

Proposed Use/Work - uses permitted/ 180 SEATS

Sewage Disposal - City

Lot Street Frontage - 15' min ~ 255.83 + 123.41 + 379.24 ft shown

Front Yard - 14-220(c) - within 5' of street line - WANTS more for outdoor eating for the restaurant

PB Street Build-to line: 10' scaled

Rear Yard - ~ N/A

Side Yard -

~~Street Build~~

Projections -

Where is the property line behind the building

Width of Lot - N/A

Height - 65' ~~MAXIMUM~~ WANT to confirm - Average grade to top of roof between the 65' height max 3/17/10 information Submitted - appears to meet

Lot Area - ≈ 76,209 ft given - No min lot size req

Lot Coverage/ Impervious Surface - 100% OK

Area per Family - B-3 doesn't require a certain amount of ~~floor~~ LAND area per D.U.

PB Off-street Parking - given square footage = 96,953 ft - PB Determines Parking 22 spaces for bikes proposed 93 Parking spaces counted

Loading Bays - N/A

Site Plan - #10-9970001

Shoreland Zoning/ Stream Protection - N/A

Flood Plains - Panel 14 - Zone C

Conditional Use App → for Parking - shows 35' Setback subdivision required / separate permit for Demo & signs

ZONING ADMINISTRATOR- MARGE SCHMUCKAL

February 25, 2010

The entire property is located within a B-3 Downtown Business Zone. It is not within a Pedestrian Activities District (PAD). However the street frontage along Middle Street is considered a PAD Encouragement District. No structure is being proposed along Middle Street at this time. It is not in a Historic District.

The applicant is proposing to redevelop the site to include a new 180 seat restaurant, a 122 room hotel, and 12 residential condominiums. This is considered a change of use for the property. On an adjoining lot a parking lot for 93 parking spaces is being proposed. The proposed uses are meeting the allowable uses listed in the B-3 Zone. The surface parking lot use is a conditional use appeal before the Planning Board. The surface parking lot is required to be no closer than 35 feet to any street line. This submitted plan is showing all parking 35 feet from all the street lines. Because the proposed project is over 50,000 square feet in floor area, parking requirements are to be determined by the Planning Board under section 14-332(t). 22 bike spaces are proposed.

The B-3 Zone requires a street build-to setback of no more than 5 feet, unless the Planning Board reviews and approves an appropriate setback further back. The applicant has requested a further setback of approximately 10 feet for outdoor seating for the first floor restaurant use.

Because there will be 12 residential condominiums, this project must also be approved under Subdivision requirements.

I believe that this project is probably meeting the maximum building height of 65 feet for this area of the City. Ho9wever, I would like to confirm that supposition with more information from the applicant using the same methodology that I se with all applicants. I would like to know the grades around the outside of the proposed building so that I can average the grades. The actual height of the structure can be determined from that information.

I would also like to confirm where the property line is located at the rear of the proposed building where the stairs descend from the street. It was unclear to me.

It is noted that no official loading bays are required under section 14-351. However, it may be useful to indicate how the rear dumpster area will be accessed and utilized by servicing vehicles. This area may also service deliveries, linen services and the like.

Separate permits from Inspection Services will be required for the demolition of existing structures and for signage.

The project is not in a Shoreland Zone. The project is not in a 100-year flood zone.

March 22, 2010

On 3/17/10 Barry Stowe submitted (by e-mail) building height calculations for review. The calcs use the standard methodology for determining heights. It is understood that the building plans are still being created at this juncture. It is further understood that the development of the building plans will not differ significantly to violate the required building heights.

It may be too early at this time, but it is reminded that the B-3 Zone has maximum noise limitations for any hoods, HVAC systems, or similar systems. This office would need copies of the dBAs being generated by such systems PRIOR to their installations. The sooner this office can receive such documentation, the better.

PORTLAND MAINE

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Penny St. Louis Littell- Director of Planning and Urban Development
Marge Schmuckal, Zoning Administrator

TO: WILLIAM NEEDLEMAN, PLANNER

FROM: MARGE SCHMUCKAL, ZONING ADMINISTRATOR

RE: OLD JORDAN MEATS PROPERTY ON FORE ST

DATE: FEBRUARY 25, 2010

The entire property is located within a B-3 Downtown Business Zone. It is not within a Pedestrian Activities District (PAD). However the street frontage along Middle Street is considered a PAD Encouragement District. No structure is being proposed along Middle Street at this time. It is not in a Historic District.

The applicant is proposing to redevelop the site to include a new 180 seat restaurant, a 122 room hotel, and 12 residential condominiums. This is considered a change of use for the property. On an adjoining lot a parking lot for 93 parking spaces is being proposed. The proposed uses are meeting the allowable uses listed in the B-3 Zone. The surface parking lot use is a conditional use appeal before the Planning Board. The surface parking lot is required to be no closer than 35 feet to any street line. This submitted plan is showing all parking 35 feet from all the street lines. Because the proposed project is over 50,000 square feet in floor area, parking requirements are to be determined by the Planning Board under section 14-332(t). 22 bike spaces are proposed. .

The B-3 Zone requires a street build-to setback of no more than 5 feet, unless the Planning Board reviews and approves an appropriate setback further back. The applicant has requested a further setback of approximately 10 feet for outdoor seating for the first floor restaurant use.

Because there will be 12 residential condominiums, this project must also be approved under Subdivision requirements.

I believe that this project is probably meeting the maximum building height of 65 feet for this area of the City. However, I would like to confirm that supposition with more information from the applicant using the same methodology that I use with all applicants. I would like to know the grades around the outside of the proposed building so that I can average the grades. I would also like to know where the top of the structural beams will be located on the structure. The actual height of the structure can be determined from that information.

I would also like to confirm where the property line is located at the rear of the proposed building where the stairs descend from the street. It was unclear to me.

It is noted that no official loading bays are required under section 14-351. However, it may be useful to indicate how the rear dumpster area will be accessed and utilized by servicing vehicles. This area may also service deliveries, linen services and the like.

Separate permits from Inspection Services will be required for the demolition of existing structures and for signage.

The project is not in a Shoreland Zone. The project is not in a 100-year flood zone.

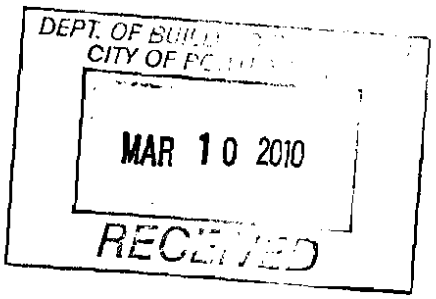
Marge Schmuckal
Zoning Administrator

Zoning - See Pg 7

OPECHEE
CONSTRUCTION CORPORATION

March 5, 2010

Mr. William Needelman, Senior Planner
Planning Division
389 Congress Street, 4th floor
Portland, ME 04101



Re: Response Letter for the March 9th Planning Board Workshop
Project: Hotel, Restaurant, & Residences – Old Port
Address: 207 & 209 Fore Street (formerly 38 India Street)
Applicant: Old Port Hospitality, LLC

Dear Bill,

Please find below Old Port Hospitality, LLC responses to the review comments received to date for the above mentioned project. The responses are brought to attention with bold italic text.

▶Bill Needelman, Senior Planner, City of Portland:

1. Right Title Interest: From your deed, "Terms and provisions" of the MDEP Protection Orders, Book 19244, Page 271. We need copy.
The MDEP Protection Orders were submitted to Bill Needelman via email on March 3rd.

2. 33' driveway with a 10' curb radius.
The applicant intends to withdraw the waiver request for the driveway width. The driveway will be revised to provide a 24 foot width with 10' curb radii. Also, the line striping will be revised to delineate 20' turning radii.

3. Parking management plan.
A parking management plan has been submitted to planning and review comments are pending.

4. Building lighting.
The applicant intends to provide lighting designs for the building façade illumination.

5. Provide the Planning Department with materials sample board.
Material samples were provided to the Planning Department on March 4th.

▶Woodward & Curran:

1. As currently shown, the lawn areas surrounding the parking lot are sloped towards the parking lot. We ask that the applicant consider sloping the parking lot toward the grassed area, resulting in some treatment of the stormwater runoff from the pavement.
We will revise the grading and utility plan to eliminate the sidewalk adjacent to the valet parking spaces. Vertical granite curbing with curb inlets to (2) tree filters will be installed.

2. The stormwater report references the decision to use 3' sumps for stormwater quality treatment in the parking lots. The catch basin detail should be modified to say that 3' sumps are required for all catch basins, not just those in the City right-of-way as the detail currently states.
The catch basin details will be revised as requested.

3. The project will be separating and rerouting the combined sewer that currently crosses the site. The plans currently do not show how the existing combined sewer will be demolished or abandoned. The existing pipe is shown ending at the sidewalk on the utility plan. More detail should be provided as to how the existing combined sewer will be abandoned.
A Site and Utility Demolition plan will be added to the plan set. The plan notes will indicate that the contractor is required to secure Pipe Sealing permits from Public Services Department and shall plug, remove or abandon storm drains and sanitary sewers in accordance with City standards. All abandoned manholes will be removed. The 30" sewer will be removed within the site limits. We will meet with public services staff to confirm pipe sealing and abandonment requirements within the right of way. Staff has indicated that they may prefer that some pipes be abandoned in place to minimize excavation in Franklin Arterial.

▶T.Y. Lin International:

1. The driveway is proposed to be 33 feet wide. Based upon anticipated traffic volumes I find this width to be excessive. Additionally, the radii seem large. One possibility would be to provide a 24-foot driveway in the public right-of-way and then widen to 33 feet on-site to accommodate valet parking needs. In any event the applicant should provide an auto-turn analysis that supports the design (I would note that we normally don't overdesign for infrequent large vehicle turning movements).
The applicant intends to withdraw the waiver request for the driveway width. The driveway will be revised to provide a 24 foot width with 10' curb radii. Also, the line striping will be revised to delineate 20' turning radii.

2. The proposed crosswalks at the Franklin Street/Fore Street and India Street/Fore Street intersections should be two parallel lines.
The crosswalk striping will be revised as requested.

3. The applicant should assess the design of the sidewalk ramp at the northwest corner of the India Street/Fore Street intersection such that separate ramps are provided for crossing India Street north of the intersection and Fore Street west of the intersection.
It was discussed at the Traffic permit Scoping Meeting on March 3rd that we will review and revise the ramp configuration to the extent possible. Due to the unusual geometry of this intersection, and the location of the existing ramps on the east side of India Street and south side of Fore Street creating completely separate ramps that cross perpendicular to the curb lines may not be feasible. In this case, a revised ramp, with separated detectable warning strips will be provided.

4. A waiver from the City's Technical Standard will be required for the size of the parking spaces (9'x18' spaces are proposed). I support this waiver.
The applicant still intends to seek the waiver request.

5. A waiver from the City's Technical Standard for provision of compact parking is required. I support this waiver.
The applicant still intends to seek the waiver request.

6. The applicant will be required to prepare a preliminary Maintenance of Traffic plan that addresses any anticipated closures of either public streets or sidewalks.
Traffic control plans will be submitted with next revised application submittal.

7. The provision of a crosswalk on Middle Street at Hampshire Street is to be reviewed by the City's Crosswalk Committee on March 4th. Comments will be provided soon after.
The applicant is awaiting review comments.

8. The applicant should provide a summary on how truck deliveries will take place, including types of vehicles, locations where loadings will occur, and whether the 12-foot clearance allows for large vehicle movements entering and exiting the site.
The applicant will include a narrative that describes the facility's intended delivery and loading operations with the revised application submittal.

9. I will provide an opinion of parking supply adequacy upon receipt and review of the parking analysis to be provided by the applicant.
A parking management plan has been submitted.

10. I would note that the City supports the plan for on-street parking on Fore Street. We currently are assessing appropriate parking regulations (e.g. time limit or meters) and will provide a recommendation in the future. I would ask the applicant provide an opinion of what is preferred for parking on Fore Street. Lastly, I would note that parking regulation changes will likely require City Council action and the applicant will be required to provide the necessary information in support of the Council review (with support from City staff).
It is the applicant's preference that the new on-street parking will be regulated by signage indicating a time limit that is accommodating to a restaurant use.

►David Margolis-Pineo, Deputy City Engineer, City of Portland:

1. None of the streets around the Jordan Meat site are under a moratorium.
No response necessary.

2. Any proposed sewer laterals to be abandoned from this site must follow City requirements for permitting and sealing. Any manholes associated located on laterals to be abandoned shall be removed and all associated pipes sealed.
A Site and Utility Demolition plan will be added to the plan set. The plan notes will indicate that the contractor is required to secure Pipe Sealing permits from Public Services Department and shall plug, remove or abandon storm drains and sanitary sewers in accordance with City standards. All abandoned manholes will be removed. The 30" sewer will be removed within the site limits. We will meet with public services staff to confirm pipe sealing and abandonment requirements within the right of way. Staff has indicated that they may prefer that some pipes be abandoned in place to minimize excavation in Franklin Arterial.

3. There is no mention made as to how the existing 30" sewer which passes through the lot to Franklin Street will be abandoned. This issue will need to be coordinated with John Emerson (874-8468) of this department.
A Site and Utility Demolition plan will be added to the plan set. The plan notes will indicate that the contractor is required to secure Pipe Sealing permits from Public Services Department and shall plug, remove or abandon storm drains and sanitary sewers in accordance with City standards. All abandoned manholes will be removed. The 30" sewer will be removed within the site limits. We will meet with public services staff to confirm pipe sealing and abandonment requirements within the right of way. Staff has indicated that they may prefer that some pipes be abandoned in place to minimize excavation in Franklin Arterial.

4. Since the City has no interest to enter the proposed 30' sanitary and stormwater easement area for any future system maintenance, and due to the proposed 12' over head canopy clearance, it is requested that the applicant use ductile iron pipe from the manholes in Middle St to the manholes in Fore St for both sewer lines.
We will revise the pipe material as requested by Public Services. Public Services suggested several alternative pipe materials that will be acceptable. We will confirm the pipe material with Public Services and revise the plans.

5. All catch basins shall have three foot sumps, not just the catch basins within the city street right of ways.
The catch basin details will be revised as requested.

6. All manholes with external drop connections shall meet TR-16 design and city detail standards.
We will revise the drop manhole detail as requested. Based on our discussion with Mr. Emerson, drops of more than 2' within a sewer manhole require a drop structure. There is a single existing 8" sewer connection at SMH-1 that will require a drop.

7. Applicant may use Type "B" gravels in lieu of Type "A" gravels.
The materials will be revised as recommended.

8. We will continue to review plan details for city standards.
No response necessary.

9. The Following are comments relating to the site survey. Any questions should be directed to Bill Clark of this department, 874-8847

The incorrect vertical datum of NAVD88 was used, and the City of Portland Datum was not used. This is significant introducing and vertical difference of 0.7 feet, and can lead to serious problems.
The NAVD 88 datum for this site was established as part of an ALTA survey completed in 2005 and was maintained throughout the design and permitting of the previously approved projects on this site. As part of the original survey Sebago Technics performed a level loop to a U.S. Geodetic survey monument for which the City has an established elevation. Note 6 on the ALTA survey and existing conditions plans documents the datum elevations as follows:

THE BEARINGS, COORDINATES, AND ELEVATIONS SHOWN HEREON ARE BASED UPON THE MAINE STATE PLANE COORDINATE GRID, WEST ZONE 1802 ON NAD83 AND NAVD 88. THE CITY DATUM WAS VERIFIED UTILIZING U.S. COAST AND GEODETIC SURVEY BENCHMARK, BEING A DRILL HOLE LOCATED IN THE GRANITE STEPS OF THE CUSTOM HOUSE ON COMMERCIAL STREET. THE CITY ELEVATION IS 14.072', THE NGVD 29 ELEVATION IS 14.042', AND NAVD88 IS 13.30'

As we discussed with planning staff, as significant number of design and legal documents have been prepared based on the survey work completed to date. We proposed to address the concern regarding the datum by adding notes the each plan where elevation are referenced that will clearly indicate that design plans are based on the NAVD 88 datum will note the difference between NAVD88 and the City Datum elevations. In addition, any as-built plans for public infrastructure will note the NAVD88 and City datum elevations.

B. The GRID bearing of India Street between Middle St and Fore St is 00 degrees 11' 37" different from the bearing used by the City of Portland for Ocean Gateway, and as used by Owen Haskell Inc for the Ocean Gateway Subdivision and Ocean Gateway Garage projects. This amounts to a horizontal difference of approximately 0.62 feet in the 182.01 feet along the southwesterly line of India Street; this may not amount to much for a parking lot, but may be of consequence for a building in the future. Retracing the street lines on the Peninsula can be difficult, and it did take a good deal of effort to retrace the line of India Street from Commercial Street to Congress Street. I would be more than willing to provide a copy of our survey.
We have received a copy of the City survey completed in 2008. In it's determination of the easterly right of India Street Right of Way the City survey created an angle point on the easterly side of India Street that is not reflected in any of the street acceptance documents for India Street or the deed references for our project site. The City plan includes a note stating:

"DURING THE COURSE OF THIS SURVEY IS WAS DISCOVERED THAT AN ANGLE EXISTS IN THE LINE OF INDIA STREET. THE ACCEPTANCE OF INDIA STREET DOES NOT CALL FOR AN ANGLE POINT. HOWEVER, OVER THE YEARS BETWEEN APPROXIMATELY 1850 TO 2005, AN ANGLE POINT HAS DEVELOPED. THIS MAY BE DUE TO THE PAST PRACTICE OF SURVEYING "BLOCK TO BLOCK" AND HOLDING CITY OF PORTLAND GRANITE SURVEY MONUMENTS THAT WERE SET TO DEFINE THE STREET LINES"

It is the introduction of this angle point that is causing the difference in bearings between the two plans. The City's plan has not yet been recorded and was therefore not identified in our recent survey research. It appears that the introduced angle point and bearing will move the India Street Right of Way northeasterly, away from the project site, potentially increasing the size of the parcel by approximately 76 square feet.

We are reviewing the implications of this potential change on previously recorded documents and the subdivision plans. We will discuss this further with Mr. Clark and the city to determine if the locus property boundary along India Street property line should be adjusted.

In the interim, we added the City Survey as an unrecorded plan reference on our survey and subdivision plan. If appropriate we will note the differences in bearings between the two surveys.

C. The monument at the easterly corner of India Street and Middle Street is incorrectly shown. That monument is what we call an "M" monument where the back corner of the monument is the street line corner, and not the middle of the monument.

We are aware that this is an "M" monument. The back (Micucci's) corner of the monument was located as part of our survey. The discrepancy noted is simply due to the graphic symbol used on the plan and the scale of the drawing. We will add the note to our plan documenting the monument location as follows: "10"X10" GRANITE "M" MONUMENT, EASTERLY CORNER OF MONUMENT LOCATED"

D. The monument at the northerly corner of India Street and Middle Street should not be used, as it was disturbed by City crews in the 1990s.

The monument discussed was determined in our survey to be off the right of way corner by approximately 1.25 feet. Although several pieces of monumentation were located during the survey, the monument was not held. Monuments that were held to establish the locus property are noted as "held" on the plan.

E. Proposed 3 foot offset Monuments will be requested on the subdivision plan at the following locations.

Corner of India St and Middle St
Corner of Middle St and Franklin St Art
Corner of Fore St and Franklin St Art
Fore St PC 123.41' southwesterly of 3 foot offset monument near India St.

We have discussed the placement of monuments with Mr. Clark and have proposed the following:

- ***A monument is not proposed at the corner of India Street and Middle Street due to a conflict with an existing underground electrical duct bank.***
- ***A monument is not proposed at the corner of Middle Street and Franklin Arterial, This location is not part of the locus site's boundary and there is a conflict with an existing underground electrical manhole and duct bank.***
- ***A monument is not proposed at the corner of Fore Street and Franklin Street Arterial due to a conflict with an existing underground electrical manhole and ductbank.***
- ***The subdivision plan will be revised to include a 3-ft offset monument on Fore Street at the PC 123.41 southwesterly of the monument near India Street as requested.***

Rebar corner pins will be installed where the proposed 30' utility easement meets Middle Street. The intersections of the easement at Fore Street fall within the proposed brick sidewalk/driveway apron and immediately adjacent to a granite curb. As such, pins are not proposed at Fore Street.

10. Stormwater treatment is technically not required for projects such as this. However, the applicant is encouraged to consider treatment options such as tree or shrub box filters which can be relocated if future changes to the site are desired.

We will revise the grading and utility plan to eliminate the sidewalk adjacent to the valet parking spaces. Vertical granite curbing with curb inlets to (2) tree filters will be installed.

11. The City is reviewing and may ask the applicant to extend the sidewalk on Middle St to the property line.

The applicant is interesting in providing whatever the City deems appropriate on this matter.

12. Instead of installing new granite curbing on Middle Street, for environmental reasons, no manufacturing or transporting of new curbing, we would like the applicant to consider re-installing the existing curbing. Either way it is understood that the applicant would like to keep the material of this walk bituminous to accommodate future expansion. Since the existing sidewalk is not in great condition and the curb line is being modified, we would ask that the applicant re-pave the sidewalk. And since the sidewalk material policy in this section of the city is for brick sidewalks, the applicant is requested to post a two year Performance Guarantee to cover the installation of a brick walk in the likelihood the next phase of the development does not materialize.
The plans will be revised as requested. The Site and Utility Demolition plan will indicate the limits of curbing to be removed and salvaged for re-installation. The site plan indicates that salvaged curbing is to be reinstalled.

13. The applicant is request to submit the anticipated quantity of wastewater which will be added to the city's sewer system.
A Wastewater Capacity Application has been submitted to Planning. This application documents the anticipated flows from the new facility. However, please note that in comparison to the previous Jordan's Meats factory, this proposal (including phase II) will be a gross decrease in wastewater discharge of approximately 100,000 gpd. Using round numbers, here is a brief comparison: In 2004, Jordan's Meats used an average daily flow of approximately 140,000 gpd. Proposed phase I will be approximately 26,000 gpd. Full build-out of the site is anticipated to be approximately 40,000 gpd.

14. This department is still reviewing lighting standards for this project, i.e. light pole spacing and power feed requirements with CMP.
No response necessary.

15. The sidewalk ramp tactile warning strips shall be as follows and colored Tan.
A tactile warning strip will be added to the details.

►Marge Schmuckal, Zoning Administrator, City of Portland:

1. I believe that this project is probably meeting the maximum building height of 65 feet for this area of the City. However, I would like to confirm that supposition with more information from the applicant using the same methodology that I use with all applicants. I would like to know the grades around the outside of the proposed building so that I can average the grades. I would also like to know where the top of the structural beams will be located on the structure. The actual height of the structure can be determined from that information.
We have provided the building height on the submitted elevations. However, based on the building architecture comments below, it is anticipated that the building footprint will be changing. Therefore, when we resubmit the revised application; we will provide the Zoning Administrator with all the requested information to calculate the average grade and building height building height.

2. I would also like to confirm where the property line is located at the rear of the proposed building where the stairs descend from the street. It was unclear to me.
The property line follows the southerly and easterly wall of the existing building to remain at the corner of Middle Street and Franklin Street Arterial. This building is the property of 80-90 Corps that hosts Hugo's Restaurant.

Should be shown on the plans

3. It is noted that no official loading bays are required under section 14-351. However, it may be useful to indicate how the rear dumpster area will be accessed and utilized by servicing vehicles. This area may also service deliveries, linen services and the like.
The applicant will include a narrative that describes the facility's intended delivery and loading operations with the revised application submittal.

4. Separate permits from Inspection Services will be required for the demolition of existing structures and for signage.
Agreed.

▶ Jeff Tarling, City Arborist, City of Portland:

a) Street-trees - The project proposes to include planting various shade trees within the sidewalk / public way along Franklin Street & Fore Street. Placement of these trees should be coordinated with the on-street parking to ensure that car doors do not open into the planted tree. Also, the placement of parking meters is typically recommended to alternate with tree planting, post with 2 parking meters between car spaces, then tree well, then parking meter... Placing the tree well near the end of the spaces as proposed may work; just want to have this considered. Tree types are good as shown, tree grates & guards should be reviewed to make sure the finish, painted black or core-10 steel is preferred...
We have discussed the tree spacing with the City Arborist. The proposed tree spacing for Fore Street is coordinated with the proposed parking stalls as shown on the site plan. The proposed parking stall striping will be added to the landscape plan to clarify. The trees are located near the end of the parking stalls to minimize potential conflicts with car doors. The tree grates are clear of the parking stall striping to avoid conflicts with meters should they be installed.

Also, we will revise the tree grate and tree guard details to clarify that tree guards are to be painted with one coat shop primer and two coats of low luster black enamel paint. Tree grates will be weathering (COR-TEN) steel.

b) Esplanade or sidewalk with trees on Franklin Street... "If" future on-street parking is considered for Franklin Street, then the proposed wide sidewalk with street trees with tree grates is good, if not, the use of a turf esplanade with trees should be considered. The proposed planter at the corner of Fore & Franklin should allow enough space for pedestrian travel & sidewalk snow plowing between the two sidewalk tip down ramps.
We will discuss the sidewalk/esplanade design with staff and revise the plans accordingly.

c) Parking lot trees & landscape - Will the six street-trees w/ tree grates in the sidewalk proposed for Fore Street near the temporary parking lot be in the way of future development? An option to plant on the lawn area could be considered.
It is not anticipate that the street trees along Fore Street will be in the way of the future development.

Tree / landscape density - Recommend adding one more Birch tree to the proposed two birch tree groups spaced along Middle Street. The lawn area along India Street should have some buffering / tree planting. One suggestion would be to slightly berm or contour the lawn area, perhaps 1-2' to help buffer the parking lot and help prevent cut-through from the parking lot to the sidewalk area.
The plan will be revised to include an additional birch tree to the Middle Street plantings and additional birch trees in the lawn area adjacent to India Street. The lawn area surrounding the surface parking is proposed with a berm to help buffer the parking lot.

d) Hampshire Street access to Fore Street - The Middle Street gateway to the proposed development is well landscaped and should help with pedestrian circulation. Recommend reuse of the existing granite slabs in the old section of Hampshire Street / crosswalk in this small plaza design or on site if possible.
The plan will be revised to include salvaged granite slabs from the site into the design.

▶Planning Staff, City of Portland:

Site Plan Standards14-526 (a)(16) a.1.
General Comment: The elevation drawings are at a concept level of development and greater detail will be needed for final review prior to public hearing.
More detailed building elevations have been submitted.

It is unclear from the site plan and elevations whether the Fore and Franklin Street door to the restaurant is oriented to the corner or to Fore Street - Clarification requested.
The applicant intends to revise the building architecture as per the discussions with William Needelman and Alex Jagerman.

Site Plan Standards14-526 (a)(16) a.1.(a)
Comment: Provide details and specifications on the storefront design and first floor windows including the transparency index and sample of the proposed glass. Visual permeability between interior and exterior spaces at the pedestrian level is indicated by this standard. Highly tinted or reflective glass at the pedestrian level is not recommended.
The applicant intends to revise the building architecture as per the discussions with William Needelman and Alex Jagerman.

Site Plan Standards14-526 (a)(16) a.1.(b)
Comment: The prominence and frequency of pedestrian entrances along Fore Street is undermined by the lack of canopy and/or signage at the mid-block shared entrance (for the restaurant and hotel) and the location of the hotel lobby entrance at the porte-cochere. Consider adding a prominent pedestrian door to the Fore Street façade adjacent to the vehicle entrance. Also consider adjusting signage location from the Franklin/Fore intersection to the pedestrian entrance to the lobby.
The applicant intends to revise the building architecture as per the discussions with William Needelman and Alex Jagerman.

Site Plan Standards14-526 (a)(16) a.1.(c)
The building is generally well fenestrated and does not show excessive blank walls in the pedestrian areas.
No response necessary

Site Plan Standards14-526 (a)(16) a.1.(d)
The pedestrian access stairs from Middle Street are well positioned for use and are integrated with the site and building design. Consideration may be given to replacing the existing "cobra head" light fixture with a district street light pole and fixture to better integrate the stairs with the street. Design Note: The City Arborist suggests utilizing the historic granite plank and cobble from the existing alley in this area into the design.
The plan will be revised to include salvaged granite slabs from the site into the design. The applicant will give consideration to removing the existing cobra head light and adding a district street light in the location of the pedestrian stairs from Middle Street.
We will discuss added a removing the existing cobra head light and add a district street light with staff. There is some design encumbrances to investigate before the applicant can determine if this is feasible.

Site Plan Standards14-526 (a)(16) a. 2.
Not Applicable
No response necessary

Site Plan Standards14-526 (a)(16) a. 3.
Applicable to Middle Street only for any later phase of development.
No response necessary

Site Plan Standards14-526 (a)(16) a.4.(a)
Cross walk design is being addressed by Public Services. There has been discussion of bumping the Middle Street curbing out to shorten the crossing distance from Hampshire Street to the proposed pedestrian stairs.
The applicant will take in consideration any recommendations from Public Services.

Site Plan Standards14-526 (a)(16) a.4.(b)
See City Arborist comments.

Provide planter details for drainage and irrigation that promote the viability of plantings and minimize impacts to the public sidewalk.
A planter detail will be added to the plans. The proposed development will be implementing some green practices into the design of the facility and in the interest of conserving water; irrigation will not be installed.

Site Plan Standards14-526 (a)(16) a.4.(c)
The plans show appropriate street lighting styles and spacing (see comment above regarding the pedestrian stairs.) Building mounted lighting details have not yet been provided. Private site lighting of the parking area should be provided with cut-off fixtures.
Building mounted lighting details will be added to the plans. Cut-off fixtures will be provided for the private site lights.

Applicant should anticipate the an electrical distribution system with a metering box suitable for serving all fixtures to be owned by the City
We will review the plans and identify a proposed meter location. We understand that the Planning Staff will provide guidance regarding the type of enclosure requested.

Site Plan Standards14-526 (a)(16) a. 4. (d)
Granite benches are proposed for Fore Street and a granite seat wall is proposed for the head of the Middle Street stairs.
No response necessary

Site Plan Standards14-526 (a)(16) a. 4. (e)
The restaurant use is proposed to extend onto the Fore Street façade of the building near Franklin Street.
No response necessary

Site Plan Standards14-526 (a)(16) b. 1.
General Comment: Context information is not provided. The development should be shown within its context by use of perspective drawings, photomontage, or other graphic means. Suggested views are from Franklin Arterial at Federal Street (Court House and Lincoln Park), Fore Street in front of Bangor Savings, Commercial and Franklin Street (from the Casco Bay Garage, and Fore Street and India Street (from the sewer pump station.)
The applicant intends to submit all requested graphics to assist the Planning Staff and the Planning Board with their review of the project.

Site Plan Standards14-526 (a)(16) b.1.(a)
The street walls of Fore and Franklin are enforced by this development.
No response necessary.

Site Plan Standards14-526 (a)(16) b. 1. (b)
NA
No response necessary.

Site Plan Standards14-526 (a)(16) b. 1. (c)
See below:
No response necessary.

Site Plan Standards14-526 (a)(16) b. 1. (d)
The building massing and composition does not provide distinct massing elements at the key corners at Franklin Street. Given the visibility of the building from Franklin, Fore (as the terminating view from the Old Port) and Commercial Street, these corners are important.
The applicant intends to revise the building architecture as per the discussions with William Needelman and Alex Jagerman.

The Middle and Franklin corner has no vertical differentiation from the main mass of the building and is un-fenestrated. The Fore and Franklin corner is punctuated by only a minor parapet rise at the center of the bay.
The applicant intends to revise the building architecture as per the discussions with William Needelman and Alex Jagerman.

The design's relationship to its prominent location and to other buildings in the downtown and Old Port will be strengthened by vertical differentiation and fenestration of the building corner at Middle Street and simplifying and enlarging the punctuation at Fore Street. If fenestration of the top story of the Middle Street corner interferes with proposed signage, an alternative location for signage should be considered on the body of the building.
The applicant intends to revise the building architecture as per the discussions with William Needelman and Alex Jagerman.

Site Plan Standards14-526 (a)(16) b. 1. (e)
Addressed above
No response necessary.

Site Plan Standards14-526 (a)(16) b. 1. (f)
No comment was made.

Site Plan Standards14-526 (a)(16) b. 2. (a, b, c, & d)
Standards for set back appear to be met.
No response necessary.

Site Plan Standards14-526 (a)(16) c.
Need details – none provided. Readily visible mechanical equipment requires screening
Details will be provided in the revised application submittal.

Site Plan Standards14-526 (a)(16) d.
NA
No response necessary.

Site Plan Standards14-526 (a)(16) e.
Undue wind impacts are not anticipated.
Agreed.

Site Plan Standards14-526 (a)(16) f.
Set backs from the adjacent building at Franklin and Middle will be increased.
Agreed.

Site Plan Standards14-526 (a)(16) g.
NA
No response necessary.

The applicant and design team looks forward to working in close cooperation with the Planning Staff and the Planning Board to develop, permit, and ultimately construct this viable project.

Sincerely,

Opechee Construction Corporation

Barry Stowe

Marge Schmuckal - Jordan's site response letter

From: William Needelman
To: Barhydt, Barbara; Clark, William; Errico, Thomas; Gautreau, Keith; G...
Date: 3/10/2010 12:01 PM
Subject: Jordan's site response letter
Attachments: Ltr of Response fr Workshop Jordan Site Portland 03-09-10.pdf

To all:

Attached is the Opechee response to review comments to date.

Outstanding issues:

Parking: The applicant is proposing no parking for the restaurant.

Tom E, John P, and Danielle

Let's touch base regarding the Franklin Street on-street parking process and explore how it may be possible to fund it's implementation as a mitigation measure for the project's not providing parking for the restaurant.

Pedestrian Access through the site: The applicant does not want an easement.

Alex and Danielle,

We need to formulate a staff opinion regarding the need for a pedestrian easement from Middle Street, or whether a condition of approval noted on the site plan would be sufficient

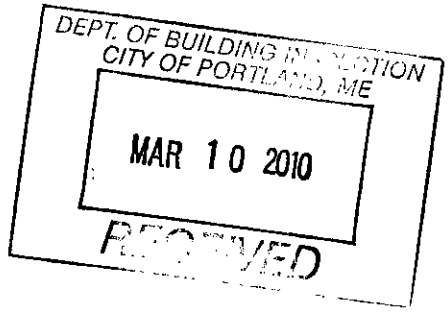
Penny, Alex, We should touch base on the above two issues so that we all on the same page.

Thanks,

Bill

Bill Needelman, AICP
Senior Planner
Planning and Development Department
City of Portland, Maine
389 Congress Street
Portland, Maine 04101-3509

(207) 874-8722 tel.
(207) 756-8258 fax.
wbn@portlandmaine.gov



>>> Jean Fraser 3/10/2010 9:48 AM >>>

>>> Shukria Wiar 3/10/2010 8:57 AM >>>

>>> Barbara Barhydt 3/10/2010 8:32 AM >>>

>>> Philip DiPierro Wednesday, March 10, 2010 8:14 AM >>>

>>> Jean Fraser 3/9/2010 4:04 PM >>>

>>> David Margolis-Pineo (David Margolis-Pineo) 3/9/2010 10:52 AM >>>

>>> Barbara Barhydt 3/9/2010 10:25 AM >>>

>>> David Margolis-Pineo (David Margolis-Pineo) Tuesday, March 09, 2010 10:19 AM >>>

>>> William Needelman 3/9/2010 9:39 AM >>>

Bill Needelman, AICP
Senior Planner
Planning and Development Department
City of Portland, Maine
389 Congress Street
Portland, Maine 04101-3509

(207) 874-8722 tel.
(207) 756-8258 fax.
wbn@portlandmaine.gov

>>> Jean Fraser 3/9/2010 9:32 AM >>>

>>> Molly Casto 3/8/2010 10:51 AM >>>

>>> Barbara Barhydt 3/8/2010 8:17 AM >>>
Dev Review meeting on Wednesday,March 10, 2010
Planning Conference Room - 10 a.m. to noon
Please let Barbara know if you cannot attend.

March 9, 2010
Workshop: WCZ, 207 Fore Street Hotel, condominiums and restaurant; Bangor Savings Bank, Site Plan Standards - Site Design

March 23, 2010
Workshop: Site Plan Procedures
Public Hearing: Maine Yacht Marina Storage/Parking Area, Presumpscot Street Subdivision, Parking in Lieu Fees

A. Preliminary Reviews (Please share preliminary comments on new or revised plans distributed week before)
1. 503-535 Presumpscot Street. mc
2. Vances Tow Lot 355 Warren.....jf
3. Waterville condos amendments.....jf
4. 207-209 Fore Street (Jordan's Meats site)...Planning Board recap, what info do we need prior to Public

Hearing?

B. Final Written Reviews - Major Site Plans (Planning Board Review)
1.
2.
3.

C. Final Written Review - Minor Site Plans (Administrative Review)
1. 38 Morse Street.....jf
2.
3.

D. Pressing Issues, Questions, Exemptions, and Curb Cuts
1. Bay St.....dm-p
2. One Canal Plaza - parking configuration.....bb
3. Hick Street Continues.....dm-p
4. Liberty Way - grading, drainage.....pd
5. 53 Brackett Str - curb cut/driveway.....pd
6. Prolerized - grading/drainage.....pd
7. 235 St. John Street....sw
8. Follow up re Bangor Bank PB Workshop.....jf

Distribution of New or Revised Plans
1. 231 York St (new restaurant) revised plans.....jf
2. 501 Danforth.....bb

Sec. 14-348. Reserved.
Sec. 14-349. Reserved.
Sec. 14-350. Reserved.

DIVISION 21. OFF-STREET LOADING

Sec. 14-351. Minimum loading bays or loading berth.

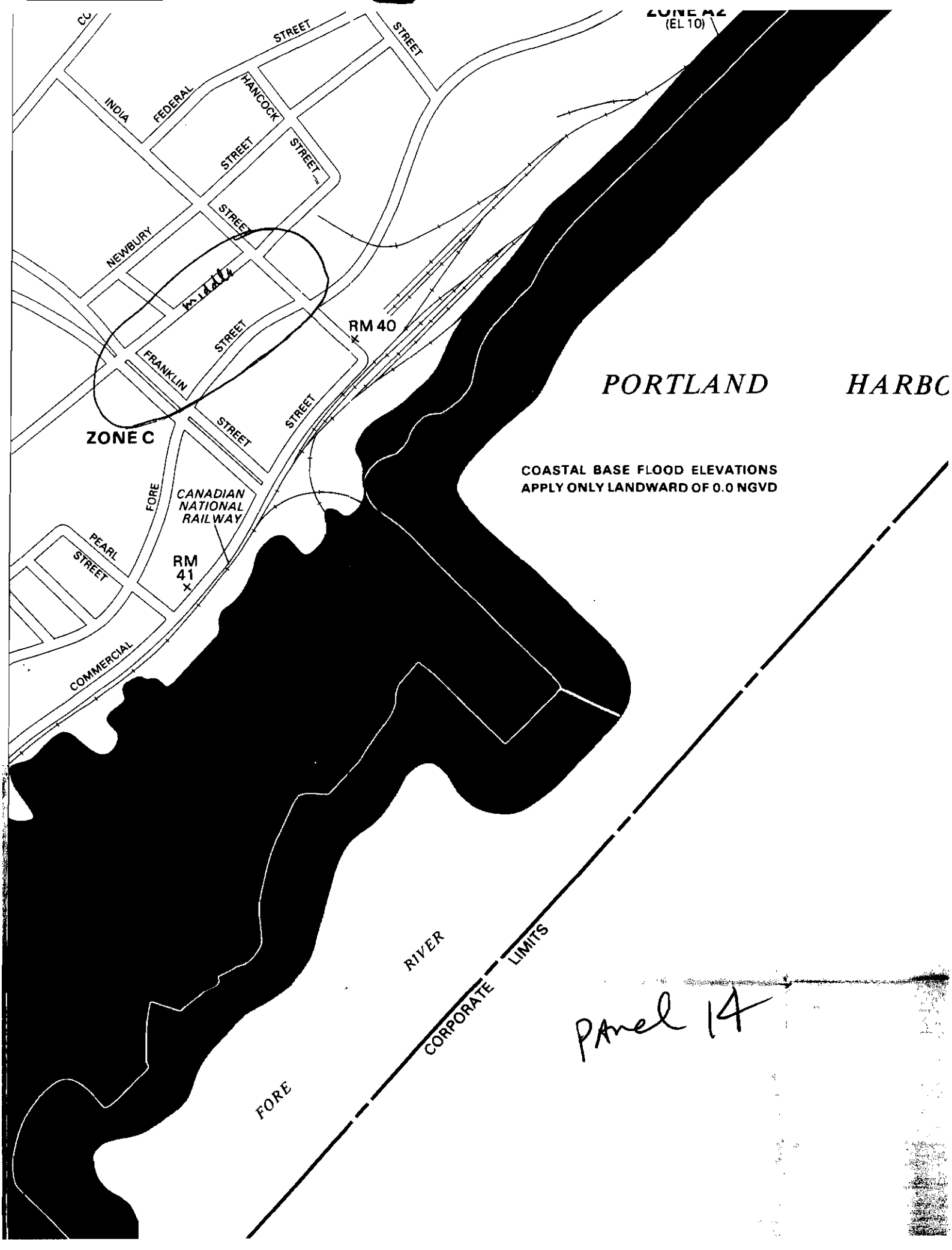
In those zones where off-street loading is required, the following minimum off-street loading bays or loading berths shall be provided and maintained in the case of new construction, alterations and change of use:

(a) Office buildings and hotels with a gross floor area of more than one hundred thousand (100,000) square feet: One (1) bay.

(b) Retail, wholesale and industrial operations with a gross floor area of more than five thousand (5,000) square feet:

1. 5,000 to 40,000: 1 bay;
2. 40,001 to 100,000: 2 bays;
3. 100,001 to 160,000: 3 bays;
4. 160,001 to 240,000: 4 bays;
5. 240,001 to 320,000: 5 bays;
6. 320,001 to 400,000: 6 bays;
7. Each 90,000 over 460,000 square feet: 1 additional bay.

(c) Hospitals and nursing and convalescent homes: Two (2) off-street loading areas shall be provided whereby one (1) service area for ambulance and other emergency vehicles shall be separate from one (1) service area accommodating supply vehicles, and whereby both off-street loading areas shall be separate from parking and entrance locations.


ZONE A2
(EL 10)
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RM 40
FRANKLIN
STREET
PORTLAND
HARBC
ZONE C
STREET
STREET
COASTAL BASE FLOOD ELEVATIONS
APPLY ONLY LANDWARD OF 0.0 NGVD
FORE
CANADIAN
NATIONAL
RAILWAY
PEARL
STREET
RM
41
COMMERCIAL
RIVER
CORPORATE LIMITS
FORE
Panel 14

Development Review Application
PORTLAND, MAINE
Department of Planning and Urban Development,
Planning Division and Planning Board

PROJECT NAME: Hotel, Restaurant, & Residences - Old Port

PROPOSED DEVELOPMENT ADDRESS:

207 & 209 Fore Street (Formerly 38 India Street)

PROJECT DESCRIPTION:

Demolition of the Jordan Meats Packing Factory. Construction of a new hotel, restaurant, and residences complex.

CHART/BLOCK/LOT: 029 D003001 & 029 D001001

CONTACT INFORMATION:

APPLICANT

Name: Old Port Hospitality, LLC
Address: 11 Corporate Drive
Belmont, NH
Zip Code: 03303
Work #: 603-527-9090
Cell #: none
Fax #: 603-527-9191
Home: none
E-mail: gregk@opechee.com

PROPERTY OWNER

Name: Same as Applicant
Address:
Zip Code:
Work #:
Cell #:
Fax #:
Home:
E-mail:

BILLING ADDRESS

Name: Same as Applicant
Address:
Zip:
Work #:
Cell #:
Fax #:
Home:
E-mail:

RECEIVED
FEB 16 2010
City of Portland
Planning Division

FEB 17 2010

~As applicable, please include additional contact information on the next page~

AGENT/REPRESENTATIVE

Name:	Opechee Construction Corporation Attn: Mark Woglom
Address:	11 Corporate Drive
	Belmont, NH
Zip Code:	03220
Work #:	603-527-9090
Cell #:	none
Fax #:	603-527-9191
Home:	none
E-mail:	stevel@opechee.com

ENGINEER

Name:	Sebago Technics, Inc. Attn: Dan Riley, P.E.
Address:	One Chabot Street, PO Box 1339
	Westbrook, ME
Zip Code:	04098-1339
Work #:	207-856-0277
Cell #:	none
Fax #:	207-856-2206
Home:	none
E-mail:	driley@sebagotechnics.com

ARCHITECT

Name:	Opechee Construction Corporation Attn: Don Blajda, R.A.
Address:	11 Corporate Drive
	Belmont, NH
Zip Code:	03220
Work #:	603-527-9090
Cell #:	none
Fax #:	603-527-9191
Home:	none
E-mail:	donb@opechee.com

CONSULTANT

Name:	Opechee Construction Corporation Attn: Steve Long, P.E.
Address:	11 Corporate Drive
	Belmont, NH
Zip Code:	03220
Work #:	603-527-9090
Cell #:	none
Fax #:	603-527-9191
Home:	none
E-mail:	stevel@opechee.com

SURVEYOR

Name:	Sebago Technics, Inc. Attn: Matthew Ek, PLS
Address:	One Chabot Street, PO Box 1339
	Westbrook, ME
Zip Code:	04098-1339
Work #:	207-856-0277
Cell #:	none
Fax #:	207-856-2206
Home:	none
E-mail:	driley@sebagotechnics.com

ATTORNEY

Name:	Greg R. Kirsch, esq.
Address:	11 Corporate Drive
	Belmont, NH
Zip Code:	03220
Work #:	603-527-9090
Cell #:	none
Fax #:	603-527-9191
Home:	none
E-mail:	gregk@opechee.com

PROJECT DATA

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

Total Site Area	76,290	sq. ft.
Proposed Total Disturbed Area of the Site (includes right-of-way)	approx. 100,000	sq. ft.

(If the proposed disturbance is greater than one acre, then the applicant shall apply for a Maine Construction General Permit (MCGP) with DEP and a Stormwater Management Permit, Chapter 500, with the City of Portland)

IMPERVIOUS SURFACE AREA

Proposed Total Paved Area (total impervious area minus the building roof area)	32,060	sq. ft.
Existing Total Impervious Area	70,580	sq. ft.
Proposed Total Impervious Area	49,420	sq. ft.
Proposed Impervious Net Change	(-) 21,160	sq. ft.

BUILDING AREA

Existing Building Footprint	42,990	sq. ft.
Proposed Building Footprint	14,780	sq. ft.
Proposed Building Footprint Net change	(-) 28,210	sq. ft.
Existing Total Building Floor Area (according to tax card)	67,654	sq. ft.
Proposed Total Building Floor Area	96,953	sq. ft.
Proposed Building Floor Area Net Change	(+) 6,855	sq. ft.
New Building	yes	(yes or no)

ZONING

Existing	B3
Proposed, if applicable	n/a

LAND USE

Existing	industrial / vacant
Proposed	hotel, restaurant, and residences

RESIDENTIAL, IF APPLICABLE

Proposed Number of Affordable Housing Units	none
Proposed Number of Residential Units to be Demolished	none
Existing Number of Residential Units	none
Proposed Number of Residential Units	12
Subdivision, Proposed Number of Lots	no residential lots

– yes subdivision

PARKING SPACES

Existing Number of Parking Spaces	incalculable (random)
Proposed Number of Parking Spaces	93 Private & 19 Public
Number of Handicapped Parking Spaces	2
Proposed Total Parking Spaces	112

BICYCLE PARKING SPACES

Existing Number of Bicycle Parking Spaces	none
Proposed Number of Bicycle Parking Spaces	11 racks = 22 spaces
Total Bicycle Parking Spaces	22 spaces

ESTIMATED COST OF PROJECT

15 Million

Please answer the following with a Yes/No response on all that apply to the proposed development

Institutional	no	Change of Use	yes	
Parking Lot	yes	Design Review	yes	
Manufacturing	no	Flood Plain Review	no	
Office	no	Historic Preservation	no	
Residential	yes	Housing Replacement	no	
Retail/Business	no	14-403 Street Review	no	
Warehouse	no	Shoreland	no	
Single Family Dwelling	no	Site Location	no	
2 Family Dwelling	no	Stormwater Quality	yes	
Multi-Family Dwelling	no	Traffic Movement	yes	
B-3 Ped Activity Review	no	Zoning Variance	no	(or date)
Change of Use	yes	Historic Dist./Landmark	no	
		Off Site Parking	no	

APPLICATION FEE:

Check all reviews that apply. Payment may be made in cash or check to the City of Portland.

Major Development (more than 10,000 sq. ft.) ___ Under 50,000 sq. ft. ($500.00) _X_ 50,000 - 100,000 sq. ft. ($1,000.00) ___ Parking Lots over 100 spaces ($1,000.00) ___ 100,000 - 200,000 sq. ft. ($2,000.00) ___ 200,000 - 300,000 sq. ft. ($3,000.00) ___ Over 300,000 sq. ft. ($5,000.00) ___ After-the-fact Review ($1,000.00 plus applicable application fee)	**Plan Amendments** ___ Planning Staff Review ($250.00) ___ Planning Board Review ($500.00) **Subdivision** _X_ Subdivision ($500.00) + amount of lots_14_ ($25.00 per lot) $_850.00_ + (applicable Major site plan fee)
Minor Site Plan Review ___ Less than 10,000 sq. ft. ($400.00) ___ After-the-fact Review ($1,000.00 plus applicable application fee)	**Other Reviews** ___ Site Location of Development ($3,000.00) (except for residential projects which shall be $200.00 per lot_____) _X_ Traffic Movement ($1,000.00) _X_ Storm water Quality ($250.00) ___ Section 14-403 Review ($400.00 + $25.00 per lot) _X_ Other_Conditional Use Permit_

DEVELOPMENT REVIEW APPLICATION SUBMISSION

Submissions shall include seven (7) packets with folded plans containing the following materials:

1. Seven (7) full size site plans that must be folded.
2. Application form that is completed and signed.
3. Cover letter stating the nature of the project.
4. All Written Submittals (Sec. 14-525 2. (c), including evidence of right, title and interest.
5. A stamped standard boundary survey prepared by a registered land surveyor at a scale not less than one inch to 100 feet.
6. Plans and maps based upon the boundary survey and containing the information found in the attached sample plan checklist.
7. Copy of the checklist completed for the proposal listing the material contained in the submitted application.
8. One (1) set of plans reduced to 11 x 17.

Refer to the application checklist (page 9) for a detailed list of submittal requirements.

Portland's development review process and requirements are outlined in the Land Use Code (Chapter 14), which includes the Subdivision Ordinance (Section 14-491) and the Site Plan Ordinance (Section 14-521). Portland's Land Use Code is on the City's web site: www.portlandmaine.gov Copies of the ordinances may be purchased through the Planning Division.

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

This application is for site review only; a Performance Guarantee, Inspection Fee, Building Permit Application and associated fees will be required prior to construction.

Signature of Applicant:	**Date:**
OLD PORT HOSPITALITY, LLC, MEMBER	FEB. 15, 2010

Site Plan Checklist

Portland, Maine

Department of Planning and Urban Development, Planning Division and Planning Board

Hotel, Restaurant, & Residences - Old Port

Project Name, Address of Project | **Application Number**

(The form is to be completed by the Applicant or Designated Representative)

Check Submitted: Applicant	Staff	Required Information	Section 14-525 (b,c)
X		Standard boundary survey (stamped by a registered surveyor, at a scale of not less than 1 inch to 100 feet and including:	1
X		Name and address of applicant and name of proposed development	a
X		* Scale and north points	b
X		* Boundaries of the site	c
X		* Total land area of site	d
X		* Topography - existing and proposed (2 feet intervals or less)	e
X		Plans based on the boundary survey including:	2
X		* Existing soil conditions	a
n/a		* Location of water courses, wetlands, marshes, rock outcroppings and wooded areas	b
X		* Location, ground floor area and grade elevations of building and other structures existing and proposed, elevation drawings of exterior facades, and materials to be used	c
X		* Approx location of buildings or other structures on parcels abutting the site and a zoning summary of applicable dimensional standards (example page 11 of packet)	d
X		* Location of on-site waste receptacles	e
X		* Public utilities	
X		* Water and sewer mains	e
X		* Culverts, drains, existing and proposed, showing size and directions of flows	e
X		* Location and dimensions, and ownership of easements, public or private rights-of-way, both existing and proposed	f
X		* Location and dimensions of on-site pedestrian and vehicular access ways	g
X		* Parking areas	
X		* Loading facilities	g
X		* Design of ingress and egress of vehicles to and from the site onto public streets	g
X		* Curb and sidewalks	g
X		Landscape plan showing:	h
X		* Location of existing vegetation and proposed vegetation	h
X		* Type of vegetation	h
X		* Quantity of plantings	h
X		* Size of proposed landscaping	h
n/a		* Existing areas to be preserved	h
n/a		* Preservation measures to be employed	h
X		* Details of planting and preservation specifications	h
X		* Location and dimensions of all fencing and screening	i
X		Location and intensity of outdoor lighting system	j
X		Location of fire hydrants, existing and proposed (refer to Fire Department checklist – page 11)	k
		Written statements to include:	c
X		* Description of proposed uses to be located on site	c1
X		* Quantity and type of residential, if any	c1
X		* Total land area of the site	c2
X		* Total floor area, total disturbed area and ground coverage of each proposed Building and structure	c2
X		* General summary of existing and proposed easements or other burdens	c3
X		* Type, quantity and method of handling solid waste disposal	c4
X		* Applicant's evaluation or evidence of availability of off-site public facilities, including sewer, water and streets (refer to the wastewater capacity application – page 12)	c5
X		* Description of existing surface drainage and a proposed stormwater management plan or description of measures to control surface runoff.	c6

X		* An estimate of the time period required for completion of the development	7
X		* A list of all state and federal regulatory approvals to which the development may be subject to. the status of any pending applications, anticipated timeframe for obtaining such permits, or letters of non-jurisdiction.	8
X		* Evidence of financial and technical capability to undertake and complete the development including a letter from a responsible financial institution stating that it has reviewed the planned development and would seriously consider financing it when approved.	
X		* Evidence of applicant's right title or interest, including deeds, leases, purchase options or other documentation.	
X		* A description of any unusual natural areas, wildlife and fisheries habitats, or archaeological sites located on or near the site.	
X		A jpeg or pdf of the proposed site plan, if available.	
Pending approval		Final sets of the approved plans shall be submitted digitally to the Planning Division, on a CD or DVD, in AutoCAD format (*,dwg), release AutoCAD 2005 or greater.	

Note: Depending on the size and scope of the proposed development, the Planning Board or Planning Authority may request additional information, including (but not limited to):

- drainage patterns and facilities
- erosion and sedimentation controls to be used during construction
- a parking and/or traffic study
- emissions
- a wind impact analysis
- an environmental impact study
- a sun shadow study
- a study of particulates and any other noxious
- a noise study

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

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

Date: February 8th, 2010

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

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

Site Address: 207 & 209 Fore Street (Changed from 38 India Street)

(Regarding addressing, please contact Leslie Kaynor, either at 756-8346, or at l.MK@portlandmaine.gov)

Chart Block Lot Number: 029 I003001 & 029 I001001

Proposed Use: Hotel, Restaurant, & Residences

Previous Use: Meat Packing Factory

Existing Sanitary Flows: Year 2004 148,640 GPD

Existing Process Flows: Incalculable GPD

Description and location of City sewer, at proposed building sewer lateral connection:

The City's sewer main will pass through the site from Middle Street to down gradient to Fore Street. Sewer lateral connections to the sewer main will be on-site. Please see the Utility plan.

Clearly, indicate the proposed connection, on the submitted plans.

Site Category

Commercial	X
Industrial *(complete part 4 below)*	
Governmental	
Residential	X
Other *(specify)*	

2. Please, Submit Domestic Wastewater Design Flow Calculations.

Estimated Domestic Wastewater Flow Generated: 26,945 GPD

Peaking Factor/ Peak Times: The Hotel contributes 79% of total flow and will peak between 6am to 8am.

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

Proposed flows are from "Subsurface Wastewater Disposal Rules" & Existing flows are from the Portland Water District records

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

3. Please, Submit Contact Information.

Owner/Developer Name: Old Port Hospitality, LLC

Owner/Developer Address: 11 Corporate Drive, Belmont, NH

Phone: 603-527-9090 Fax: 603-527-9191 E-mail: gregk@opechee.com

Engineering Consultant Name: Opechee Construction Corporation Attn: Steve Long, P.E.

Engineering Consultant Address: 11 Corporate Drive, Belmont, NH

Phone: 603-527-9090 Fax: 603-527-9191 E-mail: stevel@opechee.com

City Planner's Name: Phone:

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

FEB 17 2010

4. Please, Submit Industrial Process Wastewater Flow Calculations

Estimated Industrial Process Wastewater Flows Generated: Not Applicable GPD

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

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

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

Peaking Factor/Peak Process Times:

Note: On the submitted plans, please show the locations, where the building's sanitary, and process water sewer laterals, exit the facility, where they enter the city's sewer, the location of any control manholes, wet wells, or other access points, and the locations of any filters, strainers, or grease traps.

Notes, Comments, or Calculations:

Restaurant
158 seats (x) 20 gpd = 3,160 gpd
22 bar stools (x) 10 gpd = 220 gpd
20 employees (x) 15 gpd = 300 gpd
Total = 3,680 gpd

Hotel
34 single beds (x) 100 gpd = 3,400 gpd
36 single beds w/ pullout sofa (x) 200 gpd = 7,200 gpd
52 double beds (x) 200 gpd = 10,400 gpd
15 Employees (x) 15 gpd = 225 gpd
Total = 21,225 gpd

Residences
10 two bedrooms (x) 180 gpd = 1,800 gpd
2 one bedroom (x) 120 gpd = 240 gpd
Total = 2,040 gpd

Restaurant = 3,680 gpd (13%)
Hotel = 21,225 gpd (79%)
Residences = 2,040 gpd (8%)

Proposed Total Design Flow = 26,945 gpd

Jordan's Meat Packing Factory Existing Flows
Portland Water District claims that the last year the factory was operating at full capacity was 2004
Water usage from Dec 30th, 2003 to Dec. 23, 2004 was 7,194,000 cubic feet. Two sub-meters read
61,000 cubic feet was not discharged to the sewer.

7,194,000 - 61,000 = 7,133,000 cubic feet / 359 days = 19,869 cubic feet per day (x) 7.481 gallons per cubic foot

Existing Average daily demand = 148,640 gpd

OPECHEE
CONSTRUCTION CORPORATION

February 16, 2010

Mr. William Needelman, Senior Planner
Planning Division
389 Congress Street, 4th floor
Portland, ME 04101

Re: Development Review Application for
Hotel, Restaurant, & Residences – Old Port
207 & 209 Fore Street (formerly 38 India Street)

FEB 17 2010

Dear Bill,

On behalf of Old Port Hospitality, LLC we are pleased to submit the attached materials in support of the Development Review Application for a new hotel, restaurant, and residences facility to be constructed at 207 & 209 Fore Street.

The Hotel, Restaurant & Residences – Old Port project is a three-unit mixed use condominium. The Hotel Unit will be a 122-room Hampton Inn with associated public circulation space, a continental breakfast area (for guests only), a meeting room, pool, fitness room, and customary "back office" support spaces. The Restaurant Unit will be an approximately 180-seat, 7,011 square foot restaurant located on the first floor located in the southwest corner of the building or the intersection of Fore Street and the Franklin Street Arterial. The Residences Unit will itself be a "sub-condominium" comprised of up to12 condominium units to be located on the top (sixth) floor with its own separate lobby and elevator. The 1.75-acre site will be subdivided into two parcels: the 0.66- acre lot on which the condominium will be created and a 1.09-acre remainder lot that will be retained by the applicant for future development. The hotel and residences will have deeded parking easement rights to a dedicated surface parking lot on the remainder parcel, which will have 90 parking spaces comprised of regular single-car spaces and "tandem" two-car spaces for hotel valet parking. The applicant anticipates constructing structured parking on the remainder lot in conjunction with future development, and the parking easements for the hotel and residences will allow the applicant to temporarily provide off-site parking during construction and to ultimately provide structured parking spaces in lieu of the surface parking lot.

The proposal will complement scale and land uses of the surrounding neighborhood. Pedestrian access around the subject block will be enhanced with the addition of sidewalk along the entire perimeter. The proposed uses are allowed within the B-3 Downtown Business Zone. The surface parking will require a Conditional Use Permit.

The following is an itemized list of today's submittal for review:

- This cover letter
- (7) Development Review Application

11 CORPORATE DRIVE, BELMONT, NH 03220
PHONE (603) 527-9090 FAX (603) 527-9191

- (7) Wastewater Capacity Application
- (7) Project Narrative containing required written submittals
- (7) Traffic Analysis
- (3) Stormwater Management Plan
- (7) Alta Survey Plans – 2 full size sheets
- (7) Exterior Building Elevations – 2 full size sheets
- (7) Subdivision Plan – 1 full size sheet
- (7) Photometrics Plan – 1 full size sheet
- (7) Site Plan set by Sebago Technics – 10 full size sheets
- (1) Fire Department Submittal – 3 full size sheets

The applicant and design team looks forward working in close cooperation with the planning division to develop, permit, and ultimately construct this viable project.

Sincerely,

Opechee Construction Corporation

Barry Stowe

PORTLAND MAINE

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Penny St. Louis Littell, Director of Planning and Development
Marge Schmuckal, Zoning Administrator

previous Westin Hotel

Meeting Information

DATE: 1/27/10 ZONE: NOW B-3 Franklin Art/Fore

LOCATION: old Jordan Meats Bldg - India St

PEOPLE PRESENT: Mark Woglom - Bill N - Alex - Barbara - Greg M - Penny Marge - Sebago Tech - Dan - Greg L
Chris
OLD Port Hospitality 1.75 Acres

DISCUSSION:
Mark Explained The Project LLC — 6 stories - rest. on Corner of Franklin & Fore - 7,000# 1st floor
broadbrush 12 res. Condos on top floor - open 2011? catalyst to hurry
122 RM Hotel (chain)
Dev. in 2 phases
80-90 Corps
PED easements behind
propose drainage & sewer Sep Thru their Porte Cochere - give easement -
parking AT 2 Diff levels serve both levels - phase 2
Guarantee? for the rest of the bldg - NOT really
option - 35' setback & do parking AS Their 1st parking / office Above The Parking
300 CARS in total on site
same Engineers from The Westin
Should be meeting The 65' MAX height AT That AreA
encouraged Re Then for open greened SPACE or The 35' green SPACE
could ASK for A WAIVER from Pkg SPACE length 19' to 18' (No reduction of The 35' green)

Bill: A break in Bldgs → possible? - A: NOT really
Barbara described Subdivision Standards - Lights - street trees / phased improvement

Room 315 – 389 Congress Street – Portland, Maine 04101 (207) 874-8695 – FAX:(207) 874-8716 – TTY:(207) 874-3936

Brick Sidewalk area - will be Submitting Feb 16

From: Greg Mitchell
To: Barhydt, Barbara; Jaegerman , Alex; Needelman, William; Schmuckal, Marge; Woglom, Mark
Date: 1/25/2010 9:31 AM
Subject: RE: Meet Re: Jordan's Site Tuesday 1:00

To All:

Confirming my availability for this meeting. Please confirm the meeting location.

Thanks, Greg

Greg A. Mitchell, Director
Economic Development Division
City of Portland
389 Congress Street
Portland, Maine 04101
Tel. 207.874.8945
Fax 207.756.8217

>>> Mark Woglom <markw@opechee.com> 1/25/2010 8:28 AM >>>

Sure. Wednesday at 2PM is fine with us.

Mark Woglom
President

Opechee Construction Corporation
11 Corporate Drive
Belmont, NH 03220
P (603) 527-9090
C (603) 387-7172

markw@opechee.com

----Original Message----
From: Alex Jaegerman [mailto:AQJ@portlandmaine.gov]
Sent: Friday, January 22, 2010 4:06 PM
To: Mark Woglom; Barbara Barhydt; Marge Schmuckal; William Needelman
Cc: Greg Mitchell; Penny Littell
Subject: Meet Re: Jordan's Site Tuesday 1:00

Mark, is Wednesday at 2:00 OK w/ you? Marge?

>>> Barbara Barhydt 1/22/2010 3:19 PM >>>
I would prefer Wednesday at 2.

>>> Marge Schmuckal Friday, January 22, 2010 2:38 PM >>>
I can be available at 1:00 on Tues the 26th Marge

>>> Alex Jaegerman 1/22/2010 2:33 PM >>>
Mark Woglom of Opechee Corp. is the purchaser of the Jordan's site from PME. He would like to come in

Comments Submitted

2/17/10

City of Portland
Development Review Application
Planning Division Transmittal form

Application Number: 10-99700001 **Application Date:** 2/16/10

Project Name: DEMO OF JORDAN MEATS, NEW

Address: 78 Middle St **CBL:** 029 - L-001-001
38 India St **CBL:** 029 - L-003-001

Project Description: Fore Street - 207 & 209; Demo Of Jordan Meats, New Construction; Old Port Hospitality, LLC

Zoning: B3

Other Reviews Required:

Review Type: MAJOR SITE PLAN WITH SUBDIVISION

Old Port Hospitality LLC
11 Corporate Drive

Boscawen NH 03303
Opechee Construction Corp
Attn: Mark Woglom

FEB 17 2010

Belmont NH 03220

Distribution List:

☒ Planner	William Needelman, Aicp	☒ City Arborist	Jeff Tarling
☒ Zoning Administrator	Marge Schmuckal	☐ Design Review	Alex Jaegerman
☒ Traffic	Tom Errico	☐ Corporation Counsel	Danielle West-Chuhta
☐ Inspections	Tammy Munson	☐ Sanitary Sewer	John Emerson
☒ Fire Department	Keith Gautreau	☒ Stormwater	Dan Goyette
☐ Parking	John Peverada	☐ Historic Preservation	Deb Andrews
☒ Engineering	David Margolis-Pineo	☐ Outside Agency	
☐ DRC Coordinator	Phil DiPierro		

Preliminary Comments needed by:

Final Comments needed by:

OPECHEE
CONSTRUCTION CORPORATION

March 23, 2010

Mr. William Needelman, Senior Planner
Planning Division
389 Congress Street, 4th floor
Portland, ME 04101

Re: Response Letter for the March 9th Planning Board Workshop
Project: Hotel, Restaurant, & Portside Residences
Address: 207 & 209 Fore Street (formerly 38 India Street)
Applicant: Old Port Hospitality, LLC

Dear Bill,

Please find below Old Port Hospitality, LLC responses to the review comments received to date for the above mentioned project. The responses are brought to attention with bold italic text.

► Bill Needelman, Senior Planner, City of Portland:

1. Right Title Interest: From your deed, "Terms and provisions" of the MDEP Protection Orders, Book 19244, Page 271. We need copy.
The MDEP Protection Orders were submitted to Bill Needelman via email on March 3rd.

2. 33' driveway with a 10' curb radius.
The applicant will withdraw the waiver request for the driveway width. The driveway has been revised to provide a 24 foot width with 10' curb radii. Also, the line striping will be revised to delineate 20' turning radii.

3. Parking management plan.
A parking management plan has been submitted to planning and review comments are pending.

4. Building lighting.
The lighting designs for the building façade illumination are forth coming.

MAR 2 4 2010

5. Provide the Planning Department with materials sample board.
Material samples were provided to the Planning Department on March 4th.

► Woodward & Curran:

1. As currently shown, the lawn areas surrounding the parking lot are sloped towards the parking lot. We ask that the applicant consider sloping the parking lot toward the grassed area, resulting in some treatment of the stormwater runoff from the pavement.
The revised grading and utility plan eliminates the sidewalk adjacent to the valet parking spaces and runoff will now drain into a swale with tree box filters.

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2. The stormwater report references the decision to use 3' sumps for stormwater quality treatment in the parking lots. The catch basin detail should be modified to say that 3' sumps are required for all catch basins, not just those in the City right-of-way as the detail currently states.
The catch basin details have been revised as requested.

3. The project will be separating and rerouting the combined sewer that currently crosses the site. The plans currently do not show how the existing combined sewer will be demolished or abandoned. The existing pipe is shown ending at the sidewalk on the utility plan. More detail should be provided as to how the existing combined sewer will be abandoned.
A Site and Utility Demolition plan has been added to the plan set. The plan notes now indicate that the contractor is required to secure Pipe Sealing permits from Public Services Department and shall plug, remove or abandon storm drains and sanitary sewers in accordance with City standards. All abandoned manholes will be removed. The 30" sewer will be removed within the site limits. We have met with public services staff to confirm pipe sealing and abandonment requirements within the right of way. Staff has indicated that they may prefer that some pipes be abandoned in place to minimize excavation in Franklin Arterial.

►T.Y. Lin International:

1. The driveway is proposed to be 33 feet wide. Based upon anticipated traffic volumes I find this width to be excessive. Additionally, the radii seem large. One possibility would be to provide a 24-foot driveway in the public right-of-way and then widen to 33 feet on-site to accommodate valet parking needs. In any event the applicant should provide an auto-turn analysis that supports the design (I would note that we normally don't overdesign for infrequent large vehicle turning movements).
The applicant is withdrawing the waiver request for the driveway width. The driveway has been revised to provide a 24 foot width with 10' curb radii. Also, the line striping has been revised to delineate 20' turning radii.

2. The proposed crosswalks at the Franklin Street/Fore Street and India Street/Fore Street intersections should be two parallel lines.
The crosswalk striping has been revised as requested.

3. The applicant should assess the design of the sidewalk ramp at the northwest corner of the India Street/Fore Street intersection such that separate ramps are provided for crossing India Street north of the intersection and Fore Street west of the intersection.
It was discussed at the Traffic Permit Scoping Meeting on March 3rd that we will review and revise the ramp configuration to the extent possible. Due to the unusual geometry of this intersection, and the location of the existing ramps on the east side of India Street and south side of Fore Street creating completely separate ramps that cross perpendicular to the curb lines are not feasible. A revised ramp, with separated detectable warning strips has been provided.

4. A waiver from the City's Technical Standard will be required for the size of the parking spaces (9'x18' spaces are proposed). I support this waiver.
The applicant is still seeking relief from the City's Technical Standards with this matter.

5. A waiver from the City's Technical Standard for provision of compact parking is required. I support this waiver.
The applicant is still seeking relief from the City's Technical Standards with this matter.

6. The applicant will be required to prepare a preliminary Maintenance of Traffic plan that addresses any anticipated closures of either public streets or sidewalks.
Traffic control plans are included in this revised submittal.

7. The provision of a crosswalk on Middle Street at Hampshire Street is to be reviewed by the City's Crosswalk Committee on March 4th. Comments will be provided soon after.
Comments were received and revisions were made as requested.

8. The applicant should provide a summary on how truck deliveries will take place, including types of vehicles, locations where loadings will occur, and whether the 12-foot clearance allows for large vehicle movements entering and exiting the site.
The hotel valet area has been revised to provide a 14'-foot clearance in the driveway aisle. An Autoturn Analysis Plan has been submitted to illustrate intended delivery movements and where the loading will occur. It is anticipated that the delivery schedule will be as follows:

Hotel:	***Continental Breakfast –***	***1 to 2 deliveries per week (SU Box Truck)***
	Hotel Supplies –	***1 to 2 deliveries per month (WB-40 Truck)***
	Vending –	***1 delivery per week (van)***
Restaurant:	***Monday –***	***4 deliveries (1 van & 3 rest SU or WB-40 trucks)***
	Tues thru Sat –	***1 to 3 deliveries (1 van & rest SU or WB-40 trucks)***
	Sunday -	***No deliveries***

9. I will provide an opinion of parking supply adequacy upon receipt and review of the parking analysis to be provided by the applicant.
A parking management plan has been submitted.

10. I would note that the City supports the plan for on-street parking on Fore Street. We currently are assessing appropriate parking regulations (e.g. time limit or meters) and will provide a recommendation in the future. I would ask the applicant provide an opinion of what is preferred for parking on Fore Street. Lastly, I would note that parking regulation changes will likely require City Council action and the applicant will be required to provide the necessary information in support of the Council review (with support from City staff).
The applicant's will install the City's recommended choice.

►David Margolis-Pineo, Deputy City Engineer, City of Portland:

1. None of the streets around the Jordan Meat site are under a moratorium.
No response necessary.

2. Any proposed sewer laterals to be abandoned from this site must follow City requirements for permitting and sealing. Any manholes associated located on laterals to be abandoned shall be removed and all associated pipes sealed.
A Site and Utility Demolition plan will be added to the plan set. The plan notes will indicate that the contractor is required to secure Pipe Sealing permits from Public Services Department and shall plug, remove or abandon storm drains and sanitary sewers in accordance with City standards. The notes on the demolition plan are based on the City's latest draft Technical standard. All abandoned manholes will be removed. The 30" sewer will be removed within the site limits. We will meet with public services staff to confirm pipe sealing and abandonment requirements within the right of way. Staff has indicated that they may prefer that some pipes be abandoned in place to minimize excavation in Franklin Arterial.

3. There is no mention made as to how the existing 30" sewer which passes through the lot to Franklin Street will be abandoned. This issue will need to be coordinated with John Emerson (874-8468) of this department.
A Site and Utility Demolition plan will be added to the plan set. The plan notes indicate that the contractor is required to secure Pipe Sealing permits from Public Services Department. The 30' combined sewer will be removed within the site limits. The drain will be sealed at the manhole in Franklin arterial, backfilled with concrete and abandoned in place to be in accordance with City standards.

4. Since the City has no interest to enter the proposed 30' sanitary and stormwater easement area for any future system maintenance, and due to the proposed 12' over head canopy clearance, it is requested that the applicant use ductile iron pipe from the manholes in Middle St to the manholes in Fore St for both sewer lines.
We have discussed this Public Services And have agreed that all new sanitary and storm drains will be SDR-35 PVC sewer pipe.
As we discussed with the Planning and Public Services Staff, the plans have been revised to alter one segment of the proposed 30" storm drain in Fore Street. Due to utility conflicts, storm drain SD-6 has been changed from a single 30" pipe to (2) parallel 24" pipes. Supporting calculations for this revision are included in the Stormwater Management Plan Addendum attached to this letter.

5. All catch basins shall have three foot sumps, not just the catch basins within the city street right of ways.
The catch basin details have been revised as requested.

6. All manholes with external drop connections shall meet TR-16 design and city detail standards.
We have revised the drop manhole detail as requested. Based on our discussion with Mr. Emerson, drops of more than 2' within a sewer manhole require a drop structure. There is a single existing 8" sewer connection at SMH-1 that will require a drop.

7. Applicant may use Type "B" gravels in lieu of Type "A" gravels.
The materials have been revised as recommended.

8. We will continue to review plan details for city standards.
No response necessary.

9. The Following are comments relating to the site survey. Any questions should be directed to Bill Clark of this department, 874-8847

The incorrect vertical datum of NAVD88 was used, and the City of Portland Datum was not used. This is significant introducing and vertical difference of 0.7 feet, and can lead to serious problems.
The NAVD 88 datum for this site was established as part of an ALTA survey completed in 2005 and was maintained throughout the design and permitting of the previously approved projects on this site. As part of the original survey Sebago Technics performed a level loop to a U.S. Geodetic survey monument for which the City has an established elevation. Note 6 on the ALTA survey and existing conditions plans documents the datum elevations as follows:

THE BEARINGS, COORDINATES, AND ELEVATIONS SHOWN HEREON ARE BASED UPON THE MAINE STATE PLANE COORDINATE GRID, WEST ZONE 1802 ON NAD83 AND NAVD 88. THE CITY DATUM WAS VERIFIED UTILIZING U.S. COAST AND GEODETIC SURVEY BENCHMARK, BEING A DRILL HOLE LOCATED IN THE GRANITE STEPS OF THE CUSTOM HOUSE ON COMMERCIAL STREET. THE CITY ELEVATION IS 14.072', THE NGVD 29 ELEVATION IS 14.042', AND NAVD88 IS 13.30'

As we discussed with planning staff, as significant number of design and legal documents have been prepared based on the survey work completed to date. We have addressed the concern regarding the datum by adding notes the each plan where elevation are referenced that will clearly indicates that design plans are based on the NAVD 88 datum and provides a formula to convert from NAVD88 to the City Datum.. In addition, any as-built plans for public infrastructure will note the NAVD88 and City datum elevations.

B. The GRID bearing of India Street between Middle St and Fore St is 00 degrees 11' 37" different from the bearing used by the City of Portland for Ocean Gateway, and as used by Owen Haskell Inc for the Ocean Gateway Subdivision and Ocean Gateway Garage projects. This amounts to a horizontal difference of approximately 0.62 feet in the 182.01 feet along the southwesterly line of India Street; this may not amount to much for a parking lot, but may be of consequence for a building in the future. Retracing the street lines on the Peninsula can be difficult, and it did take a good deal of effort to retrace the line of India Street from Commercial Street to Congress Street. I would be more than willing to provide a copy of our survey.
We have received a copy of the City survey completed in 2008. In it's determination of the easterly right of India Street Right of Way the City survey created an angle point on the easterly side of India Street that is not reflected in any of the street acceptance documents for India Street or the deed references for our project site. The City plan includes a note stating:

"DURING THE COURSE OF THIS SURVEY IS WAS DISCOVERED THAT AN ANGLE EXISTS IN THE LINE OF INDIA STREET. THE ACCEPTANCE OF INDIA STREET DOES NOT CALL FOR AN ANGLE POINT. HOWEVER, OVER THE YEARS BETWEEN APPROXIMATELY 1850 TO 2005, AN ANGLE POINT HAS DEVELOPED. THIS MAY BE DUE TO THE PAST PRACTICE OF SURVEYING "BLOCK TO BLOCK" AND HOLDING CITY OF PORTLAND GRANITE SURVEY MONUMENTS THAT WERE SET TO DEFINE THE STREET LINES"

It is the introduction of this angle point that is causing the difference in bearings between the two plans. The City's plan has not yet been recorded and was therefore not identified in our recent survey research. It appears that the introduced angle point and bearing will move the India Street Right of Way northeasterly, away from the project site, potentially increasing the size of the parcel by approximately 76 square feet.

We are reviewing the implications of this potential change on previously recorded documents and the subdivision plans. We will discuss this further with Mr. Clark and the city to determine if the locus property boundary along India Street property line should be adjusted.

In the interim, we added the City Survey as an unrecorded plan reference on our survey and subdivision plan. If appropriate we will note the differences in bearings between the two surveys.

We have added the City Survey as a plan reference on our survey and subdivision plans. It is our opinion that until the City Council takes action to re-define the India Street right of way, there are no additional revisions required.

C. The monument at the easterly corner of India Street and Middle Street is incorrectly shown. That monument is what we call an "M" monument where the back corner of the monument is the street line corner, and not the middle of the monument.

We are aware that this is an "M" monument. The back (Micucci's) corner of the monument was located as part of our survey. The discrepancy noted is simply due to the graphic symbol used on the plan and the scale of the drawing. We have added a note to our plan documenting the monument location as follows: "10"X10" GRANITE "M" MONUMENT, EASTERLY CORNER OF MONUMENT LOCATED"

D. The monument at the northerly corner of India Street and Middle Street should not be used, as it was disturbed by City crews in the 1990s.

The monument discussed was determined in our survey to be off the right of way corner by approximately 1.25 feet. Although several pieces of monumentation were located during the survey, the monument was not held. Monuments that were held to establish the locus property are noted as "held" on the plan.

E. Proposed 3 foot offset Monuments will be requested on the subdivision plan at the following locations.

Corner of India St and Middle St
Corner of Middle St and Franklin St Art
Corner of Fore St and Franklin St Art
Fore St PC 123.41' southwesterly of 3 foot offset monument near India St.

We have discussed the placement of monuments with Mr. Clark and have proposed the following:

- ***A monument is not proposed at the corner of India Street and Middle Street due to a conflict with an existing underground electrical duct bank.***
- ***A monument is not proposed at the corner of Middle Street and Franklin Arterial, This location is not part of the locus site's boundary and there is a conflict with an existing underground electrical manhole and duct bank.***
- ***A monument is not proposed at the corner of Fore Street and Franklin Street Arterial due to a conflict with an existing underground electrical manhole and ductbank.***
- ***The subdivision plan will be revised to include a 3-ft offset monument on Fore Street at the PC 123.41 southwesterly of the monument near India Street as requested.***

Rebar corner pins will be installed where the proposed 30' utility easement meets Middle Street. The intersections of the easement at Fore Street fall within the proposed brick sidewalk/driveway apron and immediately adjacent to a granite curb. As such, pins are not proposed at Fore Street.

10. Stormwater treatment is technically not required for projects such as this. However, the applicant is encouraged to consider treatment options such as tree or shrub box filters which can be relocated if future changes to the site are desired.
The revised site, grading and utility plans eliminate the sidewalk adjacent to the valet parking spaces. Runoff will now drain into a swale with tree box filters.

11. The City is reviewing and may ask the applicant to extend the sidewalk on Middle St to the property line.
This request has not been required of the applicant to date.

12. Instead of installing new granite curbing on Middle Street, for environmental reasons, no manufacturing or transporting of new curbing, we would like the applicant to consider re-installing the existing curbing. Either way it is understood that the applicant would like to keep the material of this walk bituminous to accommodate future expansion. Since the existing sidewalk is not in great condition and the curb line is being modified, we would ask that the applicant re-pave the sidewalk. And since the sidewalk material policy in this section of the city is for brick sidewalks, the applicant is requested to post a two year Performance Guarantee to cover the installation of a brick walk in the likelihood the next phase of the development does not materialize.
The plans have been revised as requested. The Site and Utility Demolition plan will indicate the limits of curbing to be removed and salvaged for re-installation. The site plan indicates that salvaged curbing is to be reinstalled.

13. The applicant is request to submit the anticipated quantity of wastewater which will be added to the city's sewer system.
A Wastewater Capacity Application has been submitted and approved.

14. This department is still reviewing lighting standards for this project, i.e. light pole spacing and power feed requirements with CMP.
No response necessary.

15. The sidewalk ramp tactile warning strips shall be as follows and colored Tan.
A tactile warning strip detail has been added.

►Marge Schmuckal, Zoning Administrator, City of Portland:

1. I believe that this project is probably meeting the maximum building height of 65 feet for this area of the City. However, I would like to confirm that supposition with more information from the applicant using the same methodology that I use with all applicants. I would like to know the grades around the outside of the proposed building so that I can average the grades. I would also like to know where the top of the structural beams will be located on the structure. The actual height of the structure can be determined from that information.
Building height calculations have been reviewed by Ms. Schmuckal.

2. I would also like to confirm where the property line is located at the rear of the proposed building where the stairs descend from the street. It was unclear to me.
The property line follows the southerly and easterly wall of the existing building to remain at the corner of Middle Street and Franklin Street Arterial. This building is the property of 80-90 Corps that hosts Hugo's Restaurant.

3. It is noted that no official loading bays are required under section 14-351. However, it may be useful to indicate how the rear dumpster area will be accessed and utilized by servicing vehicles. This area may also service deliveries, linen services and the like.
The hotel valet area has been revised to provide a 14'-foot clearance in the driveway aisle. An Autoturn Analysis Plan has been submitted to illustrate intended delivery movements and where the loading will occur. It is anticipated that the delivery schedule will be as follows:

Hotel:	***Continental Breakfast –***	***1 to 2 deliveries per week (SU Box Truck)***
	Hotel Supplies –	***1 to 2 deliveries per month (WB-40 Truck)***
	Vending –	***1 delivery per week (van)***

Restaurant:	***Monday –***	***4 deliveries (1 van & 3 rest SU or WB-40 trucks)***
	Tues thru Sat –	***1 to 3 deliveries (1 van & rest SU or WB-40 trucks)***
	Sunday -	***No deliveries.***

4. Separate permits from Inspection Services will be required for the demolition of existing structures and for signage.
Agreed.

▶ Jeff Tarling, City Arborist, City of Portland:

a) Street-trees - The project proposes to include planting various shade trees within the sidewalk / public way along Franklin Street & Fore Street. Placement of these trees should be coordinated with the on-street parking to ensure that car doors do not open into the planted tree. Also, the placement of parking meters is typically recommended to alternate with tree planting, post with 2 parking meters between car spaces, then tree well, then parking meter... Placing the tree well near the end of the spaces as proposed may work; just want to have this considered. Tree types are good as shown, tree grates & guards should be reviewed to make sure the finish, painted black or core-10 steel is preferred...
We have discussed the tree spacing with the City Arborist. The proposed tree spacing along Fore Street is coordinated with the revised parking stalls shown on the site plan. The proposed parking stall striping has been added to the landscape plan to clarify. The trees are located near the end of the parking stalls to minimize potential conflicts with car doors. The tree grates are clear of the parking stall striping to avoid conflicts with meters should they be installed.

We have revised the tree grate and tree guard details to clarify that tree guards are to be painted with one coat shop primer and two coats of low luster black enamel paint. Tree grates will be weathering (COR-TEN) steel.

b) Esplanade or sidewalk with trees on Franklin Street... "If" future on-street parking is considered for Franklin Street, then the proposed wide sidewalk with street trees with tree grates is good, if not, the use of a turf esplanade with trees should be considered. The proposed planter at the corner of Fore & Franklin should allow enough space for pedestrian travel & sidewalk snow plowing between the two sidewalk tip down ramps.
We have discussed the sidewalk/esplanade design with Staff and the Planning Board. To date, no revisions have been made.

c) Parking lot trees & landscape - Will the six street-trees w/ tree grates in the sidewalk proposed for Fore Street near the temporary parking lot be in the way of future development? An option to plant on the lawn area could be considered.
It is not anticipate that the street trees along Fore Street will be in the way of the future development.

Tree / landscape density - Recommend adding one more Birch tree to the proposed two birch tree groups spaced along Middle Street. The lawn area along India Street should have some buffering / tree planting. One suggestion would be to slightly berm or contour the lawn area, perhaps 1-2' to help buffer the parking lot and help prevent cut-through from the parking lot to the sidewalk area.
The plan has been revised to include an additional birch tree to the Middle Street plantings and additional birch trees in the lawn area adjacent to India Street. The lawn area surrounding the surface parking is proposed with a berm to help buffer the parking lot.

d) Hampshire Street access to Fore Street - The Middle Street gateway to the proposed development is well landscaped and should help with pedestrian circulation. Recommend reuse of the existing granite slabs in the old section of Hampshire Street / crosswalk in this small plaza design or on site if possible.
The plan has been revised to include salvaged granite slabs from the site into the design.

▶Planning Staff, City of Portland:

Site Plan Standards14-526 (a)(16) a.1.
General Comment: The elevation drawings are at a concept level of development and greater detail will be needed for final review prior to public hearing.
More detailed building elevations have been submitted.

It is unclear from the site plan and elevations whether the Fore and Franklin Street door to the restaurant is oriented to the corner or to Fore Street - Clarification requested.
The applicant has revised the building architecture as per the discussions with William Needelman and Alex Jagerman.

Site Plan Standards14-526 (a)(16) a.1.(a)
Comment: Provide details and specifications on the storefront design and first floor windows including the transparency index and sample of the proposed glass. Visual permeability between interior and exterior spaces at the pedestrian level is indicated by this standard. Highly tinted or reflective glass at the pedestrian level is not recommended.
The applicant has revised the building architecture as per the discussions with William Needelman and Alex Jagerman.

Site Plan Standards14-526 (a)(16) a.1.(b)
Comment: The prominence and frequency of pedestrian entrances along Fore Street is undermined by the lack of canopy and/or signage at the mid-block shared entrance (for the restaurant and hotel) and the location of the hotel lobby entrance at the porte-cochere. Consider adding a prominent pedestrian door to the Fore Street façade adjacent to the vehicle entrance. Also consider adjusting signage location from the Franklin/Fore intersection to the pedestrian entrance to the lobby.
The applicant has revised the building architecture as per the discussions with William Needelman and Alex Jagerman.

Site Plan Standards14-526 (a)(16) a.1.(c)
The building is generally well fenestrated and does not show excessive blank walls in the pedestrian areas.
No response necessary

Site Plan Standards14-526 (a)(16) a.1.(d)
The pedestrian access stairs from Middle Street are well positioned for use and are integrated with the site and building design. Consideration may be given to replacing the existing "cobra head" light fixture with a district street light pole and fixture to better integrate the stairs with the street. Design Note: The City Arborist suggests utilizing the historic granite plank and cobble from the existing alley in this area into the design.
The plans have been revised to include salvaged granite slabs from the site into the design. The applicant is still reviewing the possibility of removing the existing cobra head light to add a district street light. More information on this matter will be forthcoming.

Site Plan Standards14-526 (a)(16) a. 2.
Not Applicable
No response necessary

Site Plan Standards14-526 (a)(16) a. 3.
Applicable to Middle Street only for any later phase of development.
No response necessary

Site Plan Standards14-526 (a)(16) a.4.(a)
Cross walk design is being addressed by Public Services. There has been discussion of bumping the Middle Street curbing out to shorten the crossing distance from Hampshire Street to the proposed pedestrian stairs.
The plans have been revised to incorporate a bump out into Middle Street.

Site Plan Standards14-526 (a)(16) a.4.(b)
See City Arborist comments.

Provide planter details for drainage and irrigation that promote the viability of plantings and minimize impacts to the public sidewalk.
A planter detail has been added to the plans. The proposed development will be implementing some green practices into the design of the facility and in the interest of conserving water; irrigation will not be installed.

Site Plan Standards14-526 (a)(16) a.4.(c)
The plans show appropriate street lighting styles and spacing (see comment above regarding the pedestrian stairs.) Building mounted lighting details have not yet been provided. Private site lighting of the parking area should be provided with cut-off fixtures.
Building mounted lighting details will be forthcoming. Cut-off fixtures will be provided for the private site lights.

Applicant should anticipate the an electrical distribution system with a metering box suitable for serving all fixtures to be owned by the City
We have identified a proposed electric panel & meter location on the plans.

Site Plan Standards14-526 (a)(16) a. 4. (d)
Granite benches are proposed for Fore Street and a granite seat wall is proposed for the head of the Middle Street stairs.
No response necessary

Site Plan Standards14-526 (a)(16) a. 4. (e)
The restaurant use is proposed to extend onto the Fore Street façade of the building near Franklin Street.
No response necessary

Site Plan Standards14-526 (a)(16) b. 1.
General Comment: Context information is not provided. The development should be shown within its context by use of perspective drawings, photomontage, or other graphic means. Suggested views are from Franklin Arterial at Federal Street (Court House and Lincoln Park), Fore Street in front of Bangor Savings, Commercial and Franklin Street (from the Casco Bay Garage, and Fore Street and India Street (from the sewer pump station.)
The requested graphics to assist the Planning Staff and the Planning Board with their review of the project has been submitted.

Site Plan Standards14-526 (a)(16) b.1.(a)
The street walls of Fore and Franklin are enforced by this development.
No response necessary.

Site Plan Standards14-526 (a)(16) b. 1. (b)
NA
No response necessary.

Site Plan Standards14-526 (a)(16) b. 1. (c)
See below:
No response necessary.

Site Plan Standards14-526 (a)(16) b. 1. (d)
The building massing and composition does not provide distinct massing elements at the key corners at Franklin Street. Given the visibility of the building from Franklin, Fore (as the terminating view from the Old Port) and Commercial Street, these corners are important.
The applicant has revised the building architecture as per the discussions with William Needelman and Alex Jagerman.

The Middle and Franklin corner has no vertical differentiation from the main mass of the building and is un-fenestrated. The Fore and Franklin corner is punctuated by only a minor parapet rise at the center of the bay.
The applicant has revised the building architecture as per the discussions with William Needelman and Alex Jagerman.

The design's relationship to its prominent location and to other buildings in the downtown and Old Port will be strengthened by vertical differentiation and fenestration of the building corner at Middle Street and simplifying and enlarging the punctuation at Fore Street. If fenestration of the top story of the Middle Street corner interferes with proposed signage, an alternative location for signage should be considered on the body of the building.
The applicant has revised the building architecture as per the discussions with William Needelman and Alex Jagerman.

Site Plan Standards14-526 (a)(16) b. 1. (e)
Addressed above
No response necessary.

Site Plan Standards14-526 (a)(16) b. 1. (f)
No comment was made.

Site Plan Standards14-526 (a)(16) b. 2. (a, b, c, & d)
Standards for set back appear to be met.
No response necessary.

Site Plan Standards14-526 (a)(16) c.
Need details – none provided. Readily visible mechanical equipment requires screening
Details have been added to the revised application submittal.

Site Plan Standards14-526 (a)(16) d.
NA
No response necessary.

Site Plan Standards14-526 (a)(16) e.
Undue wind impacts are not anticipated.
Agreed.

Site Plan Standards14-526 (a)(16) f.
Set backs from the adjacent building at Franklin and Middle will be increased.
Agreed.

Site Plan Standards14-526 (a)(16) g.
NA
No response necessary.

The applicant and design team looks forward to working in close cooperation with the Planning Staff and the Planning Board to develop, permit, and ultimately construct this viable project.

Sincerely,

Opechee Construction Corporation

Barry Stowe

Barry Stowe

ZONING ADMINISTRATOR- MARGE SCHMUCKAL

February 25, 2010

The entire property is located within a B-3 Downtown Business Zone. It is not within a Pedestrian Activities District (PAD). However the street frontage along Middle Street is considered a PAD Encouragement District. No structure is being proposed along Middle Street at this time. It is not in a Historic District.

The applicant is proposing to redevelop the site to include a new 180 seat restaurant, a 122 room hotel, and 12 residential condominiums. This is considered a change of use for the property. On an adjoining lot a parking lot for 93 parking spaces is being proposed. The proposed uses are meeting the allowable uses listed in the B-3 Zone. The surface parking lot use is a conditional use appeal before the Planning Board. The surface parking lot is required to be no closer than 35 feet to any street line. This submitted plan is showing all parking 35 feet from all the street lines. Because the proposed project is over 50,000 square feet in floor area, parking requirements are to be determined by the Planning Board under section 14-332(t). 22 bike spaces are proposed.

The B-3 Zone requires a street build-to setback of no more than 5 feet, unless the Planning Board reviews and approves an appropriate setback further back. The applicant has requested a further setback of approximately 10 feet for outdoor seating for the first floor restaurant use.

Because there will be 12 residential condominiums, this project must also be approved under Subdivision requirements.

I believe that this project is probably meeting the maximum building height of 65 feet for this area of the City. Ho9wever, I would like to confirm that supposition with more information from the applicant using the same methodology that I use with all applicants. I would like to know the grades around the outside of the proposed building so that I can average the grades. The actual height of the structure can be determined from that information.

I would also like to confirm where the property line is located at the rear of the proposed building where the stairs descend from the street. It was unclear to me.

It is noted that no official loading bays are required under section 14-351. However, it may be useful to indicate how the rear dumpster area will be accessed and utilized by servicing vehicles. This area may also service deliveries, linen services and the like.

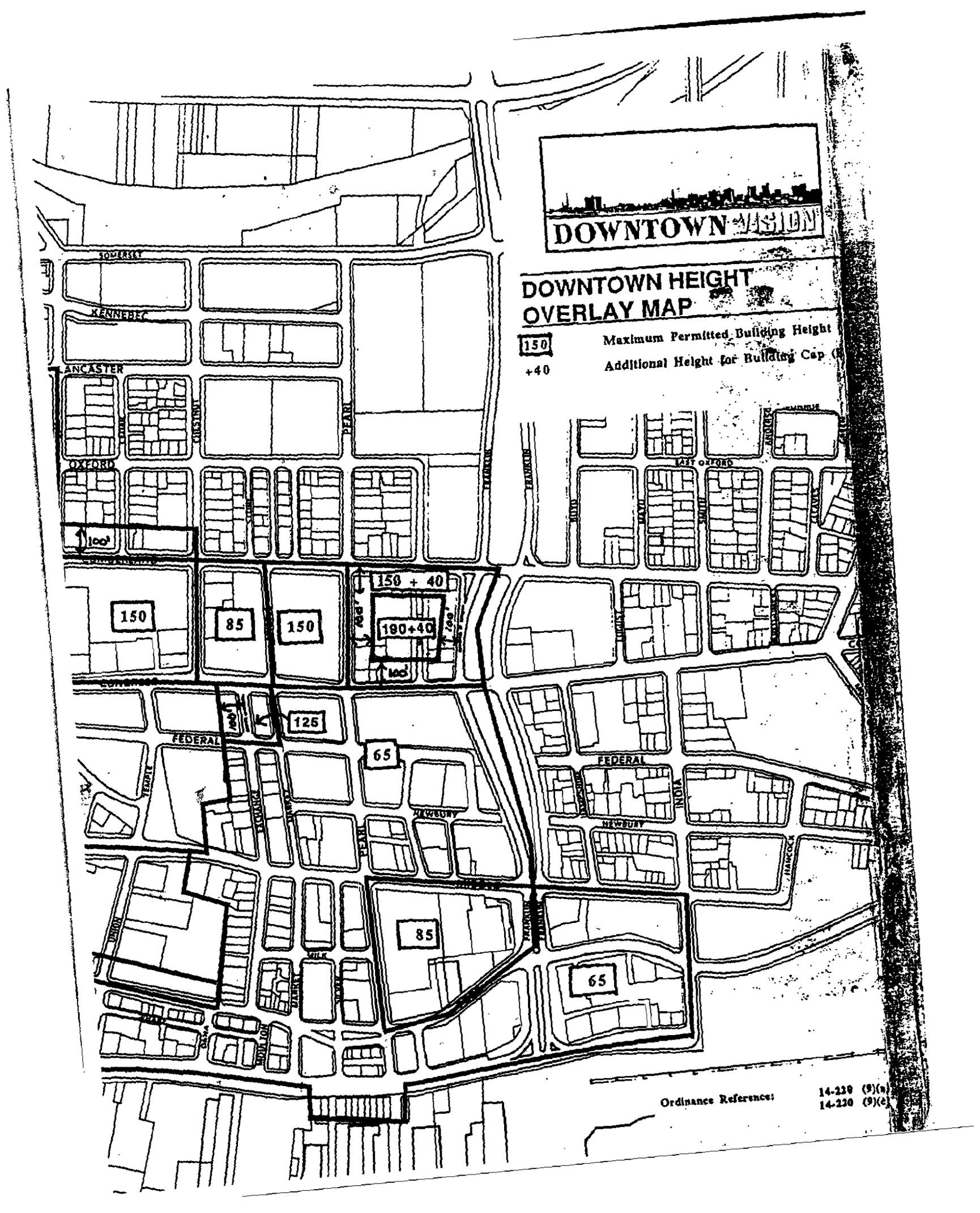
Separate permits from Inspection Services will be required for the demolition of existing structures and for signage.

The project is not in a Shoreland Zone. The project is not in a 100-year flood zone.

March 22, 2010

On 3/17/10 Barry Stowe submitted (by e-mail) building height calculations for review. The calcs use the standard methodology for determining heights. It is understood that the building plans are still being created at this juncture. It is further understood that the development of the building plans will not differ significantly to violate the required building heights.

It may be too early at this time, but it is reminded that the B-3 Zone has maximum noise limitations for any hoods, HVAC systems, or similar systems. This office would need copies of the dBAs being generated by such systems PRIOR to their installations. The sooner this office can receive such documentation, the better.


DOWNTOWN VISION
DOWNTOWN HEIGHT OVERLAY MAP
150
Maximum Permitted Building Height
+40
Additional Height for Building Cap
SOMERSET
KENNEBEC
ANCASTER
OXFORD
PEARL
CROSBY
FRANKLIN
EAST OXFORD
CUTLER
FEDERAL
NEWBURY
TEMPLE
MARKET
UNION
INDIA
HANCOCK
100'
150 + 40
150
85
150
190+40
125
65
85
65
Ordinance Reference:
14-220 (9)(a)
14-220 (9)(c)

PORTLAND MAINE

Strengthening a Remarkable City, Building a Community for Life • www.portlandmaine.gov

Director of Planning and Urban Development
Penny St. Louis Littell

May 21, 2010

JSN Associates, Inc.
Attn: Matthew J. Allen, P.E.
One Autumn Street
Portsmouth, NH 03801

RE: 231 Fore Street
CBL: 029 L001001
Building Permit Application: 10-0447 (Hampton Inn)

Dear Matthew,

Thank you for your request for waiver dated March 30, 2010 for work at the above mentioned property. The request is to utilize the 2006 version of the International Building Code (IBC) as it pertains to the seismic design.

The following are the facts:

1. The City of Portland is currently working under the IBC 2003. State Law does not allow the City to adopt the IBC 2006.
2. The portions of IBC 2006 that are less restrictive than the IBC 2003 are the Seismic requirements. The other portions of Chapter 16, IBC 2006 are either procedural modifications or are generally more restrictive than the requirements of the IBC 2003.
3. The guidelines in the IBC 2006 are based on newer, more recent data provided by the United States Geological Survey (USGS), and represent the latest science and data in the structural engineering field.

The Waiver Request is approved by this office to utilize the IBC 2006 for seismic design on the above mentioned project, based on the latest scientific research, and the inability of the City to adopt this code.

Sincerely,

Jeanie Bourke
CEO/Plan Reviewer

Cc. Tim Daigneault, VP, Opechee Construction

JSN Associates, Inc.

One Autumn Street
Portsmouth, NH 03801
Tel (603)433-8639
Fax (603)431-2811
www.jsneng.com

3/30/10

Ms. Tammy Munson
Division Director
Inspection Division, City of Portland Maine
389 Congress Street
Portland, Maine 04101
V (207) 874-8683
TMM@portlandmaine.gov

RE: **Waiver to Employ IBC 2006 Seismic Provisions**
Proposed Hotel, Restaurant, and Portside Residences
207-209 Fore Street, Portland, Maine

Dear Ms. Munson,

I respectfully request a waiver from the use of the seismic provisions of IBC 2003 for the above noted project. I would like to use the seismic provisions of IBC 2006. I recognize that if you grant this waiver, it would pertain only to the seismic provisions and that all other requirements of IBC 2003 would still be in effect.

Sincerely,

JSN Associates, Inc.

Matthew J. Allen, P.E.

C.C.: None

Statement of Special Inspections

Project: *Hotel, Restaurant and Portside Residences*
Location: *Portland, Maine*
Owner: *Old Port Hospitality, LLC*
Owner's Address: *11 Corporate Drive, Belmont, NH 03220*
Contractor: Opechee Construction, Belmont, NH
Structural Engineer of Record: *JSN Associates, Inc., Portsmouth, New Hampshire*

This Statement of Special Inspections is submitted as a condition for permit issuance in accordance with the special inspection requirements of the 2003 International Building Code. It includes a Schedule of Special Inspections applicable to this project as well as the name of the Special Inspector, and the identity of other approved agencies intended to be retained for conducting these inspections.

The Special 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 code official and the structural engineer and architect of record. The special inspection program does not relieve the contractor of his or her responsibilities.

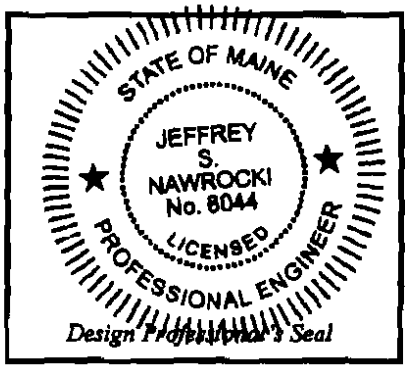
Interim reports shall be submitted to the code official, owner, structural engineer and architect of record. A schedule of interim reports shall be approved by the Code Official prior to permit issuance.

A final report of inspections documenting completion of all required special inspections and correction of any discrepancies noted in the inspections shall be submitted prior to the issuance of a certificate of use and occupancy.

Prepared by Design Professional:

Jeffrey S. Nawrocki, PE
(type or print name)

Signature 5/18/10
Date



Design Professional's Seal

Owner's Authorization:

Signature Date

Building Official's Acceptance:

Signature Date

RECEIVED
MAY 18 2009
Dept. of Building Inspections
City of Portland Maine

Project: *Hotel, Restaurant and Portside Residences*

Schedule of Special Inspection Services

The following sheets comprise the required schedule of special inspections for this project. The construction divisions which require special inspections for this project are as follows.

- ☒ Geopiers
- ☒ Soils and Foundations
- ☒ Cast-in place Concrete
- ☐ Masonry
- ☒ Structural Steel
- ☐ Wood
- ☐ Special Cases

Inspection Agents	Firm	Address
1. Special Inspector	*John Turner Consulting*	*15 Holly St Unit 109* *Scarborough, ME 04074*
2. Engineer of Record	*JSN Associates, Inc.*	*One Autumn Street* *Portsmouth, NH 03801*
3. Other		

Note: The qualifications of all personnel performing Special Inspection activities are subject to the approval of the Building Official.

Schedule of Special Inspection Services

Construction Division - Soils and Foundations

Item	Agent Number	Scope
1. Controlled Structural Fill	1	Observe compacted fill operations to document that fill material, lift thickness, and level of compaction are in conformance with the requirements of the Construction Documents and the recommendations of the Geotechnical Engineer. Perform in-place density (compaction) tests at interval of one test per 2,500 SF per lift within slab areas and one test per 50 lf of foundation backfill per lift. At least one laboratory grain size analysis and modified Proctor test will be performed on each fill type used.
2. Rammed Aggregate Piers	1	Provide daily on-site observation and monitoring of installation procedures for rammed aggregate piers and provide daily reports. Monitor modulus load test to verify conformance with design assumptions.

Hotel, Restaurant, & Portside Residences – Portland, Maine

Schedule of Special Inspection Services

Construction Division - Cast-in Place Concrete

Item	Agent Number	Scope
1. Mix Design	1	Review for compliance with the construction documents.
2. Material Certification	1	Review for compliance with the construction documents.
3. Reinforcement Installation	1, 2	(1) Review the installation of the reinforcing steel for compliance with the construction documents and the approved shop drawings. Review for 100% of piers and column footings and retaining walls and their footings, 50% of footings and frost walls. (2) Random review of construction procedures.
4. Post-Tensioning Operations		N/A
5. Batching Plant		N/A
6. Formwork Geometry	1	Review geometry for compliance with the structural construction documents. Conduct review when reinforcing steel installation is being reviewed.
7. Concrete Placement	1	Inspect the placement of concrete for conformance with the construction documents. Test slump and temperature of each batch. Test air content when compressive strength test specimens are molded.
8. Evaluation of Concrete Strength	1	Obtain one set of 4 standard cylinders for each compressive strength test. Test one specimen at 7 days, one each at 14 days and 28 days, and retain one in reserve for later testing if required. In cold weather provide 4 additional site cured cylinders per ACI recommendations. Test for each day's pour > 15 yds. And for each 50 yds.
9. Curing and Protection		Verify that concrete is adequately cured and protected under hot and cold weather conditions as indicated in the concrete specifications.
10. Other		N/A

Schedule of Special Inspection Services

Construction Division - Structural Steel

Item	Agent Number	Scope
1. Fabrication Certification Quality Control Procedures	1	Verify that the fabricator maintains detailed fabrication and quality control procedures which conform to the requirements of the American Institute of Steel Construction's Quality Certification Program.
2. Material Certification	1, 2	(2) Review mill certificates for plates and shapes. Review bolt manufacturer's certificate of compliance for high-strength bolts. Review weld manufacturer's certificate of compliance for weld filler material. (1) Verify bolt identification markings.
3. Open Web Steel Joists		N/A
4. Bolting	1	Inspect installation of high-strength bolts for conformance with the "Specification for Structural Joints Using ASTM A325 of A490 Bolts" by the Research Council on Structural Bolts, and the Construction documents. Inspect 25% of bolted connections.
5. Welding	1	Perform visual inspection of all welds in accordance with AWS D1.1. Submit welder qualification statements.
6. Shear Connectors	1	Verify stud size and number. Perform bend test on minimum 5% of studs to verify adequacy of welded connection.
7. Structural Details	1, 2	(1) Verify that the general geometry of the erected steel frame conforms to the construction documents and the approved shop drawings. (2) Random review.
8. Other	1	Perform visual inspection of welding or fastening of floor and roof decking for conformance with the construction documents.

OPECHEE
CONSTRUCTION CORPORATION

11 CORPORATE DRIVE
BELMONT, NH 03220

Phone (603) 527-9090
Fax (603) 527-9191

LETTER OF TRANSMITTAL

DATE	JOB NO./DIVISION
4/29/10	1001 / Gov't

ATTENTION Jeanie Bourke

RE: Jordans Mixed Use
Hotel, Restaurant & Portside Residences
Portland, ME

TO: City of Portland, Maine
389 Congress Street
Portland, ME 04101-3509

WE ARE SENDING YOU:
Plans

Copies	Date	No	Description
9	4/26/10	C0-4.3	Site Plans
9	4/23/10	Sht 1	Subdivision Plans
1	4/29/10	A0-9	Architectural Plans (full size and 11x17)
1	3/26/10	FF&E1	Furniture Plan (full size and 11x17)
1	4/1/10	FF&E2-5	Furniture Plans (full size and 11x17)
1	4/12/10	FF&E 6	Furniture Plan (full size and 11x17)
1	4/16/10	S1-1.8	Structural Plans (full size and 11x17)
1	4/27/10	S2-8.1	Structural Plans (full size and 11x17)
1	4/16/10	SN.1-.2	Structural Notes (full size and 11x17)
1	4/26/10	--	Geopier Foundation Support Geotechnical Report
1	4/22/10	GEO1-2	Geopier Location Plan and Details (full size and 11x17)
1	4/29/10	--	Statement of Special Inspections
1	4/13/10	--	Sebago Technics Report on Final Design Subsurface and Foundation Investigation

THESE ARE TRANSMITTED:
For your review and comment

REMARKS:

FROM: Tim Daigneault / pc **SIGNED:**

Certificate of Design Application

From Designer: Opechee Construction Corporation

Date: April 29, 2010

Job Name: Hotel, Restaurant & Portside Residences

Address of Construction: 207 & 209 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) A-2, A-3, B, R-1, and R-2

Type of Construction 1B

Will the Structure have a Fire suppression system in Accordance with Section 903.3.1 of the 2003 ~~IBC~~ IBC YES

Is the Structure mixed use? YES If yes, separated or non separated or non separated (section 302.3) combination

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

Structural Design Calculations

_____ Submitted for all structural members (106.1 – 106.11)
To be submitted with construction set.

Design Loads on Construction Documents (1603)

Uniformly distributed floor live loads (7603.11, 1807)

Floor Area Use	Loads Shown
1st Floor & 2nd public Areas	100 psf
Private / Residence Areas	40 psf
2nd floor Corridors	100 psf
Upper Residential Corridor	40 psf

See plans SN.1 SN.2

Wind loads (1603.1.4, 1609)

_____ Design option utilized (1609.1.1, 1609.6)

100 Basic wind speed (1809.3)

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

C Wind exposure category (1609.4)

_____ Internal pressure coefficient (ASCE 7)

_____ Component and cladding pressures (1609.1.1, 1609.6.2.2)

_____ Main force wind pressures (7603.1.1, 1609.6.2.1)

Earth design data (1603.1.5, 1614-1623)

ELF Design option utilized (1614.1)

II Seismic use group ("Category")

.32 & .128 Spectral response coefficients, S_{DS} & S_{D1} (1615.1)

D Site class (1615.1.5)

_____ Live load reduction

_____ Roof *live* loads (1603.1.2, 1607.11)

_____ Roof snow loads (1603.7.3, 1608)

50 psf Ground snow load, P_g (1608.2)

50 psf If P_g > 10 psf, flat-roof snow load P_f

1 If P_g > 10 psf, snow exposure factor, C_e

1 If P_g > 10 psf, snow load importance factor, I_s

1.1 Roof thermal factor, C_t (1608.4)

_____ Sloped roof snowload, P_s (1608.4)

_____ Seismic design category (1616.3)

_____ Basic seismic force resisting system (1617.6.2)

_____ Response modification coefficient, R_I and deflection amplification factor C_d (1617.6.2)

_____ Analysis procedure (1616.6, 1617.5)

_____ Design base shear (1617.4, 16175.5.1)

Flood loads (1803.1.6, 1612)

N/A Flood Hazard area (1612.3)

_____ Elevation of structure

Other loads

_____ Concentrated loads (1607.4)

_____ Partition loads (1607.5)

_____ Misc. loads (Table 1607.8, 1607.6.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404

Statement of Special Inspections

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Owner: *Old Port Hospitality, LLC*
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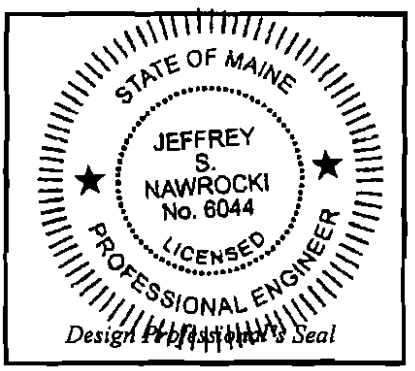
Prepared by Design Professional:

Jeffrey S. Nawrocki, PE
(type or print name)

Signature 4/29/10 Date



Design Professional's Seal

Owner's Authorization:

Signature 4/21/10 Date

Building Official's Acceptance:

Signature Date

Project: *Hotel, Restaurant and Portside Residences*

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Inspection Agents	**Firm**	**Address**
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Note: The qualifications of all personnel performing Special Inspection activities are subject to the approval of the Building Official.

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5. Batching Plant		N/A
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Schedule of Special Inspection Services

Construction Division - Structural Steel

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8. Other	1	Perform visual inspection of welding or fastening of floor and roof decking for conformance with the construction documents.

Accessibility Building Code Certificate

Designer: Opechee Construction Corporation

Address of Project: 207 & 209 Fore Street

Nature of Project: New Hotel, Restaurant and Portside Residences

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.

LICENSED ARCHITECT
DONALD W. BLAJDA
No. 2936
STATE OF MAINE

(SEAL)

Signature: Don Blajda

Title: Project Architect

Firm: Opechee Construction Corp.

Address: 11 Corporate Drive
Belmont, NH 03220

Phone: 603.527.9090

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Certificate of Design

Date: April 29, 2010

From: Opechee Constructor Corporation

These plans and / or specifications covering construction work on:

Hotel, Restaurant, & Portside Residences

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

LICENSED ARCHITECT
DONALD W. BLAJDA
No. 2936
STATE OF MAINE

(SEAL)

Signature: Don Blajda

Title: Project Architect

Firm: Opechee Constructor Corp.

Address: 11 Corporate Drive
Belmont, NH. 03220

Phone: 603-527-9090

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Sebago Technics
Engineering Expertise You Can Build On

Report on Final Design Subsurface and Foundation Investigation

Proposed Hotel, Restaurant and Portside Residences Portland, Maine

for

Opechee Construction Corporation
11 Corporate Drive
Belmont, NH 03220

April 13, 2010

sebagotechnics.com
One Chabot Street
P.O. Box 1339
Westbrook, Maine
04098-1339
Ph. 207-856-0277
Fax 856-2206

April 13, 2010
05090

Mr. Dana M. Adams, P.E.
Executive Vice President
Opechee Construction Corporation
11 Corporate Drive
Belmont, NH 03220

Report on Final Design Subsurface and Foundation Investigation
Proposed Hotel, Restaurant and Portside Residences, Portland, Maine

Dear Dana:

This report presents the results of our final design subsurface and foundation investigation for the proposed Hotel, Restaurant and Portside Residences to be constructed at the site of the former Jordan's Meats Facility in Portland, Maine. These services were performed in accordance with our proposal dated February 22, 2010. As you know, we completed a subsurface and foundation investigation for another development at this site in 2006. This report is for our re-evaluation of subsurface conditions and foundation requirements for the Hotel, Restaurant and Portside Residences you propose. We judged that subsurface explorations completed for our previous investigation are sufficient for our evaluation of foundation requirements and construction considerations for your project and no additional subsurface explorations were performed.

Summary

In our opinion, the proposed structure may be supported on spread and continuous footings bearing on soil improved by a process known as rammed aggregate piers. In addition, an earth-supported slab-on-grade may be used for the lowest level floor slab. Specific recommendations regarding foundation design and construction considerations are presented below.

Introduction

The proposed site is the block containing the former Jordan's Meats production facility in Portland, Maine. The site is bound by Middle Street on the northwest, India Street on the northeast, Fore Street on the southeast, and Franklin Arterial on the southwest. The building at the northwest corner of the site at Franklin Arterial and Middle Street, housing Hugo's Restaurant and other businesses, is not included in the site. The former Jordan's Meats production building and the maintenance building adjacent to Hugo's building will be demolished to accommodate new construction. Ground surface elevations within the block vary from approximately El. 15 to El. 28. Most of the block is occupied with the Jordan's Facility, the Hugo's building, and the maintenance building. However, there are some paved areas along Fore Street that are presently open and used for parking.

Elevations in this report are in feet and referenced to North American Vertical Datum (NAVD) 1988.

Proposed Construction

We understand that initial development will consist of a 122-room hotel, an approximately 7,000-square foot restaurant and 12 residential condominiums on top of the hotel. The building will have a plan area of approximately 15,000 square feet and will be located at the corner of Franklin Arterial and Fore Street. The lowest (ground) floor will be at El. 17.6. Column spacing will vary from 16 feet to 30 feet. Column loads vary from approximately 11 kips to 355 kips. The remainder of the site will be developed as either surface parking or structured parking. We understand that the existing foundation wall of the Jordan production building will remain in place along Middle Street and will be braced for stability with sloped soil or recycled crushed concrete. Future development may include additional structured parking, office and retail buildings.

Subsurface Explorations

Early 2005 Explorations

During the period April 20 to April 25, 2005, ten borings, B1 to B10, were drilled at the site by Great Works Pump & Test Boring, Inc. (GWPTB) at locations shown on Sheet 1, Subsurface Exploration Plan. GWPTB drilled the borings to depths below ground surface varying from 7.0 feet to 35.0 feet. Sebago Technics, Inc. (Sebago Technics) monitored the borings and prepared the logs included in Appendix A. Table I summarizes the results of borings. GWPTB backfilled the borings with the excavated material.

Borings were drilled using a variety of techniques to overcome materials in the fill. Techniques included solid stem augers (SSA), hollow stem augers (HSA), and 4-inch diameter flush joint casing (HW). Borings B1 to B5 were drilled to refusal on what was judged to be bedrock. Borings B6 to B10 were drilled through the fill and terminated in naturally deposited soil. Continuous samples were generally taken in the upper 10 feet of fill and then at 5-foot intervals thereafter. Standard Penetration Resistance (N) was measured at each sample interval in accordance with ASTM Test D1586. Many samples, primarily in the fill, were screened with a photoionization detector (PID) and the results reported on the boring logs.

Sebago Technics, Inc. determined the locations and ground surface elevations of borings by survey methods.

Late 2005 Explorations

During the period October 26, 2005 and November 7 to 17, 2005, Maine Test Borings, Inc. (MTB) of Brewer, Maine drilled nine borings, B201 to B209, at locations shown on Sheet 1. MTB drilled the borings to depths below ground surface varying from 18.2 feet to 43.6 feet. Sebago Technics monitored the borings and prepared the logs included in Appendix B. Table I summarizes the results of borings. MTB backfilled the borings with the drilled material.

On October 26, 2005, O'Brien Brothers (O'Brien) excavated four test pits, TP1 to TP4, at the site at locations shown on Sheet 1. O'Brien excavated the test pits to depths below ground surface varying from 2.5 feet to 7.0 feet. Sebago Technics monitored the test pits and prepared the logs included in Appendix C. Table I summarizes the results of test pits. O'Brien backfilled the test pits with the excavated material.

Two borings, B203 and B204, were drilled in the maintenance building; five borings, B205 to B209, were drilled in the production building and two borings, B201 and B202, were drilled outside the buildings. The outside borings were drilled with 2.5-inch inside diameter hollow stem augers. The inside borings were drilled with 3.0-inch inside diameter flush joint casing using low overhead clearance drilling equipment. All borings, except B209, were drilled to refusal judged to be bedrock. B209 was terminated in weathered bedrock. Samples were generally recovered at 5-foot intervals. Standard Penetration Resistance (N) was measured at each sample interval in accordance with ASTM Test D1586. Groundwater observation wells were installed in completed borings B205 and B208.

Sebago Technics determined locations of borings and test pits by taping from existing site features and building walls. Ground surface elevations at borings and test pits were determined from floor elevations and ground surface contours at plotted locations.

The boring and test pit logs and related information depict the subsurface conditions and water levels encountered at the locations and during the times indicated on the logs. Subsurface conditions at other locations may differ from those encountered in the explorations. The passage of time may result in a change in groundwater conditions at the exploration locations.

Subsurface Conditions

The borings encountered four principal soil units at the site overlying weathered rock and bedrock: fill, marine sand, marine clay and glacial till. Encountered thickness and generalized descriptions of the strata encountered are presented below in order of increasing depth below ground surface. Due to the complexity of the deposition process, strata thickness will vary and may be absent at specific locations.

Fill – Fill consists of loose to very dense, brown well-graded SAND with gravel (SW); to well-graded SAND with silt (SW-SM); to silty SAND with gravel (SM); to poorly-graded SAND (SP); to sandy SILT (ML); to lean CLAY (CL) with various amounts of bituminous concrete, cobblestones, concrete, cobbles, rock fragments, wood, bricks and ash. Encountered thickness varies from 1.0 foot to 16.5 feet.

Marine Sand – Marine sand consists of very loose to medium dense, gray silty SAND (SM) with frequent clay seams and trace organics; to poorly-graded SAND (SP) deposited in a marine environment. Encountered thickness varies from 0.6 foot to 12.5 feet.

Marine Clay – Marine clay consists of soft to very stiff, gray to olive lean CLAY (CL) with frequent sand seams and partings and occasional black streaks. Encountered thickness varies from 4.0 feet to 20.0 feet.

Glacial Till – Glacial till consists of loose to very dense, gray silty SAND with gravel (SM); to well-graded SAND (SW) with cobbles and boulders. Encountered thickness varies from 0.9 foot to 18.6 feet.

A zone of weathered rock, varying in thickness from 0.2 foot to 3.5 feet, was encountered over bedrock. The weathered rock consists of very dense, gray weathered SCHIST/QUARTZ. Refusal, judged to be sound bedrock, was encountered at depths below ground surface varying from 18.2 feet to 43.6 feet. Equivalent refusal elevations varied from El. -1.0 to El. – 21.1.

Profiles indicating general subsurface conditions are presented on Sheets 2 to 4.

Water was observed in the borings at depths below ground surface varying from 5.0 feet to 18.0 feet. Water levels observed in the observation wells varied from 6.3 feet to 13.1 feet from 0.5 to 63 days after installation. Equivalent elevations of groundwater varied from El. 16.3 to El. 9.5. Observations of water in borings were made over a relatively short period of time, and in some cases after introducing water into the borehole, and may not represent the stabilized groundwater level. In addition, water levels at the site will vary with season, precipitation, temperature, and construction activity in the area. Therefore, water levels during and following construction will vary from those observed in the borings.

Laboratory Soil Testing

Soil testing consisted of grain size analyses on representative split spoon samples of the glacial till to assist in determination of the engineering properties. Results are plotted on Figure 1 and indicate that the glacial till samples vary from a gray silty SAND (SM) to gray silty SAND with gravel (SM). Glacial till often contains cobbles and boulders which are too large to be recovered in split spoon samples. The percentage of fines (silt size particles or smaller) varies from 23 percent to 43 percent.

Strength and Compressibility Characteristics of Clay Stratum

We estimated the stress history of the clay deposit by correlations with strength ratio, the ratio of shear strength to overburden stress, of similar clays in the area. The undrained shear strength of the lower portion of the clay stratum was measured in borings using field vane shear tests and correlations with N values. Measured shear strength varies from 190 psf to 1,900 psf. The undrained shear strength of the deposit was estimated to be as high as 3,000 psf based on correlations with N values. The stress history of the deposit was estimated by comparing the strength ratio with correlations of strength ratio and stress history of clay from other projects with similar conditions.

The stress history and appropriate compression ratios were estimated for the clay deposit as discussed above. The correlations indicate that the deposit is moderately overconsolidated, that is, the existing overburden stress is at least 800 psf less than the maximum previous stress in the lower portion of the clay and more than 3,000 psf near the top. The deposit likely became overconsolidated due to desiccation (drying) resulting from a lowering of the groundwater level at some time in the geologic past which created a stiff upper crust and also increased the effective overburden stress throughout the stratum.

The stress-strain or compressibility characteristics (settlement) of clays are highly dependent upon their stress history. If clay is stressed within the limits of the maximum previous stress, σ_{vm}, the strain (settlement) will be a function of the recompression ratio (RR) of the clay. If the applied stress exceeds the maximum previous stress, the strain will be proportional to the virgin compression ratio (CR). The compression ratio is typically 10 to 15 times the recompression ratio.

Foundation Considerations

Foundation Type and Design Criteria

The existing fill and marine deposits (sand and clay) are not considered suitable for support of the building. We recommend that the building be supported on spread and continuous footings bearing on soil improved with the installation of rammed aggregate piers below the footings. We understand that you contacted representatives of the Geopier Foundation Company (Geopier) for their evaluation of foundation support and design of rammed aggregate piers. We recommend that the rammed aggregate pier foundations be designed to limit total settlement to less than 1 inch and differential settlement to less than 0.5 inch in 40 feet. However, final acceptability of settlement should be determined by JSN Associates, Inc.

We evaluated supporting the building on spread footings bearing at normal depth in the existing fill without improvement. We estimated settlement of the underlying clay stratum under the most heavily loaded columns to be on the order of 3 inches. We anticipate that settlement of this magnitude in not acceptable. In addition, the condition of the existing fill is variable and known only at the boring locations. Therefore, the fill would require significant improvement or excavation and replacement to support the building loads.

Based on preliminary discussions with a representative of Geopier, we recommend that for uniformity, footings be proportioned for an allowable bearing stress in pounds per square foot (psf) equal to 1,700 multiplied by the least lateral dimension of the footing in feet up to a maximum of 5,000 psf. All footings should be at least 2 feet wide.

Exterior footings should be founded a minimum of 4.5 feet below the lowest adjacent ground surface exposed to freezing. Interior footings should be founded a minimum of 1.5 feet below the ground floor slab.

Ground Floor Slab

We recommend that the lowest level floor slab be designed as an earth-supported slab-on-grade bearing on a minimum of 6 inches of ¾-inch crushed stone overlying non-woven geotextile filter fabric. The fabric should have a minimum weight of 6 ounces per square yard. The explorations indicate that the existing fill did not contain significant quantities organics or other unsuitable material. However, the fill was not likely placed in a controlled manner and compacted during placement. It is our opinion that the existing fill may remain in place below the floor slab but we recommend that the fill be improved by intensive surface compaction (ISC). Any organic or other unsuitable materials encountered in the fill should be excavated and replaced with compacted structural fill.

ISC should be performed using a minimum 25,000-pound vibratory roller operating at 30 cycles per second (Hz) and a forward speed of 1 to 2 feet per second. Compaction should consist of 10 coverages of the vibratory roller. The direction of each two successive coverages should be rotated perpendicular to the previous two coverages. Following ISC, a minimum of two coverages of the roller should be applied without vibration to the upper surface of the fill soil. Any soft or yielding areas encountered during ISC should be excavated and replaced with compacted structural fill.

ISC will generate ground vibrations which may become unacceptable to the business in the Hugo's building. In our opinion, vibrations should not damage the structure but may be sensed by the occupants and thus disruptive to business. We recommend that a field test be performed using ISC in the area closest to the Hugo's building. If unacceptable vibrations are generated, we suggest alternatives such as completing ISC during non-business hours or on the weekend.

Exterior grades along Franklin Arterial will be as high as El. 24 and along the northwest side of the building will be as high as 18.6 feet. We recommend a perimeter foundation drain be constructed along these sides of the building to minimize potential for hydrostatic buildup on the foundation wall and potential seepage into the building. The invert of the drain should be below the ground floor level. The drain should be backfilled with free draining fill and gravity discharge provided.

Groundwater levels were observed as high as El. 16.3. We anticipate that water infiltrates the ground surface and is perched as groundwater above the clay stratum. There is a potential for this perched water to apply hydrostatic pressure to the ground floor slab and result in seepage into the building. Therefore, we recommend an underslab drain system be constructed on the inside of the foundation walls and below the slab to minimize potential for hydrostatic buildup on the ground floor slab and minimize seepage. The drain system should consist of the crushed stone layer below the floor slab and perforated pipes to collect groundwater as shown in Figure 2, Foundation Drain Details. The underslab drain should include a loop around the perimeter of the slab and several cross-laterals in each direction to provide multiple paths for water flow. We anticipate that gravity discharge is available for the underdrains.

Normal dampproofing and vapor barriers should be provided for the lower level slab and foundation wall along Franklin Arterial. We recommend that the ground floor slab be designed with a modulus of subgrade reaction of 175-pounds per cubic inch.

Seismic Design Considerations

The City of Portland requires structures be designed in accordance with the 2003 edition of the International Building Code (IBC). We recommend that you petition the City of Portland to allow the building to be designed in accordance with the seismic requirements of the 2006 edition of the IBC. The site classification for 2006 IBC is Class D; the site response coefficient F_a is 1.5 for the short period spectral response acceleration S_s of 0.32g; the site response coefficient F_v is 2.4 for the 1-second period spectral response acceleration S_1 of 0.08g. The subgrade soils are not considered liquefaction susceptible.

Lateral Foundation Loads

We recommend that lateral loads be resisted by bottom friction on footings. We recommend that a coefficient of friction equal to 0.4 be used for footings bearing on soil. If this does not provide sufficient resistance, we will study the problem in more detail to take into account other factors.

Lateral Soil Pressure

Foundation walls which are restrained at the top and backfilled and subjected to unbalanced earth loads should be designed for an equivalent fluid unit weight of 55 pounds per cubic foot. This is based on an at rest soil pressure coefficient of 0.45 and a well-drained backfill.

Backfill Materials

Structural fill used below foundations and floor slabs and for backfill adjacent to walls should consist of sandy gravel to gravelly sand. It should be free of organic material, loam, trash, snow, ice, frozen soil, and other objectionable material, and should conform to the following gradation:

Sieve Size	Percent Finer by Weight
3 inches	100
No. 4	30 to 90
No. 40	10 to 50
No. 200	0 to 8

Compacted structural fill should be placed in layers not exceeding eight inches in loose measure and compacted by self-propelled vibratory equipment at the approximate optimum moisture content to a dry density of at least 95 percent of the maximum dry density, as determined in accordance with ASTM Test Designation D1557. In confined areas, the loose layer thickness should be reduced to 6 inches and compaction performed by hand-guided vibratory equipment.

Compacted structural fill on the exterior of the foundation walls should extend laterally a minimum of 2 feet from the wall. Backfill beyond this limit on the exterior of the building may consist of common fill. The top 12 inches of fill on the exterior of the building should consist of low permeability material or sidewalk or pavement to minimize water infiltration next to the building. Grading should provide for runoff away from the building.

Common fill may consist of inorganic mineral soil that can be placed in layers and compacted. Common fill should be placed and spread in layers not exceeding 12 inches in thickness and compacted at the approximate optimum moisture content to a dry density of at least 92 percent of the maximum dry density, as determined in accordance with ASTM Test Designation D1557.

Pavement Section

We recommend the following pavement section for access drives and parking areas:

Access Drives and Automobile Parking Areas

3.5 inches hot mix asphalt, placed in two layers (1.25 inches top and 2.25inches base)
3 inches screened or crushed gravel base course
15 inches sand or gravel subbase course

Base and subbase course materials should conform to the following gradations:

Base Course

Screened or Crushed Gravel (Maine DOT Standard Specification, Highways and Bridges; Section 703.06a, Type B)

Sieve Size	Percent Finer by Weight
2 inches	100
1/2 inch	35 to 75
1/4 inch	25 to 60
No. 40	0 to 25
No. 200	0 to 5

Subbase Course

Sand or Gravel (Maine DOT, Section 703.06b, Type D)

Sieve Size	Percent Finer by Weight
4 inches	100
1/4 inch	25 to 70
No. 40	0 to 30
No. 200	0 to 7

(Note: Type B aggregate should be modified to a maximum 2-inch size and Type D aggregate should be modified to a maximum 4-inch size. Compacted structural fill may be substituted for gravel subbase course.)

All existing bituminous concrete pavement and fill containing debris should be removed from within the limits of new pavement.

Subbase course material should be placed in maximum 8-inch thick loose lifts and compacted at approximately optimum moisture content to a dry density of at least 95 percent of maximum dry density, as determined in accordance with ASTM Test Designation D1557. Base course material should be placed in one lift and compacted with a minimum of two coverages with self-propelled vibratory compaction equipment.

Raises-in-grade below the pavement section may consist of common fill placed and compacted as described above for common fill.

It should be noted that the subgrade soils may be frost-susceptible. Therefore, pavement roughness due to non-uniform frost movement may occur. To eliminate such non-uniform frost movement would require approximately 4 feet of structural fill subbase. However, it is common practice to tolerate seasonal movement to avoid the high cost of the added thickness of subbase.

Construction Considerations

General

The primary purpose of this section of the report is to comment on items related to excavation, earthwork, and related geotechnical aspects of proposed construction. It is written primarily for the engineer having responsibility for preparation of plans and specifications. Since it identifies potential construction problems related to foundations and earthwork, it will also aid personnel who monitor the construction activity. Prospective contractors for this project must evaluate the construction problems on the basis of their own knowledge and experience in the Portland, Maine area, and on the basis of similar projects in other localities, taking into account their proposed construction methods, procedures, equipment, and personnel.

Excavation, Lateral Support and Control of Water

We anticipate that foundation excavation can be accomplished with sloped open excavation through the overburden soils provided safe side slopes can be maintained. Some sloughing and raveling should be anticipated in temporary slopes. Temporary excavations should be made in accordance with all OSHA and other applicable regulatory agency requirements.

We anticipate that groundwater may be encountered at proposed subgrade level or bearing level of footings. If encountered, open pumping from sumps can likely control groundwater. In general, the contractor should control groundwater and water from runoff and other sources by methods which prevent disturbance of bearing surfaces or adjacent soils and allow construction in-the-dry.

Subgrade Preparation

The subgrade soil is susceptible to disturbance from construction traffic. Equipment and personnel should not be permitted to travel across exposed footing bearing surfaces or exposed slab subgrades. Any subgrade areas that are disturbed should be recompacted or excavated and replaced with compacted structural fill prior to placing concrete. Subgrades should be protected against freezing temperatures if exposed during construction. Final excavation to subgrade should be performed using equipment with smooth-edge buckets.

Construction Monitoring

The foundation recommendations contained herein are based on the known and predictable behavior of a properly engineered and constructed foundation. Monitoring of the foundation construction is required to enable the geotechnical engineer to keep in contact with procedures and techniques used in construction. Therefore, we recommend that a person qualified by training and experience be present to provide monitoring at the site during installation of rammed aggregate piers, intensive surface compaction, preparation of foundation bearing surfaces and placement of compacted structural fill.

Limitations of Recommendations

This report has been prepared for specific application to the subject project in accordance with generally accepted geotechnical engineering practices. In the event that any changes in the

nature, design, or location of the structure are planned, the conclusions and recommendations contained in this report should not be considered valid, unless the changes are reviewed and the conclusions of this report modified or verified in writing.

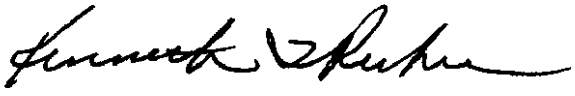
The recommendations presented herein are based in part upon the data obtained from the referenced explorations. The nature and extent of variations from that disclosed by the explorations may not become evident until construction. If variations then appear evident, it will be necessary to reevaluate the recommendations of this report.

We request that we be provided the opportunity for a general review of final design and specifications in order to determine that our earthwork and foundation recommendations have been interpreted and implemented in the design and specifications as they were intended.

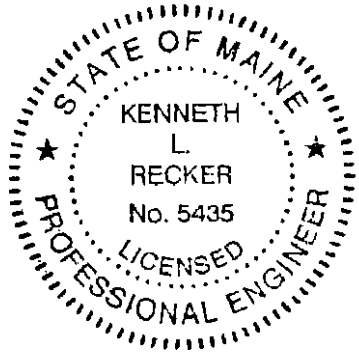
It has been a pleasure to work with you on this project. Please do not hesitate to contact us if you have any questions or need additional information.

Sincerely,

SEBAGO TECHNICS, INC.



Kenneth L. Recker, P.E.
Geotechnical Engineering Manager



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Enclosures:

Table I	- Summary of Borings
Sheet 1 of 4	- Subsurface Exploration Plan
Sheets 2 to 4 of 4	- Subsurface Profiles
Figure 1	- Grain Size Distribution
Figure 2	- Typical Foundation Drain Details
Appendix A	- Logs of Early 2005 Borings
Appendix B	- Logs of Late 2005 Borings
Appendix C	- Logs of Test Pits

TABLE I
SUMMARY OF EXPLORATIONS
HOTEL, RESTAURANT AND PORTSIDE RESIDENCES
PORTLAND, MAINE

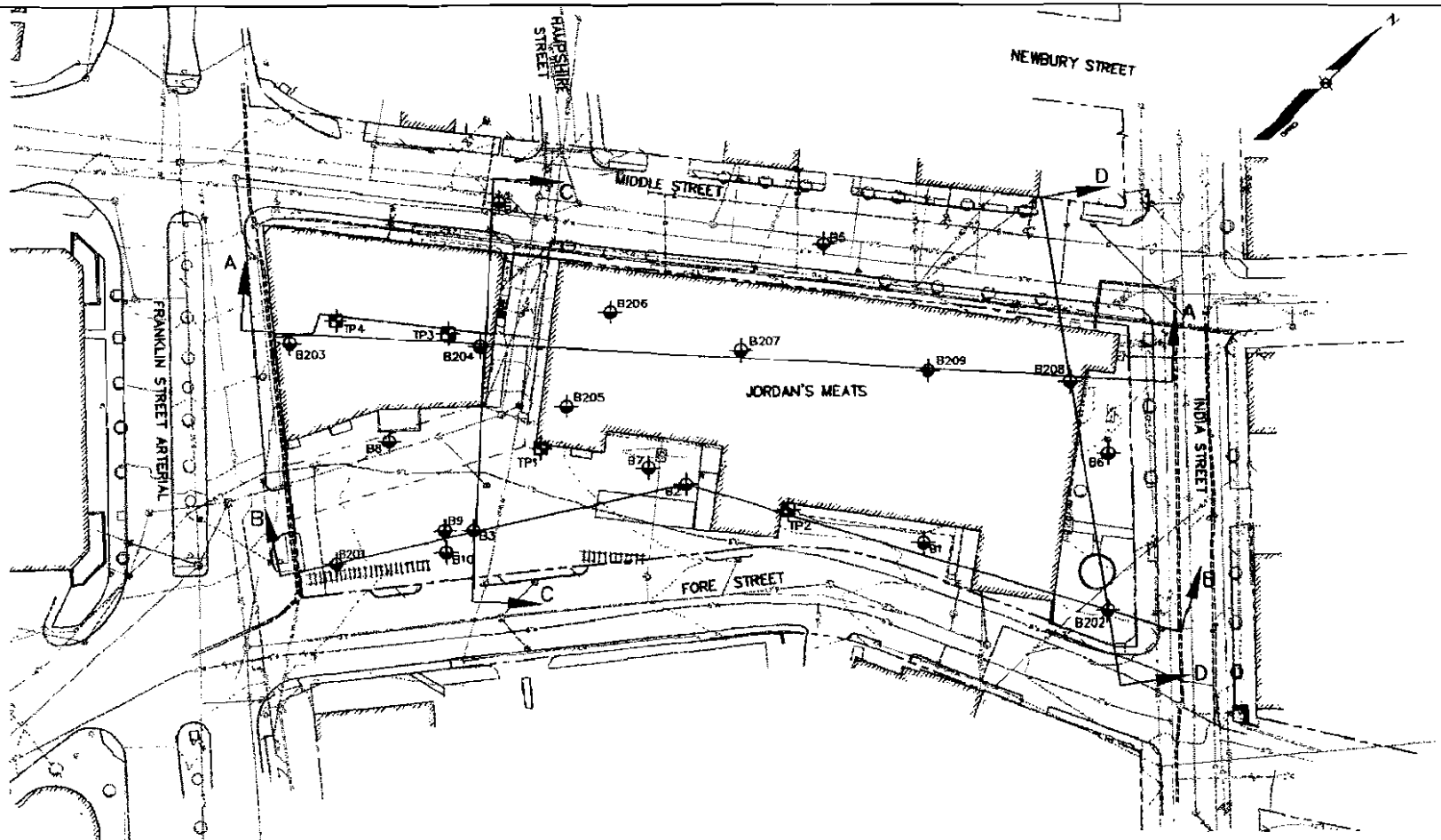
Expl. No.	Depth (Ft)	Ground Sur. El. (Ft)	Depth to Water (Ft.)	Strata Thickness (Ft.)						Approx. El. Top of Glacial Till (Ft)	Approx. El. Top of Bedrock (Ft)
				Fill	Marine Sand/ Silt	Marine Clay	Glacial Till	Weathered Rock	Bedrock		
TP1	4.7	16.0	NE	4.7*	--	--	--	--	--	--	--
TP2	7.0	18.2	7.0	7.0*	--	--	--	--	--	--	--
TP3	6.2	16.8	NE	6.2*	--	--	--	--	--	--	--
TP4	2.5	16.8	NE	2.5*	--	--	--	--	--	--	--
B201	27.5	17.4	9.0	13.0	6.5	4.0	2.0	2.0	0.0*	-6.1	-10.1
B202	43.6	22.5	NE	8.0	5.9	9.0	18.6	3.1	0.0*	-0.4	-21.1
B203	24.2	16.8	5.3	1.0	--	7.5	15.5	0.2	0.0*	8.3	-7.4
B204	18.2	17.2	5.0	4.5	--	9.5	3.9	0.3	0.0*	3.2	-1.0
B205	34.3	22.6	13.1	13.0	--	20.0	0.9	0.4	0.0*	-10.4	-11.7
B206	31.6	22.6	9.7	12.0	0.6	14.4	4.4	0.2	0.0*	-4.4	-9.0
B207	34.3	22.6	9.7	13.5	4.4	8.1	5.8	2.5	0.0*	-3.4	-11.7
B208	28.6	22.6	6.3	4.5	1.8	5.7	16.0	0.6	0.0*	10.6	-6.0
B209	27.0	22.6	8.3	5.0	2.5	14.2	3.8	1.5*	--	0.9	--
B1	35.0	18.5	NE	8.0	--	10.0	15.0	2.0	0.0*	0.5	-16.5
B2	34.0	17.4	7.8	8.5	--	17.5	8.0	--	0.0*	-8.6	-16.6
B3	30.0	14.9	NE	14.0	--	10.0	5.5	0.5	0.0*	-9.1	-15.1
B4	34.0	27.9	18.0	16.5	2.5/1.5	4.5	5.5	3.5	0.0*	2.9	-6.1

TABLE I (continued)

Expl. No.	Depth (Ft)	Ground Sur. El. (Ft)	Depth to Water (Ft.)	Strata Thickness (Ft.)						Approx. El. Top of Glacial Till (Ft)	Approx. El. Top of Bedrock (Ft)
				Fill	Marine Sand	Marine Clay	Glacial Till	Weathered Rock	Bedrock		
B5	30.3	27.6	10.0	10.0	12.5	--	7.5	0.3	0.0*	5.4	-2.4
B6	10.0	25.5	NE	7.8	--	2.2*	--	--	--	--	--
B7	17.0	17.3	NE	14.0	--	3.0*	--	--	--	--	--
B8	7.0	16.0	NE	5.0	--	2.0*	--	--	--	--	--
B9	17.0	15.2	9.0	16.5	--	0.5*	--	--	--	--	--
B10	16.0	15.6	9.5	14.0	--	2.0*	--	--	--	--	--

NOTES:

1. ELEVATIONS REFERENCED TO NORTH AMERICAN VERTICAL DATUM (NAVD) 1988.
2. NE INDICATES WATER NOT ENCOUNTERED WITHIN DEPTH OF BORING.
3. -- INDICATES STRATUM NOT ENCOUNTERED WITHIN DEPTH OF BORING.
4. * INDICATES DEPTH OF PENETRATION INTO STRATUM.



NOTES

1. BORINGS MONITORED BY SEBAGO TECHNICS, INC.
2. LOCATIONS OF BORINGS B201 TO B209 AND TEST PITS TP1 TO TP4 DETERMINED BY SEBAGO TECHNICS, INC. BY TAPING FROM EXISTING SITE FEATURES AND BUILDING WALLS.
3. LOCATIONS OF BORINGS B1 TO B10 DETERMINED BY SEBAGO TECHNICS, INC. BY SURVEY METHODS.

SUBSURFACE LEGEND

SYMBOL	DESCRIPTION
B201	NUMBER AND LOCATION OF BORINGS DRILLED BY TWINE TEST BORINGS, INC. DURING THE PERIOD OCTOBER 30, 2020 AND NOVEMBER 1 TO 11, 2020.
B1	NUMBER AND LOCATION OF BORINGS DRILLED BY GREAT WORKS PIPE AND TEST BORING, INC. DURING THE PERIOD APRIL 7th TO 29, 2020
TP2	NUMBER AND LOCATION OF TEST PITS EXCAVATED BY OTHERS BROTHERS ON OCTOBER 29, 2020
C C	SUBSURFACE PROFILE

LEGEND

EXISTING	DESCRIPTION	PROPOSED
	PROPERTY/ROW	
	BUILDING	
	SIGN	
	EDGE PAVEMENT	
	GRAVEL ROAD	
	OVERLINE	
	GAS	
	WATER	
	SEWER	
	STORM DRAIN	
	UNDERDRAIN	
	OVERHEAD ELEC. + TEL.	
	UNDERGROUND ELEC. + TEL.	
	GATE VALVE	
	LIGHT POLE	
	UTILITY POLE	
	HYDRANT	
	CATCH BASIN	
	MANHOLE	
	DECIDUOUS TREE	
	CONIFEROUS TREE	
	RAILROAD	

GRAPHIC SCALE

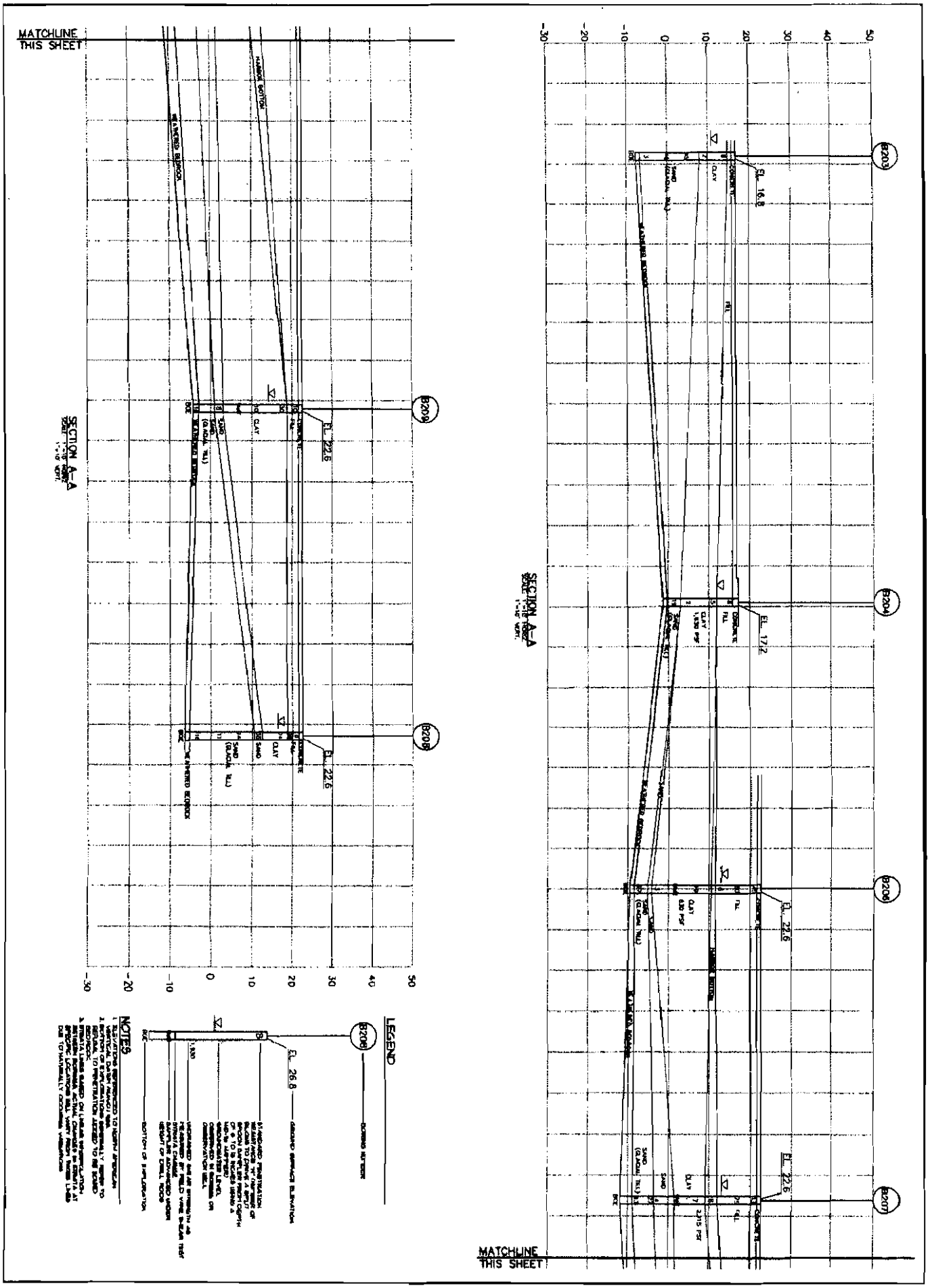
(IN FEET)
1 INCH = 30 FT.

Sebago Technics

SUBSURFACE EXPLORATION PLAN
OF
HOTEL, RESTAURANT AND PORTSIDE RESIDENCES
327 & 329 FORE STREET
PORTLAND, MAINE
FOR:
OLD PORT HOSPITALITY, LLC
11 CORPORATE DR.
BILLERICA, MA 01821

DATE	SCALE
4-16-20	1"=30'

SHEET 1 OF 4



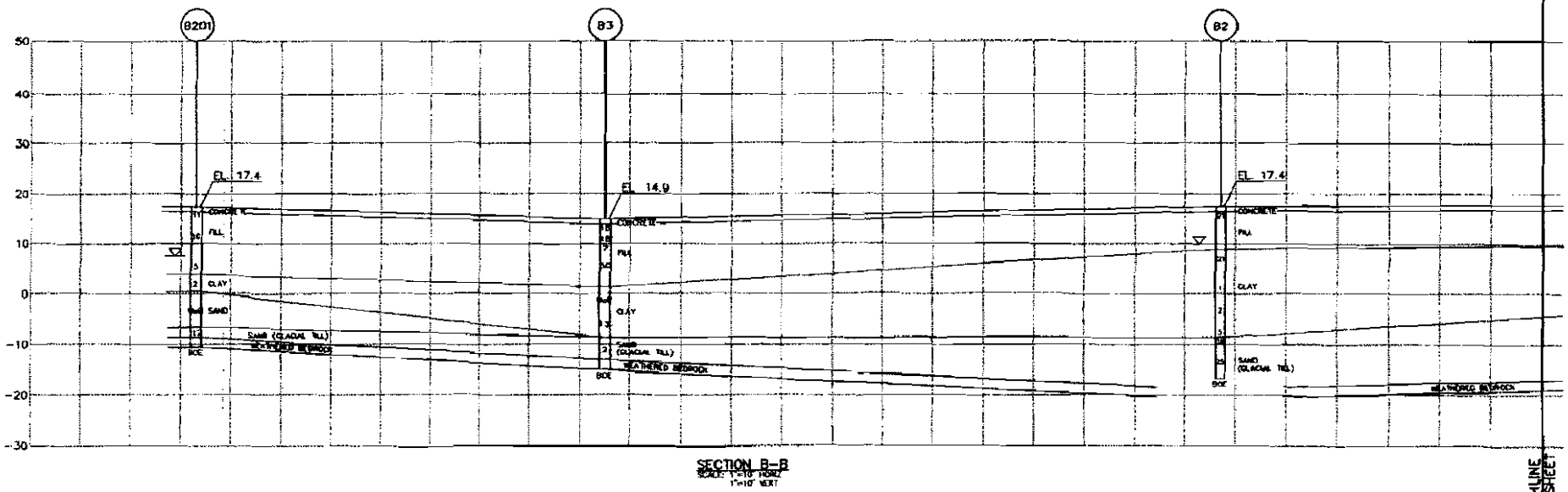
SUBSURFACE EXPLORATION: SECTION A-A
OF
HOTEL, RESTAURANT AND PORTSIDE RESIDENCES
57 & 109 FORE STREET
PORTLAND, MAINE
FOR:
OLD PORT HOSPITALITY, LLC
11 CORPORATE DR.
BELMONT, NH 03220

Sebago Technics
Professional Resources You Can Build On

PROJECT NO.	FIELD BOOK	DESIGN	CHKD	DRAWN
08169	-	KLR	KLR	MAL

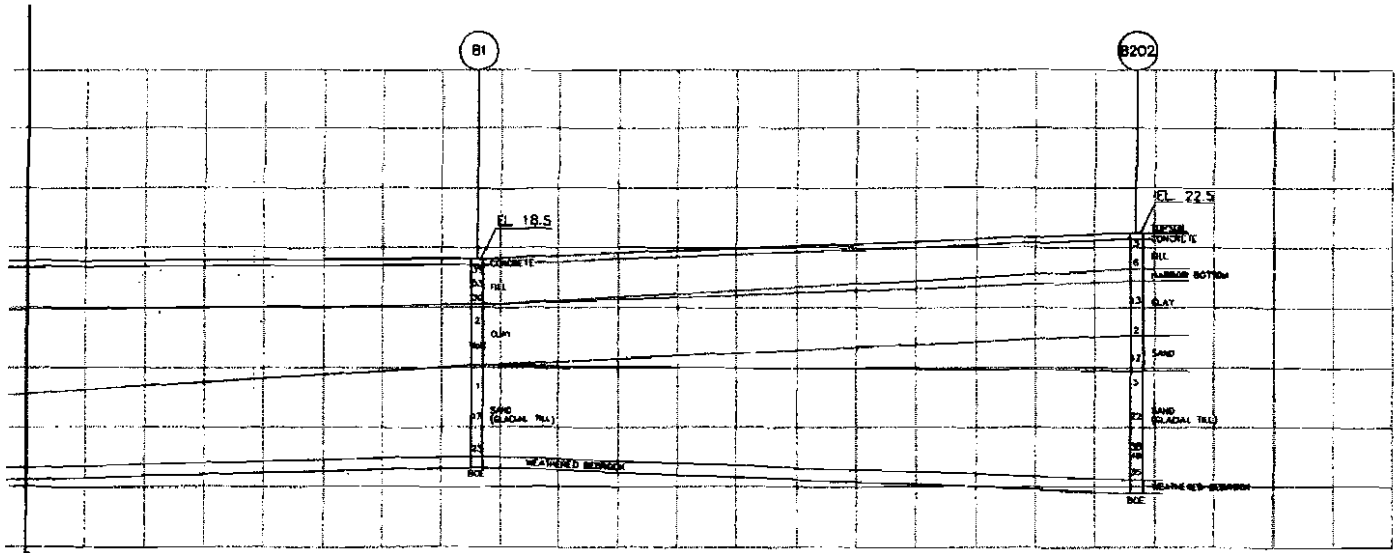
REV'S	BY	DATE	STATUS
-	KLR	6-12-09	CLIENT CHANGE
A	KLR	08-11-09	SUBSURFACE REPORT SUBMITTAL

DATE: 10-1-08
SCALE: 1"=10'
SHEET 2 OF 4



SECTION B-B
SCALE: 1"=10' HORIZ
1"=10' VERT

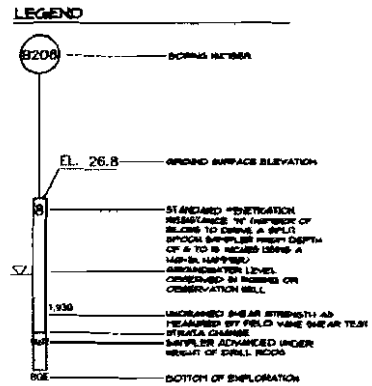
MATCHLINE THIS SHEET



SECTION B-B
SCALE: 1"=10' HORIZ
1"=10' VERT.

MATCHLINE THIS SHEET

LEGEND



NOTES

1. ELEVATIONS REFERENCED TO NORTH AMERICAN VERTICAL DATUM (NAVD) 1988.
2. BOTTOM OF EXPLORATIONS GENERALLY REFER TO REFUSAL TO PENETRATION INFERED TO BE SOUND BEDROCK.
3. STRATA LINES SHOWN ON LINEAR INTERPOLATION BETWEEN BORINGS. ACTUAL CHANGES IN STRATA AT SPECIFIC LOCATIONS WILL VARY FROM THOSE LINES DUE TO NATURALLY OCCURING VARIANCES.

NO.	BY	DATE	DESCRIPTION
B	RLS	4-13-09	CLIENT COMMENTS
A	RLS	10-1-08	ISSUED FOR PERMIT
REV.	BY	DATE	

Sebago Technics

PROJECT NO.	FIELD BOOK	DESIGN	CHKD	DRAWN
4566	-	KLR	RLS	MAL

SUBSURFACE EXPLORATION: SECTION B-B

OF:

HOTEL, RESTAURANT AND PORTSIDE RESIDENCES

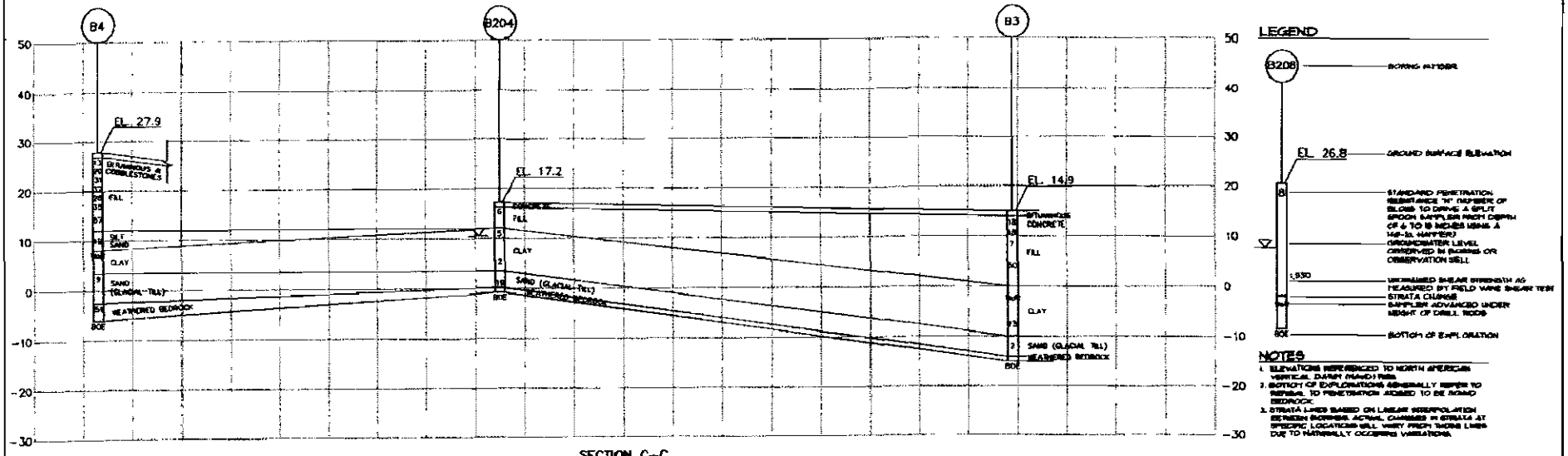
207 & 209 FORE STREET
PORTLAND, MAINE

FOR:

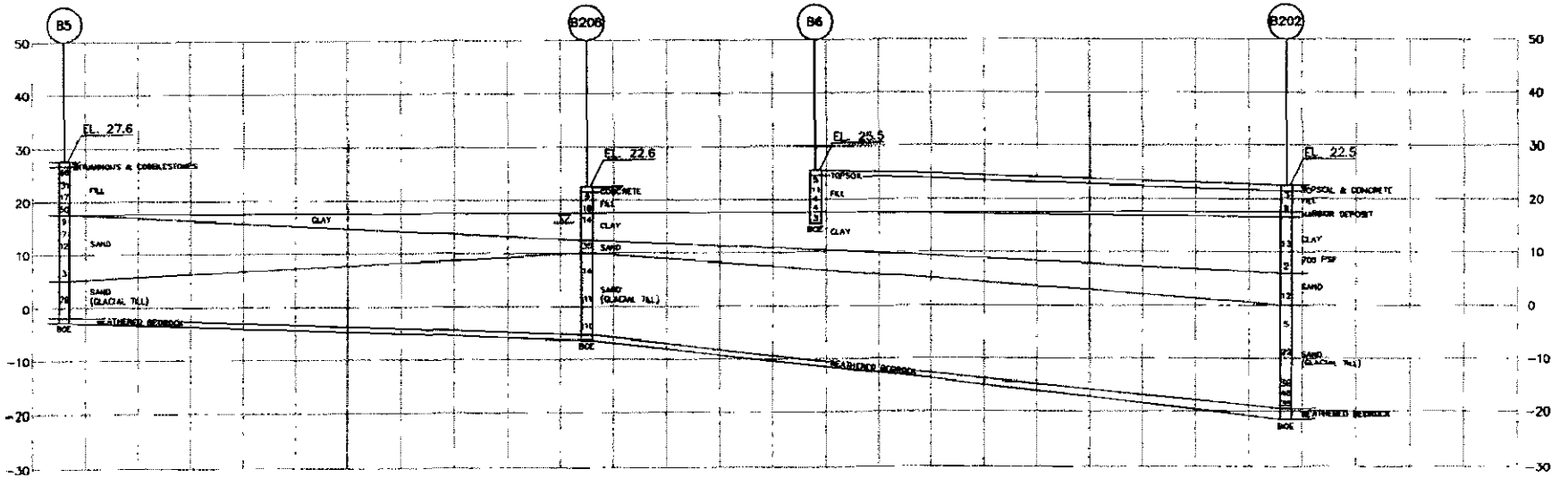
OLD PORT HOSPITALITY, LLC

DATE	SCALE
10-1-08	1"=10'

SHEET 3 OF 4



SECTION C–C
SCALE: 1"=10' HORIZ.
1"=10' VERT.



SECTION D–D
SCALE: 1"=10' HORIZ.
1"=10' VERT.

SUBSURFACE EXPLORATION: SECTIONS C-C & D-D
HOTEL, RESTAURANT AND PORTSIDE RESIDENCES
OLD PORT HOSPITALITY, LLC

05090

HOTEL, RESTAURANT AND PORTSIDE RESIDENCES
PORTLAND, MAINE
GRAIN SIZE DISTRIBUTION

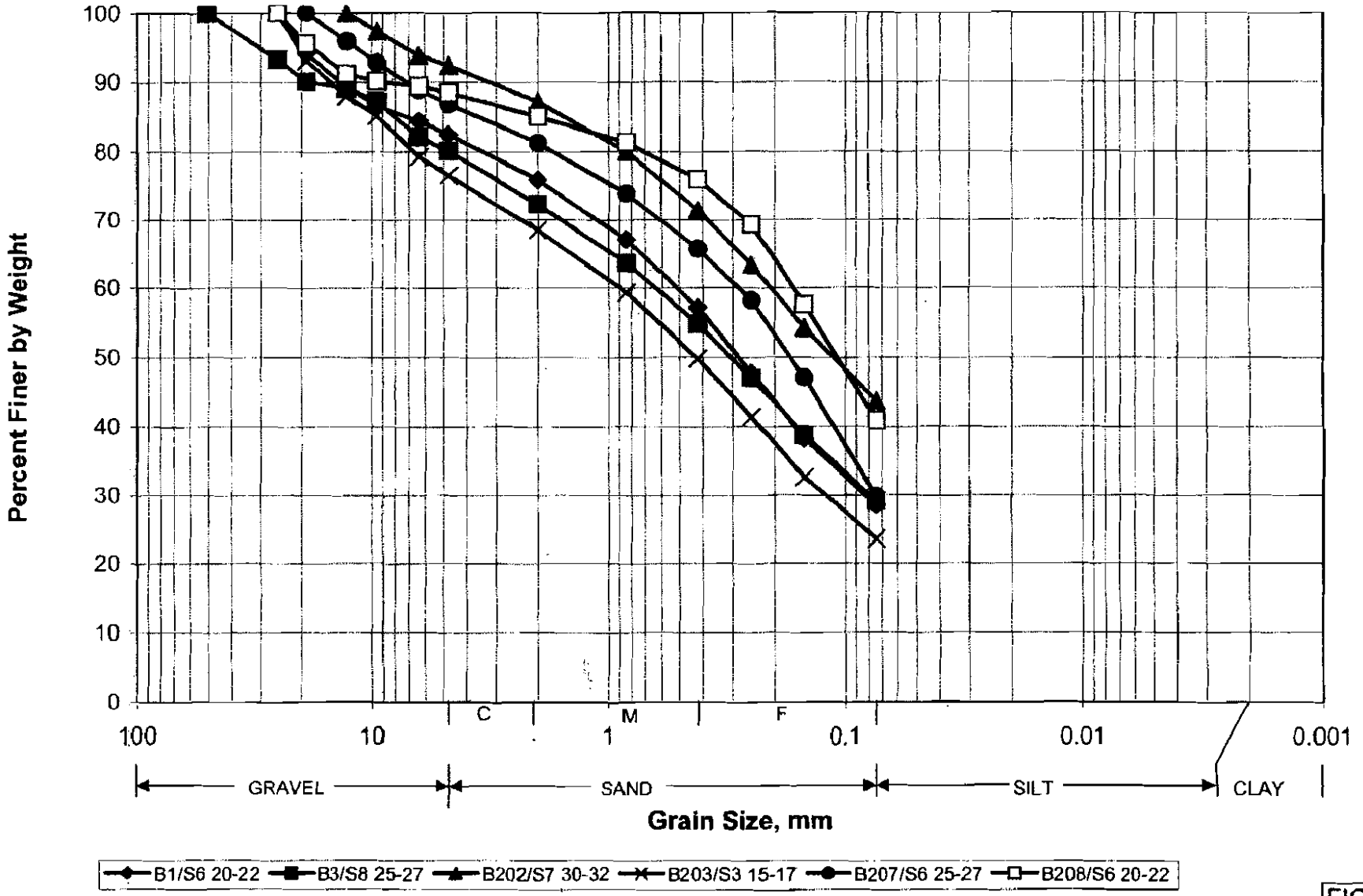
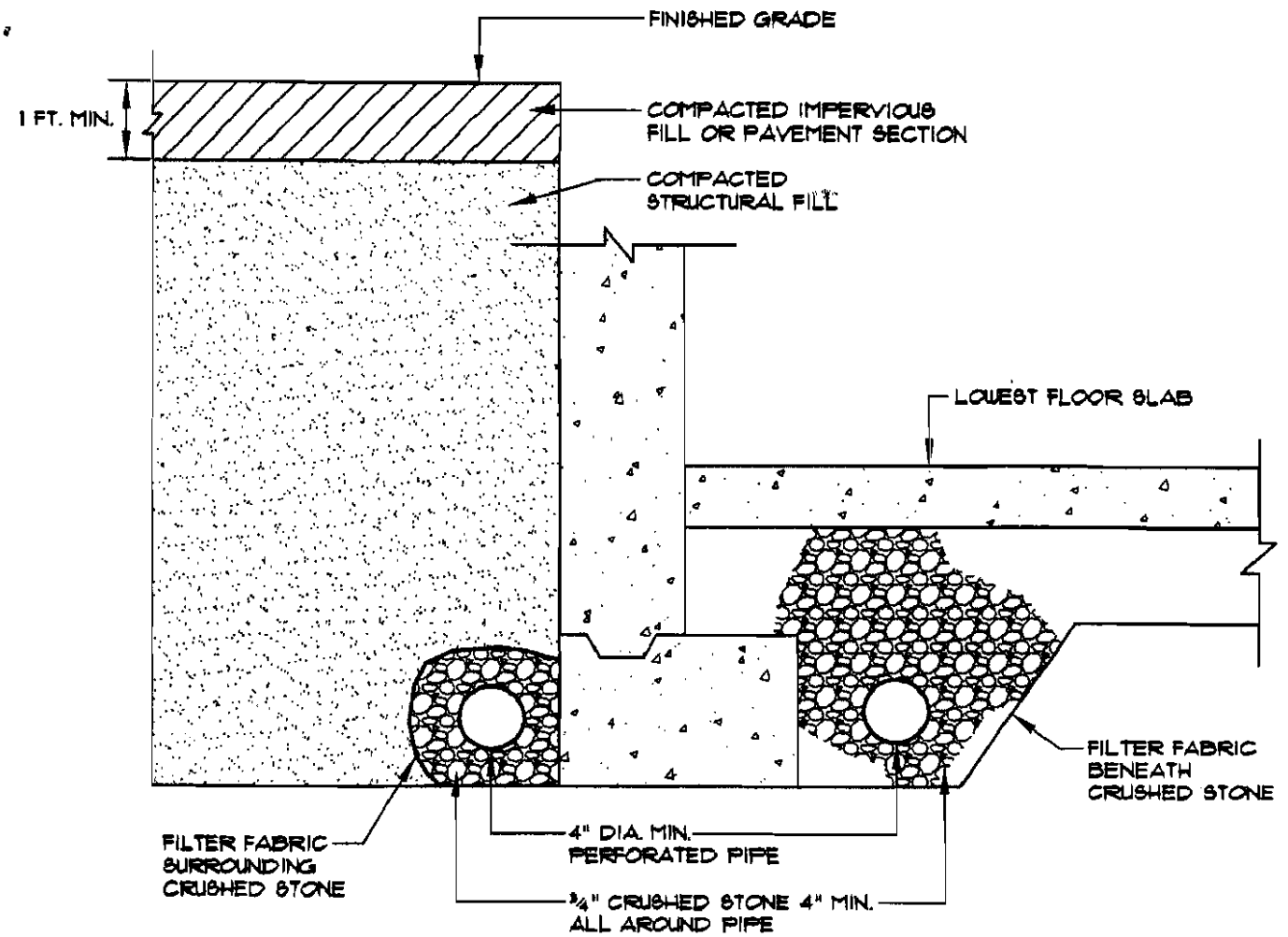
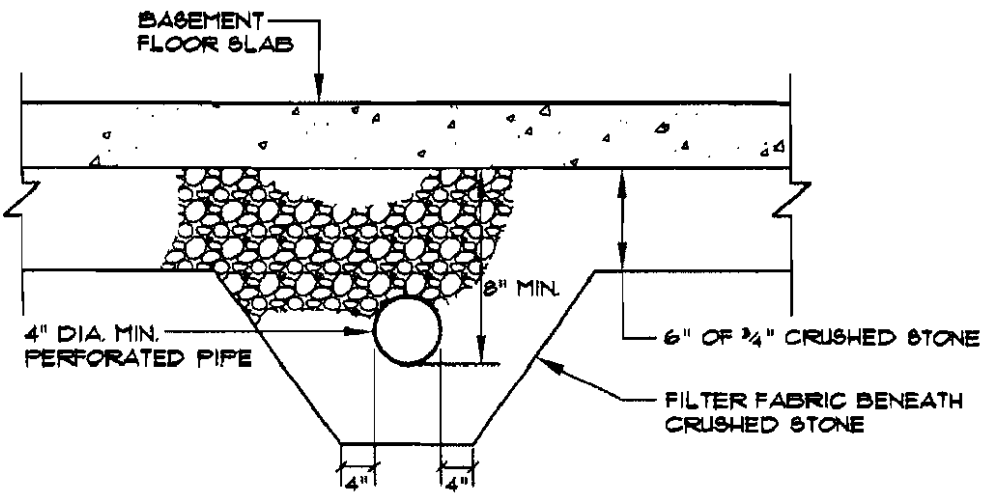


FIGURE 1



TYPICAL PERIMETER DRAIN DETAIL



TYPICAL UNDERSLAB DRAIN DETAIL

Sebago Technics
Engineering Expertise You Can Build On
One Chabot Street
Westbrook, Me 04098-1339
Tel (207) 856-0277

FOUNDATION DRAIN DETAILS OF: HOTEL, RESTAURANT & PORTSIDE RESIDENCES		SCALE: NONE
		DATE: 4-12-10
LOCATION: 207 & 209 FORE STREET PORTLAND, MAINE	FOR: OLD PORT HOSPITALITY, LLC	SHEET: FIGURE 2

Appendix A

Logs of Early 2005 Borings

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B1

Page 1 of 1

PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORMER JORDAN'S MEATS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	PME I LIMITED PARTNERSHIP	FIELD REP.	K. STEPHENSON
CONTRACTOR	GREAT WORKS TEST BORING	DATE STARTED	4/21/2005
DRILLER	D. BOLSTRIDGE	DATE FINISHED	4/21/2005

Elevation 28.5 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel	Rig Make & Model: Mobile B53				Hammer Type	Drilling Mud	Casing Advance
Type	SSA/HW	SS	–	☑ Truck	☐ Tripod	☐ Cat-Head	☑ Safety	☐ Bentonite	Type Method Depth
Inside Diameter (in.)	4.0	1 3/8	–	☐ ATV	☐ Geoprobe	☑ Winch	☐ Doughnut	☑ Polymer	
Hammer Weight (lb.)	300	140		☐ Track	☐ Air Track	☐ Roller Bit	☐ Automatic	☐ None	SSA to 10 ft/HW to 30 ft.
Hammer Fall (in.)	24	30		☐ Skid	☐	☑ Cutting Head	Drilling Notes:		

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	Sand % Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					0.2		-BITUMINOUS CONCRETE-										
	32	S1	0.5			SW-SM	Dense, brown well-graded SAND with silt and gravel (SW-SM), mps =	5	10	30	25	20	10				
	15						1.0 in., silt seam from 2.0 ft. to 2.3 ft., dry PID = 0 ppm										
	20						-FILL-										
	35	12	2.5														
	17	S2	2.5			SW-SM	Dense, brown well-graded SAND with silt and gravel (SW-SM), mps =	5	10	30	25	20	10				
	20				3.5		1.4 in., dry PID = 0 ppm										
	33						Very dense, gray ROCK FRAGMENTS, mps = 1.4 in., dry	70	25	5							
	27	12	4.5		4.5		-FILL-										
5																	
	7	S3	5.0			SM	Dense, gray brown silty SAND with gravel (SM), mps = 1.4 in., damp,	5	10	30	15	25	15				
	16						with weathered rock fragments										
	14						PID = 0 ppm										
	28/0.4	3	6.9				-FILL-										
					8.0												
10																	
	1	S4	10.0			CL	Soft, gray lean CLAY (CL), wet, frequent sand partings					10	90	N	M	M	
	1																
	1																
	2	24	12.0														
15																	
	WOR	S5	15.0			CL	Soft, gray lean CLAY (CL), wet, frequent sand partings					15	85	N	M	M	
	WOR																
	WOR																
	WOR	24	17.0														
					18.0		-MARINE DEPOSIT-										
20																	
	1	S6	20.0			SM	Very loose, gray silty SAND with gravel (SM), mps = 1.3 in., wet	5	10	10	20	30	25				
	1																
	WOH																
	1	24	22.0														
					24.0		-GLACIAL TILL-										
25																	
	6	S7	25.0			SM	Medium dense, gray silty SAND (SM), mps = 0.3 in., wet		5	30	25	25	15				
	5																
	12																
	14	2	27.0														
30							-GLACIAL TILL-										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water

Sample ID

D	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon Sample
G	Geoprobe

Well Diagram

Riser Pipe; Screen; Filter Sand; Cuttings; Grout; Concrete; Bentonite Seal

Summary

Overburden (Linear ft.)	33.0
Rock Cored (Linear ft.)	--
Number of Samples	8S
BORING NO.	B1

Field Tests

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B1

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
30	4	S8	30.0			SM	Medium dense, gray silty SAND with gravel (SM), mpe = 1.0 in., wet,	5	10	20	20	30	15				
	7						bonded										
	16																
	15	8	32.0														
							-GLACIAL TILL-										
					33.0												
							WEATHERED ROCK in wash from 33.0 ft. to 35.0 ft.										
							-WEATHERED BEDROCK-										
35					35.0												
							Bottom of Exploration at 35.0 Ft.										
							Refusal										
40																	

NOTES:

FILE NO. 05090

BORING NO. B1

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B2

Page 1 of 2

PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORMER JORDAN'S MEATS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	PME I LIMITED PARTNERSHIP	FIELD REP.	K. STEPHENSON
CONTRACTOR	GREAT WORKS TEST BORING	DATE STARTED	4/21/2005
DRILLER	D. BOLSTRIDGE	DATE FINISHED	4/21/2005

Elevation 17.4 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel	Rig Make & Model	Mobile B53	Hammer Type	Drilling Mud	Casing Advance
Type	SSA/HW	SS	–	☑ Truck ☐ Tripod	☐ Cat-Head	☑ Safety	☐ Bentonite	Type Method Depth
Inside Diameter (in.)	4.0	1 3/8	–	☐ ATV ☐ Geoprobe	☑ Winch	☐ Doughnut	☑ Polymer	
Hammer Weight (lb.)	300	140		☐ Track ☐ Air Track	☐ Roller Bit	☐ Automatic	☐ None	SSA to 10 ft./HW to 30 ft.
Hammer Fall (in.)	24	30		☐ Skid	☑ Cutting Head	Drilling Notes:		

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	49	S1	0.0		0.5		-BITUMINOUS CONCRETE-										
	21	10	1.0		1.0	SM	Very dense, gray brown silty SAND with gravel (SM), mpe = 1.0 in., dry	5	10	15	20	30	20				
	50/0		1.0				PID = 1.3 ppm										
						SM	Gray, silty SAND (SM) with wood and cobbles, creosote odor										
							PID = 31.0 ppm										
	Cuttings	S2															
5			5.0														
			5.0			SM	Gray, silty SAND (SM) with wood and cobbles, creosote odor										
							PID = 14.3 ppm										
	Cuttings	S3															
							-FILL-										
			8.5		8.5												
10	7	S4	10.0			CL	Very stiff, olive lean CLAY (CL), wet						100	N	M	M	
	9																
	12																
	10	8	12.0														
					13.0												
15	1	S5	15.0			CL	Soft, gray CLAY (CL), wet, frequent sand partings					10	90	N	M	M	
	1																
	WOH																
	1	24	17.0														
20	2	S6	20.0			CL	Soft, gray lean CLAY with sand (CL), wet, occasional black streaks					15	85	N	M	M	
	1																
	1																
	1	24	22.0														
							-MARINE DEPOSIT-										
25	4	S7	25.0			CL	Medium stiff, gray lean CLAY (CL), wet, occasional sand partings					10	90	N	M	M	
	1				26.0												
	27					SM	Medium dense, gray silty SAND with gravel (SM), mpe = 1.4 in., wet	5	10	20	20	30	15				
	11	24	27.0														
							-GLACIAL TILL-										
30																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
4/21/2005	1420		10.0	34.0	7.8

Sample ID

O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon Sample
G	Geoprobe

Well Diagram

Riser Pipe; Screen; Filter Sand; Cuttings; Grout; Concrete; Bentonite Seal

Summary

Overburden (Linear ft.)	34.0
Rock Cored (Linear ft.)	–
Number of Samples	8S

BORING NO. B2

Field Tests

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B2

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
30	4	S8	30.0			SM	Medium dense, gray silty SAND with gravel (SM), mps = 1.3 in., wet	10	15	40	10	10	15				
	7																
	18																
	28	2	32.0														
							-GLACIAL TILL-										
					34.0												
35							Bottom of Exploration at 34.0 ft. below ground surface Roller Bit Refusal										
40																	

NOTES:

FILE NO. 05090

BORING NO. B2

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B3

Page 1 of 2

PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORMER JORDANS MEATS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	PMB I LIMITED PARTNERSHIP	FIELD REP.	K. STEPHENSON
CONTRACTOR	GREAT WORKS TEST BORING	DATE STARTED	4/21/2005
DRILLER	D. BOLSTRIDGE	DATE FINISHED	4/21/2005

Elevation 14.9 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel
Type	SSA/HW	SS	–
Inside Diameter (in.)	4.0	1 3/8	–
Hammer Weight (lb.)	300	140	
Hammer Fall (in.)	24	30	

Rig Make & Model: Mobile B53

☑ Truck ☐ Tripod ☐ Cat-Head
☐ ATV ☐ Geoprobe ☑ Winch
☐ Track ☐ Air Track ☐ Roller Bit
☐ Skid ☑ Cutting Head

Hammer Type: ☑ Safety ☐ Doughnut ☐ Automatic

Drilling Mud: ☐ Bentonite ☑ Polymer ☐ None

Casing Advance: Type Method Depth: SSA to 4.4 ft./HW to 29.5 ft.

Drilling Notes:

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test: Dilatancy	Field Test: Toughness	Field Test: Plasticity	Field Test: Strength
0					0.1		-BITUMINOUS CONCRETE-										
	11	S1	0.4			SW-SM	Medium dense, brown well-graded SAND with silt (SW-SM), mps = 0.2 in., dry, trace bituminous concrete PID = 0 ppm			10	20	50	10				
	10																
	8																
	7	15	2.4														
	7	S2	2.4			SW-SM	Medium dense, brown well-graded SAND with silt (SW-SM), mps = 0.3 in., dry PID = 0 ppm		5	10	20	45	10				
	9																
	9																
	7	12	4.4														
5																	
	7	S3	5.0			SW-SM	Loose, brown well-graded SAND with silt and gravel (SW-SM), mps = 1.4 in., wet PID = 0 ppm	10	5	30	30	15	10				
	4																
	3																
	3	2	7.0				-FILL-										
	2	S4	7.0		7.5	SW	Very dense, brown well-graded SAND (SW), mps = 1.4 in., wet PID = 0 ppm	5		10	20	60	5				
	50/0.1	3	7.6				Bricks and Concrete in wash return										
							-FILL-										
10																	
	36	S5	10.0		10.2	SM	Very dense, gray silty SAND (SM), mps = 0.2 in., wet, with bricks			10	10	60	20				
	50/0.2	4	10.7				WOOD, wet										
					12.0		Wood in wash return										
							-FILL-										
					14.0												
15																	
	WOH	S6	15.0			CL	Soft, gray lean CLAY (CL), wet, frequent sand partings, occasional black streaks					10	90	N	M	M	
	WOH																
	WOH																
	WOH	24	17.0														
20																	
	WOH	S7	20.0			CL	Soft, gray lean CLAY with sand (CL), wet					15	85	N	M	M	
	WOH																
	13																
	13	24	22.0														
							-MARINE DEPOSIT-										
					24.0												
25																	
	2	S8	25.0			SM	Very loose, gray silty SAND with gravel (SM), mps = 1.4 in., wet	10	10	10	15	25	30				
	1																
	1																
	2	24	27.0														
							-GLACIAL TILL-										
					29.5												
30							WEATHERED BEDROCK										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water

Sample ID

D Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon Sample
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (Linear ft.)	29.5
Rock Cored (Linear ft.)	–
Number of Samples	8S

BORING NO. B1

Field Tests — Dilatancy: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B3

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel		Sand				Field Test			
								% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	Strength
30					30.0												
	25/0	NR	30.0				Bottom of Exploration at 30.0 ft. below ground surface Refusal										
35																	
40																	

NOTES:

FILE NO. 05090

BORING NO. B3

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B4

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PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORMER JORDAN'S MEATS, PORTLAND, MAINE	PROJECT MGR.	D RILEY
CLIENT	PMB I LIMITED PARTNERSHIP	FIELD REP.	K. STEPHENSON
CONTRACTOR	GREAT WORKS TEST BORING	DATE STARTED	4/20/2005
DRILLER	D. BOLSTRIDGE	DATE FINISHED	4/20/2005

Elevation 27.9 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel
Type	HSA	SS	--
Inside Diameter (in.)	4.25	1 3/8	--
Hammer Weight (lb.)	--	140	
Hammer Fall (in.)	--	30	

Rig Make & Model: Mobile B53

- [x] Truck
- [ ] ATV
- [ ] Track
- [ ] Skid
- [ ] Tripod
- [ ] Geoprobe
- [ ] Air Track
- [ ] Cat-Head
- [x] Winch
- [ ] Roller Bit
- [x] Cutting Head

Hammer Type: [x] Safety [ ] Doughnut [ ] Automatic

Drilling Mud: [ ] Bentonite [ ] Polymer [x] None

Casing Advance: Type Method Depth — HSA/SPT/N/34.0 ft.

Drilling Notes:

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	Sand % Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					0.5		-BITUMINOUS CONCRETE-										
					1.2		-COBBLESTONES-										
	5	S1	1.3		1.7	SP	Medium dense, gray poorly-graded SAND with gravel (SP), mps = 1.4 in.	5	10			80	5				
	6					SM	Medium dense, gray silty SAND (SM), mps = 0.2 in., dry, bricks			20	15	50	15				
	7				3.0												
	6	12	3.3		3.5		Medium dense, gray to black ASH with bricks and sand, dry										
	6	S2	3.3			SM	Medium dense, gray silty SAND (SM), mps = 1.0 in., dry, bricks			15	15	55	15				
	9 13	S3	4.0														
5	11 14					SW	Dense, gray well-graded SAND with gravel (SW), mps = 1.4 in., dry	5	10	20	20	40	5				
	14 17	12	5.3														
	29	6	6.0				-FILL-										
	22	S4	6.0			SW	Dense, gray well-graded SAND with gravel (SW), mps = 1.4 in., dry, brick	5	10	10	20	40	5				
	26				7.0												
	11					SM	Medium dense, gray silty SAND (SM), mps = 0.2 in., damp			25	20	40	15				
	11	11	8.0		8.0												
	11	S5	8.0			SM	Medium dense, gray silty SAND with gravel (SM), mps = 1.4 in., damp, bricks	10	10	20	15	30	15				
	10																
	16																
10	21	14	10.0				-FILL-										
	21	S6	10.0			SM	Medium dense, gray silty SAND with gravel (SM), mps = 1.4 in., damp, bricks	10	10	20	15	30	15				
	19																
	16				11.5												
	9	10	12.0			SW	Medium dense, brown well-graded SAND (SW), mps = 0.2 in., damp			25	25	50					
	8		12.0		12.5												
	68	NR					Probable Cobbles, no recovery										
	19																
	27		14.0														
	50/0.1	S7	14.0			ML	Very dense, gray sandy SILT (ML), mps = 0.2 in., damp, rock fragments			5		25	70				
15		2	14.1														
							-FILL-										
					16.5												
	4	S8	17.0			ML	Loose, gray sandy SILT (ML), damp, little organics					20	80	S	L	L	
	5				18.0		-MARINE DEPOSIT-										
	7					SM	Medium dense, gray silty SAND (SM), mps = 0.02 in., wet, trace organics					50	50				
	9	24	19.0														
							-MARINE DEPOSIT-										
20	WOR	S9	20.0		20.5	SM	Medium dense, gray silty SAND (SM), mps = 0.02 in., wet, trace organics					80	20				
	WOR					CL	Soft, gray lean CLAY (CL), wet, frequent sand seams					15	85	N	M	M	
	WOR																
	WOR	24	22.0														
							-MARINE DEPOSIT-										
					25.0												
25	2	S10	25.0			SM	Loose, gray silty SAND with gravel (SM), mps = 1.4 in., wet	10	5	20	10	35	20				
	4																
	5																
	4	16	27.0														
							-GLACIAL TILL-										
30																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
4/20/2005	1055		--	7.0	Dry

Sample ID

O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon Sample
G	Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (Linear ft.)	30.5
Rock Cored (Linear ft.)	--
Number of Samples	11S
BORING NO.	B4

Field Tests

Dilatancy: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

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Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
30																	
	5	S11	30.0		30.5	SM	Loose, gray silty SAND with gravel (SM), mps = 1.4 in., wet	10	5	20	10	35	20				
	13						Very dense, gray weathered SCHIST/QUARTZ, mps = 1.4 in., wet										
	38																
	45	12	32.0														
							-WEATHERED BEDROCK-										
					34.0												
35							Bottom of Exploration at 34.0 ft. below ground surface.										
							Refusal										
40																	

NOTES:

FILE NO. 05090 BORING NO. B4

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. **B5**

Page 1 of 2

PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORMER JORDAN'S MEATS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	PME I LIMITED PARTNERSHIP	FIELD REP.	K. STEPHENSON
CONTRACTOR	GREAT WORKS TEST BORING	DATE STARTED	4/20/2005
DRILLER	D. BOLSTRIDGE	DATE FINISHED	4/20/2005

Elevation 27.6 ft. Datum NAVD Boring Location See Plan

Item	Casing	Sampler	Core Barrel	Rig Make & Model				Hammer Type	Drilling Mud	Casing Advance
Type	HSA	SS	–	☑ Truck	☐ Tripod	☐ Cat-Head	Mobile B53	☑ Safety	☐ Bentonite	Type Method Depth
Inside Diameter (in.)	4.25	1 3/8	–	☐ ATV	☐ Geoprobe	☑ Winch		☐ Doughnut	☐ Polymer	
Hammer Weight (lb.)	–	140		☐ Track	☐ Air Track	☐ Roller Bit		☐ Automatic	☑ None	HSA/SPIN/38.0 Ft.
Hammer Fall (in.)	–	30		☐ Skid		☑ Cutting Head		Drilling Notes:		

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					0.2		-BITUMINOUS CONCRETE-										
					1.5		-COBBLESTONES-										
	8	S1	2.0		2.5	SW	Very dense, light brown well-graded SAND (SW), mps = 1.0 in., dry	5		10	35	50					
	22					SP-SW	Very dense, brown well-graded SAND with silt and gravel (SP-SW),	10	10	15	10	45	10				
	44						mps = 1.4 in., dry										
	41	14	4.0														
	27	S2	4.0			SM	Dense, brown silty SAND with gravel (SM), mps = 1.4 in., dry	5	10	30	10	30	15				
5	14																
	17																
	18	14	6.0														
	12	S3	6.0			SM	Medium dense, brown silty SAND (SM), mps = 1.4 in., dry, bricks,	5		15	25	35	20				
	10						clayey silt seams										
	7																
	24	12	8.0														
	9	S4	8.0			SM	Dense, brown silty SAND with gravel (SM), mps = 1.4 in., damp, trace	5	10	5	5	60	15				
	27						wood										
	23						-FILL-										
	17	12	10.0		10.0												
10	5	S5	10.0			SM	Loose, gray-brown silty SAND (SM), mps = 0.02 in., wet, frequent clay					80	20				
	4						seams, wet										
	5																
	4	20	12.0														
	5	S6	12.0			SM	Loose, gray-brown silty SAND (SM), mps = 0.02 in., frequent clay					80	20				
	4						seams, wet										
	3																
	13	24	14.0														
15																	
	3	S7	15.0			SM	Medium dense, gray to brown silty SAND (SM), mps = 0.2 in., wet,			5	5	70	20				
	2						frequent clay seams, well-graded sand seam from 16.7 to 17.0										
	10																
	12	12	17.0														
							-MARINE DEPOSIT-										
20					20.0												
	1	S8	20.0			SM	Loose, gray silty SAND (SM), mps = 0.3 in., wet		5			75	20				
	1																
	2																
	5	3	22.0				-MARINE DEPOSIT-										
					22.5												
25																	
	3	S9	25.0			SM	Medium dense, gray silty SAND (SM), mps = 0.5 in., wet	5	5	5	10	60	15				
	8																
	21																
	17	12	27.0														
							-GLACIAL TILL-										
30					30.0												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water

Sample ID

O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon Sample
G	Geoprobe

Well Diagram

Riser Pipe; Screen; Filter Sand; Cuttings; Grout; Concrete; Bentonite Seal

Summary

Overburden (Linear ft.)	30.3
Rock Cored (Linear ft.)	–
Number of Samples	10S
BORING NO.	B5

Field Tests

Dilatancy: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B5

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
					30.0												
30	50/0.3	S10	30.0		30.3		Very dense, gray weathered SCHIST,wet										
		2	30.3														
							Bottom of Exploration at 30.3 ft. below ground surface										
							Refusal										
35																	
40																	

NOTES:

FILE NO. 05080

BORING NO. B5

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B6

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PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORMER JORDAN'S MEATS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	PMB I LIMITED PARTNERSHIP	FIELD REP.	K. STEPHENSON
CONTRACTOR	GREAT WORKS TEST BORING	DATE STARTED	4/25/2005
DRILLER	D. BOLSTRIDGE	DATE FINISHED	4/25/2005

Elevation 23.5 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel
Type	SSA	SS	--
Inside Diameter (in.)	--	1 3/8	--
Hammer Weight (lb.)	--	140	
Hammer Fall (in.)	--	30	

Rig Make & Model: Mobile B53

☑ Truck ☐ Tripod ☐ Cat-Head
☐ ATV ☐ Geoprobe ☑ Winch
☐ Track ☐ Air Track ☐ Roller Bit
☐ Skid ☑ Cutting Head

Hammer Type: ☑ Safety ☐ Doughnut ☐ Automatic

Drilling Mud: ☐ Bentonite ☐ Polymer ☑ None

Casing Advance: Type Method Depth: SSA/10.0 ft.

Drilling Notes:

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test: Dilatancy	Field Test: Toughness	Field Test: Plasticity	Field Test: Strength
0	1	S1	0.0		0.5	ML	M. stiff, brown, SILT with sand (ML), damp, grass and roots-TOPSOIL-				10	10	80				
	2					ML	Medium stiff, brown sandy SILT (ML), rqs = 1.0 in., damp, frequent				10	10	70				
	3						sand seams, bricks PID = 0 ppm										
	4	18	2.0				-FILL-										
	5	S2	2.0			ML	Stiff, brown sandy SILT (ML), rqs = 1.0 in., damp, frequent sand				10	20	70				
	5						seams, bricks										
	6						PID = 0 ppm										
	7	7	4.0														
	5	S3	4.0			CL	Medium stiff, brown lean CLAY (CL), rqs = 0.3 in., wet, with sand,				10	10	80	N	M	M	
5	2						bricks, ash										
	2						PID = 0 ppm										
	4	15	6.0														
	2	S4	6.0			CL	Medium stiff, brown lean CLAY (CL), rqs = 0.3 in., wet, with ash,		5	5	5	5	80	N	M	M	
	2						wood, sand										
	2						-FILL-										
	2	15	8.0		7.8		PID = 0 ppm										
	2	S5	8.0			CL	Medium stiff, gray-brown, lean mottled CLAY (CL), wet, occasional fine					10	90	N	M	M	
	1						sand seams PID = 0 ppm										
	2						-MARINE DEPOSIT-										
10	2	20	10.0														
							Bottom of Exploration at 10.0 ft. below ground surface										
							No Refusal										
15																	
20																	
25																	
30																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
4/25/2005	0830		--	10.0	Dry

Sample ID

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon Sample
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (Linear ft.)	10.0
Rock Cored (Linear ft.)	--
Number of Samples	5S

BORING NO. B6

Field Tests

Dilatancy: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B7

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PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORMER JORDAN'S MEATS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	PMB I LIMITED PARTNERSHIP	FIELD REP.	K. STEPHENSON
CONTRACTOR	GREAT WORKS TEST BORING	DATE STARTED	4/25/2005
DRILLER	D. BOLSTRIDGE	DATE FINISHED	4/25/2005

Elevation 17.3 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel
Type	SSA	SS	--
Inside Diameter (in.)	--	1 3/8	--
Hammer Weight (lb.)	--	140	
Hammer Fall (in.)	--	30	

Rig Make & Model: Mobile B53

- [x] Truck
- [ ] ATV
- [ ] Track
- [ ] Skid
- [ ] Tripod
- [ ] Geoprobe
- [ ] Air Track
- [ ] Cat-Head
- [x] Winch
- [ ] Roller Bit
- [x] Cutting Head

Hammer Type: [x] Safety [ ] Doughnut [ ] Automatic

Drilling Mud: [ ] Bentonite [ ] Polymer [x] None

Casing Advance: Type Method Depth: SSA/17.0 ft.

Drilling Notes:

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					0.3		-BITUMINOUS CONCRETE-										
	8	S1	0.5		0.5	SW	Medium dense, gray well-graded SAND with gravel (SW), mps = 1.4 in.										
	14					SM	Dense, gray silty SAND with gravel (SM), mps = 1.0 in., dry, slight	5	10	10	10	50	15				
	17						petroleum odor										
	30	12	2.5				PID = 7.8 ppm										
	10	S2	2.5			SM	Dense, gray silty SAND with gravel (SM), mps = 1.3 in., dry	10	10	15	20	30	15				
	23						PID = 1.3 ppm										
	50/0.4	9	3.9		3.9		-FILL-										
5	50/0.4	S3	5.0				Gray CONCRETE FRAGMENTS, dust										
		3	5.4				PID = 5.0 ppm										
10							-FILL-										
					11.0												
	1	S4	11.0			SM	Very dense, gray silty SAND with gravel (SM), mps = 1.0 in., dry, wood	5	10	20	20	30	15				
	15	4	12.0				in tip of spoon										
	50/0						PID = 27.0 ppm										
							Wood in cuttings to 14.0 ft.										
							-FILL-										
					14.0												
15	1	S5	15.0			CL	Soft, gray lean CLAY (CL), damp, occasional sand partings					5	95	N	M	M	
	1																
	1																
	2	24	17.0				-MARINE DEPOSIT-										
							Bottom of Exploration at 17.0 ft. below ground surface.										
							No Refusal										
20																	
25																	
30																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
4/25/2005	0920		--	17.0	Dry

Sample ID

O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon Sample
G	Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (Linear ft.)	17.0
Rock Cored (Linear ft.)	--
Number of Samples	5S
BORING NO.	B7

Field Tests

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. **B8**

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PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORMER JORDAN'S MEATS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	PME I LIMITED PARTNERSHIP	FIELD REP.	K. STEPHENSON
CONTRACTOR	GREAT WORKS TEST BORING	DATE STARTED	4/25/2005
DRILLER	D. BOLSTRIDGE	DATE FINISHED	4/25/2005

Elevation 16 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel
Type	SSA	SS	–
Inside Diameter (in.)	–	1 3/8	–
Hammer Weight (lb.)	–	140	
Hammer Fall (in.)	–	30	

Rig Make & Model: Mobile B53

- [x] Truck
- [ ] ATV
- [ ] Track
- [ ] Skid
- [ ] Tripod
- [ ] Geoprobe
- [ ] Air Track
- [ ] Cat-Head
- [x] Winch
- [ ] Roller Bit
- [x] Cutting Head

Hammer Type: [x] Safety [ ] Doughnut [ ] Automatic

Drilling Mud: [ ] Bentonite [ ] Polymer [x] None

Casing Advance: Type Method Depth: SSA/7.0 ft.

Drilling Notes:

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	10	S1	0.0		0.1		-BITUMINOUS CONCRETE-										
	16					SW	Dense, brown well-graded SAND (SW), roots = 0.3 in., dry		5	30	30	30	5				
	25/0.2	3	1.2				PID = 1.3 ppm										
					2.0												
	2	S2	3.0			CL	Stiff, gray lean CLAY (CL), roots = 0.2 in. damp, sand seams		5		5	10	80				
	3						PID = 17.0 ppm										
	4						-FILL-										
5	5	15	5.0		5.0												
	2	S3	5.0			CL	Stiff, gray brown lean CLAY (CL), damp, frequent sand partings,					10	90	N	M	M	
	2						petroleum odor										
	2						PID = 261.0 ppm										
	3	24	7.0				-MARINE DEPOSIT-										
							Bottom of Exploration at 7.0 ft. below ground surface										
							No Refusal										
10																	
15																	
20																	
25																	
30																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
4/25/2005	0950		–	7.0	Dry

Sample ID

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon Sample
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (Linear ft.)	7.0
Rock Cored (Linear ft.)	–
Number of Samples	3S
BORING NO.	B8

Field Tests

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. **B9**

Page 1 of 1

PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORMER JORDAN'S MEATS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	PMB I LIMITED PARTNERSHIP	FIELD REP.	K. STEPHENSON
CONTRACTOR	GREAT WORKS TEST BORING	DATE STARTED	4/25/2005
DRILLER	D. BOLSTRIDGE	DATE FINISHED	4/25/2005

Elevation 15.2 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel
Type	SSA	SS	–
Inside Diameter (in.)	–	1 3/8	–
Hammer Weight (lb.)	–	140	
Hammer Fall (in.)	–	30	

Rig Make & Model: Mobile B53

- ☑ Truck ☐ Tripod ☐ Cat-Head
- ☐ ATV ☐ Geoprobe ☑ Winch
- ☐ Track ☐ Air Track ☐ Roller Bit
- ☐ Skid ☑ Cutting Head

Hammer Type: ☑ Safety ☐ Doughnut ☐ Automatic

Drilling Mud: ☐ Bentonite ☐ Polymer ☑ None

Casing Advance: Type Method Depth — SSA/17.0 ft.

Drilling Notes:

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	6		0.0		0.1		-BITUMINOUS CONCRETE-										
	6	NR															
	6																
	6		2.0														
	3	S1	2.0			SW	Loose, brown well-graded SAND (SW), mps = 1.0 in., dry	5		25	25	40	5				
	3						PID = 1.3 ppm										
	3																
	3	I4	4.0														
	1	S2	4.0			SW	Loose, brown well-graded SAND (SW), mps = 0.3 in., dry		5	25	25	40	5				
5	2						PID = 0 ppm										
	2																
	1	I5	6.0				-FILL-										
	1	S3	6.0			SW	Loose, brown well-graded SAND (SW), mps = 0.3 in., dry		5	25	25	40	5				
	2				7.0		PID = 0 ppm										
	2					SM	Loose, gray brown silty SAND (SM), mps = 0.4 in., wet	5	5	20	30	25	15				
	4	I2	8.0		8.0		-FILL-										
	1	S4	8.0			SW	Medium dense, gray brown well-graded SAND (SW), mps = 0.2 in., wet			35	30	30	5				
	1						bricks										
	1						PID = 0 ppm										
10	17	I3	10.0		10.0		-FILL-										
	20	S5	10.0				WOOD, wet										
	50/0	4	10.5				PID = 0 ppm										
							-FILL-										
					12.5												
	8	S6	13.0			SM	Medium dense, gray silty SAND (SM), mps = 0.2 in., wet, brick			30	30	25	15				
	13						fragments PID = 0 ppm										
	5																
	5	3	15.0														
15	2	S7	15.0			SM	Medium dense, gray silty SAND (SM), mps = 0.2 in., wet, brick			30	30	25	15				
	1						fragments PID = 0 ppm										
	1				16.5		-FILL-										
	WOH	3	17.0			CL	Soft, gray lean CLAY (CL), wet -MARINE DEPOSIT-										
							Bottom of Exploration at 17.0 ft. below ground surface.										
							No Refusal										
20																	
25																	
30																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
4/25/2005	1030		--	15.0	9.0

Sample ID

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon Sample
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (Linear ft.)	17.0
Rock Cored (Linear ft.)	–
Number of Samples	7S

BORING NO. B9

Field Tests — Dilatancy: R - Rapid S - Slow N - None; Toughness: L - Low M - Medium H - High; Plasticity: N - Nonplastic L - Low M - Medium H - High; Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. **B10**

Page 1 of 1

PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORMER JORDAN'S MEATS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	PME I LIMITED PARTNERSHIP	FIELD REP.	K. STEPHENSON
CONTRACTOR	GREAT WORKS TEST BORING	DATE STARTED	4/25/2005
DRILLER	D. BOLSTRIDGE	DATE FINISHED	4/25/2005

Elevation 15.6 ft. ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel
Type	SSA	SS	–
Inside Diameter (in.)	–	1 3/8	–
Hammer Weight (lb.)	–	140	
Hammer Fall (in.)	–	30	

Rig Make & Model: Mobile B53

- ☑ Truck ☐ Tripod ☐ Cat-Head
- ☐ ATV ☐ Geoprobe ☑ Winch
- ☐ Track ☐ Air Track ☐ Roller Bit
- ☐ Skid ☑ Cutting Head

Hammer Type: ☑ Safety ☐ Doughnut ☐ Automatic

Drilling Mud: ☐ Bentonite ☑ Polymer ☐ None

Casing Advance: Type Method Depth — SSA/14.0 ft.

Drilling Notes:

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	3	S1	0.0		0.1		-BITUMINOUS CONCRETE-										
	4					SW	Loose, brown well-graded SAND (SW), mps = 1.0 in., dry	5	5	20	25	45					
	2						PID = 0 ppm										
	4	14	2.0														
	4	S2	2.0			SW	Loose, brown well-graded SAND (SW), mps = 1.4 in., dry	5	5	30	30	30					
	2						PID = 0 ppm										
	2																
	2	15	4.0														
	1	S3	4.0			SW	Very loose, brown well-graded SAND (SW), mps = 0.7 in., dry	5	5	30	30	30					
5	1						PID = 0 ppm										
	1						-FILL-										
	2	12	6.0														
	3	S4	6.0			SW	Loose, brown well-graded SAND (SW), mps = 0.7 in., dry	5	5	30	30	30					
	2						PID = 0 ppm										
	3	8	7.5		7.5												
	50/0						CONCRETE										
					8.5		-FILL-										
10	11	S5	10.0			SP	Loose, gray poorly-graded SAND (SP), mps =0.2 in., wet, bricks			10	30	50	10				
	2						PID = 0 ppm										
	1																
	10	8	12.0				-FILL-										
	20	S6	12.0		12.3												
	35						BRICKS, WOOD, some sand, wet PID = 0 ppm										
	50/0.3	6	13.3				-FILL-										
					14.0												
	3	S7	14.0			CL	Medium stiff, gray lean CLAY (CL), occasional sand partings, wet					5	95	N	M	M	
15	2																
	1						-MARINE DEPOSIT-										
	1	18	16.0														
							Bottom of Exploration at 16.0 ft. below ground surface.										
							No Refusal										
20																	
25																	
30																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
4/25/2005	1210		–	16.0	9.5

Sample ID

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon Sample
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (Linear ft.)	16.0
Rock Cored (Linear ft.)	–
Number of Samples	7S

BORING NO. B10

Field Tests — Dilatancy: R - Rapid S - Slow N - None; Toughness: L - Low M - Medium H - High; Plasticity: N - Nonplastic L - Low M - Medium H - High; Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

Appendix B

Logs of Late 2005 Borings

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B201

Page 1 of 1

PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORE, MIDDLE, INDIA AND FRANKLIN STREETS, PORTLAND, ME	PROJECT MGR.	D RILEY
CLIENT	PME 1 LIMITED PARTNERSHIP	FIELD REP.	K STEPHENSON
CONTRACTOR	MAINE TEST BORINGS, INC.	DATE STARTED	10/26/2005
DRILLER	R. IDANO	DATE FINISHED	10/26/2005

Elevation 17.4 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel
Type	HSA	SS	
Inside Diameter (in.)	2.5	1.375	
Hammer Weight (lb.)		140	
Hammer Fall (in.)		30	

Rig Make & Model: Mobile B47

☐ Truck ☐ Tripod ☐ Cat-Head
☐ ATV ☐ Geoprobe ☑ Winch
☐ Track ☐ Air Track ☐ Roller Bit
☐ Skid ☑ Trailer ☑ Cutting Head

Hammer Type: ☐ Safety ☑ Doughnut ☐ Automatic

Drilling Mud: ☐ Bentonite ☐ Polymer ☑ None

Casing Advance: Type Method Depth: HSA/Spin/27.5

Drilling Notes:

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					0.2		-BITUMINOUS CONCRETE-										
	7	S1	0.7			SW	Medium dense, brown well-graded SAND with gravel (SW), mps =	5	10	20	25	40					
	6						1.0 in., traces brick 0.7 to 1.0 ft., damp										
	3																
	22	12	2.7														
							-FILL-										
5	2	S2	5.0			SW	Loose, brown well-graded SAND with gravel (SW), mps = 1.0 in.,	5	10	20	25	40					
	3						brick, wet										
	7																
	11	2	2.0														
							-FILL-										
10	6	S3	10.0				Loose, red BRICK, wet										
	3						-FILL-										
	2						Note: poor recoveries from 5.0 to 12.0 ft. due to pushing brick										
	13	2	12.0				fragments with split spoon										
					13.0												
15	1	S4	15.0			CL	Soft, gray lean CLAY (CL), frequent sand partings to seams,					10	90	N	M	M	
	1						mps = 0.02 in., wet										
	1						-MARINE DEPOSITS-										
	2	24	17.0		17.0												
20	WOR	S5	20.0			SM	Very loose, gray silty SAND (SM), frequent clay seams, mps = 0.02					70	30				
	WOR						in., wet										
	WOH																
	WOH	24	22.0														
							-MARINE DEPOSITS-										
					23.5												
25	26	S6	25.0		25.5	SM	Very dense, gray silty SAND (SM), mps = 0.25 in., wet		5	25	25	30	15				
	91	12	26.0				-GLACIAL TILL DEPOSITS-										
							Very dense, gray weathered SCHIST, wet										
					27.5		-WEATHERED BEDROCK-										
							Note: advanced HSA to 27.5 ft.										
							HSA refusal at 27.5 ft.										
							Bottom of exploration at 27.5 ft. below ground surface										
30																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
10/26/2005	1504		–	10.0	9.0

Sample ID

O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon Sample
G	Geoprobe
FV	Field Vane

Well Diagram

Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary

Overburden (Linear ft.)	25.5
Rock Cored (Linear ft.)	--
Number of Samples	65
BORING NO.	B201

Field Tests

Dilatancy: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B202

Page 1 of 2

PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORE, MIDDLE, INDIA AND FRANKLIN STREETS, PORTLAND, ME	PROJECT MGR.	D. RILEY
CLIENT	PME 1 LIMITED PARTNERSHIP	FIELD REP.	K. STEPHENSON
CONTRACTOR	MAINE TEST BORINGS, INC.	DATE STARTED	10/26/2005
DRILLER	R. IDANO	DATE FINISHED	10/26/2005

Elevation 22.5 ft Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel
Type	HSA	SS	
Inside Diameter (in.)	2.5	1.375	
Hammer Weight (lb.)		140	
Hammer Fall (in.)		30	

Rig Make & Model: Mobile B47

☐ Truck ☐ Tripod ☐ Cat-Head
☐ ATV ☐ Geoprobe ☑ Winch
☐ Track ☐ Air Track ☐ Roller Bit
☐ Skid ☑ Trailer ☑ Cutting Head

Hammer Type: ☐ Safety ☑ Doughnut ☐ Automatic

Drilling Mud: ☐ Bentonite ☐ Polymer ☑ None

Casing Advance: Type Method Depth: HSA/Spin/35.0

Drilling Notes: 2.0 X 7.0 Field Vane

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	Silt % Fine	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Dry Strength
0																	
	1	S1	0.0			ML	Very soft, dark brown SILT (ML), grass roots, mps = 0.1 in., damp				10	20	70		L	N	
	2				1.0		-TOPSOIL-										
	30/1	S	1.1		1.3		-CONCRETE-										
							Note: brown silty sand in auger cuttings from 1.3 to 5.0 ft.										
							-FILL-										
5					5.0												
	1	S2	5.0				Loose, gray to black ASH, porcelain fragment, trace sand, damp										
	2				6.0		-FILL-										
	4																
	3	10	7.0				Note: no recovery from 6.0 to 7.0 ft.										
							-Probable HARBOR BOTTOM DEPOSITS-										
					8.0												
10	3	S3	10.0			CL	Stiff, gray-brown mottled lean CLAY (CL), frequent sand seams, mps =					15	85	N	M	M	
	6						0.02 in., damp										
	7																
	8	24	12.0				-MARINE DEPOSITS-										
					13.0												
15	WOH	FV1	15.0-15.6				FV1 from 15.0 to 15.6 ft. = 19/1 ft. lb., Su = 700 psf										
	1	S4	15.0			CL	Medium stiff, gray lean CLAY (CL), frequent sand seams, wet					10	90	N	M	M	
	1						-MARINE DEPOSITS-										
	2	24	17.0		17.0												
							Note: running sand conditions below 17.0 ft.										
20	1	S5	20.0			SP	Medium dense, gray poorly-graded SAND (SP), and 1.3 in. gravel	10				90					
	5						piece, wet										
	7																
	6	3	22.0				-MARINE DEPOSITS-										
					22.9												
25	1	S6	25.0			SM	Loose, gray silty SAND with gravel (SM), mps = 1.0 in., wet	10	5	20	30	30	15				
	3																
	2																
	2	24	27.0														
							-GLACIAL TILL DEPOSITS-										
30																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
10/27/2005	0830		--	12.0	Dry

Sample ID

O	Open End Rod	
T	Thin Wall Tube	
U	Undisturbed Sample	
S	Split Spoon Sample	
G	Geoprobe	
FV	Field Vane	

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (Linear ft.)	41.5
Rock Cored (Linear ft.)	--
Number of Samples	10S

BORING NO. B202

Field Tests

Dilatancy: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B202

Page 2 of 2

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Odiferency	Field Test Toughness	Field Test Plasticity	Field Test Strength
30	3	S7	30.0			SM	Medium dense, gray silty SAND (SM), mps = 1.0 in., well bonded from 31.6 to 32.0 ft., damp		10	5	20	25	40				
	11																
	11																
	18	24	32.0														
							-GLACIAL TILL DEPOSITS-										
35	7	S8	35.0			SM	Dense, gray silty SAND with gravel (SM), mps = 1.0 in., well bonded, damp	10	5	20	20	30	15				
	17																
	21						-GLACIAL TILL DEPOSITS-										
	28	15	37.0														
	9	S9	37.0			SM	Dense, gray silty SAND with gravel (SM), mps = 1.0 in., well bonded, damp	10	5	20	20	30	15				
	23																
	25						-GLACIAL TILL DEPOSITS-										
	20	18	39.0														
	13	S10	39.0			SM	Dense, gray silty SAND with gravel (SM), mps = 1.0 in., well bonded, damp	10	5	20	20	30	15				
40	16																
	19				40.5												
	31	16	41.0			ML	Hard, gray SILT (ML), mps = 0.02 in., dry					10	90			N	
					41.5		-GLACIAL TILL DEPOSITS-										
							Begin rod probe at 41.0 ft.										
							Depth (ft.) Blow Counts (per ft.)										
							41.0-42.0 54 Probable WEATHERED BEDROCK at 41.5 ft.										
							42.0-43.0 87										
					43.6		43.0-43.6 100/.6										
45							Rod probe refusal at 43.6 ft.										
							Bottom of exploration at 43.6 ft. below ground surface										
50																	
55																	

NOTES:

FILE NO. 05090

BORING NO. B202

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B203

Page 1 of 1

PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORE, MIDDLE, INDIA AND FRANKLIN STREETS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	PME 1 LIMITED PARTNERSHIP	FIELD REP.	K. B. STEPHENSON
CONTRACTOR	MAINE TEST BORINGS, INC.	DATE STARTED	11/7/2005
DRILLER	B. ENOS	DATE FINISHED	11/8/2005

Elevation 16.6 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel
Type	NW	SS	–
Inside Diameter (in.)	3.0	1.375	–
Hammer Weight (lb.)	300	140	
Hammer Fall (in.)	16	30	

Rig Make & Model: ☐ Truck ☐ ATV ☐ Track ☑ Skid ☐ Tripod ☐ Geoprobe ☐ Air Track

Surveyor: ☑ Cat-Head ☐ Winch ☑ Roller Bit ☐ Cutting Head

Hammer Type: ☐ Safety ☑ Doughnut ☐ Automatic

Drilling Mud: ☐ Bentonite ☐ Polymer ☑ None

Drilling Notes:

Casing Advance: Type Method Depth: NW/DRIVE/24.0

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	Sand % Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					0.3		-CONCRETE- (floor slab)										
	3	NR	0.4		1.0		No recovery. Brown silty sand with gravel visible in borehole. -FILL-										
	4					CL	Note: gray-brown mottled lean CLAY (CL) in wash from 1.0 to 3.0 ft.										
	6																
	5		2.4				-MARINE DEPOSITS-										
					3.0												
5	1	S1	5.0			CL	Soft, gray lean CLAY (CL), frequent sand seams, mps = 0.02 in.,					15	85	N	M	M	
	1						wet										
	1																
	1	24	7.0														
							-MARINE DEPOSITS-										
					8.5												
							Note: coarse sand in wash at 8.5 ft.										
10	45	S2	10.0			SM	Dense, gray-brown silty SAND (SM), mps = 0.5 in., wet		5	5	5	70	15				
	27																
	18																
	7	5	12.0				-GLACIAL TILL DEPOSITS-										
15	18	S3	15.0			SM	Dense, gray silty SAND with gravel (SM), mps = 1.25 in., wet	5	20	10	20	25	20				
	21																
	25																
	16	8	17.0				-GLACIAL TILL DEPOSITS-										
					20.0												
20	4	S4	20.0			SW	Very loose, gray well-graded SAND (SW), mps = 0.4 in., wet		10	20	20	45	5				
	1																
	2																
	6	1	22.0				-GLACIAL TILL DEPOSITS-										
					24.0												
					24.2		NW casing refusal at 24.0 ft. -BEDROCK-										
25							Roller bit refusal at 24.2 ft.										
							Bottom of exploration at 24.2 ft. below ground surface										
30																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
11/8/2005	0900	–	–	22.0	5.3

Sample ID

D	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon Sample
G	Geoprobe
FV	Field Vane

Well Diagram

Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary

Overburden (Linear ft.)	24.0
Rock Cored (Linear ft.)	–
Number of Samples	45

BORING NO. B203

Field Tests

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B204

Page 1 of 1

PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORE, MIDDLE, INDIA AND FRANKLIN STREETS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	PME I LIMITED PARTNERSHIP	FIELD REP.	K. B. STEPHENSON
CONTRACTOR	MAINE TEST BORINGS, INC.	DATE STARTED	11/8/2005
DRILLER	B. ENOS	DATE FINISHED	11/8/2005

Elevation 17.2 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel	Rig Make & Model	Surveyor	Hammer Type	Drilling Mud	Casing Advance
Type	NW	SS	--	☐ Truck ☐ Tripod ☑ Cat-Head		☐ Safety	☐ Bentonite	Type Method Depth
Inside Diameter (in.)	3.0	1.375	--	☐ ATV ☐ Geoprobe ☐ Winch		☑ Doughnut	☐ Polymer	NW/DRIVE/17.9
Hammer Weight (lb.)	300	140		☐ Track ☐ Air Track ☑ Roller Bit		☐ Automatic	☑ None	
Hammer Fall (in.)	16	30		☒ Skid ☐ Cutting Head		Drilling Notes: 2.0 X 7.0 in. Field Vane		

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	Sand % Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					0.4		-CONCRETE- (boiler slab)										
	8	S1	0.5		0.8		-CONCRETE- (floor slab)										
	1					SM	Loose, gray silty SAND (SW), ash, brick, mps = 1.3 in., dry				30	75	15				
	5																
	1	2	2.5														
							-FILL-										
					4.5												
5	3	S2	5.0			CL	Stiff, gray-brown mottled lean CLAY (CL), occasional sand					10	90	N	M	M	
	3						partings, mps = 0.02 in., wet										
	3																
	3	16	7.0														
							-MARINE DEPOSITS-										
10	WOR	FVI	10.0-10.6				Field Vane #1 from 10.0-10.6 ft. = 52/1 ft. lb., Su = 1930 psf										
	1	S3	10.0			CL	Stiff gray-brown mottled lean CLAY (CL), occasional sand partings, mps =					10	90	N	M	M	
	1				10.8		0.02 in., wet										
	WOH	24	12.0			CL	Stiff gray lean CLAY (CL), occasional sand partings and dark streaks,					5	95	N	M	M	
							mps = 0.02 in., wet										
							-MARINE DEPOSITS-										
					14.0												
15	11	S4	15.0			SM	Medium dense, gray-brown silty SAND (SM), occasional silt laminae,		10			75	15				
	13						two 0.5 in. gravel pieces, wet										
	6																
	6	11	17.0				-GLACIAL TILL DEPOSITS-										
					17.9												
							NW casing refusal at 17.9 ft.										
					18.2		-BEDROCK-										
							Roller bit refusal at 18.2 ft.										
20							Bottom of exploration at 18.2 ft. below ground surface										
25																	
30																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
11/9/2005	0715	--	--	17.0	5.0

Sample ID

O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon Sample
G	Geoprobe
FV	Field Vane

Well Diagram

Riser Pipe; Screen; Filter Sand; Cuttings; Grout; Concrete; Bentonite Seal

Summary

Overburden (Linear ft.)	17.9
Rock Cored (Linear ft.)	--
Number of Samples	4S

BORING NO. B204

Field Tests

Dilatancy: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B205

Page 1 of 2

PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	PORE, MIDDLE, INDIA AND FRANKLIN STREETS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	PME I LIMITED PARTNERSHIP	FIELD REP.	K. B. STEPHENSON
CONTRACTOR	MAINE TEST BORINGS, INC.	DATE STARTED	11/10/2005
DRILLER	B. ENOS	DATE FINISHED	11/11/2005

Elevation 22.6 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel	Rig Make & Model	Surveyor	Hammer Type	Drilling Mud	Casing Advance
Type	NW	SS	--	☐ Truck ☐ Tripod ☑ Cat-Head		☐ Safety	☐ Bentonite	Type Method Depth
Inside Diameter (in.)	3.0	1.375	--	☐ ATV ☐ Geoprobe ☐ Winch		☑ Doughnut	☐ Polymer	NW/DRIVE/34.1
Hammer Weight (lb.)	300	140		☐ Track ☐ Air Track ☑ Roller Bit		☐ Automatic	☑ None	
Hammer Fall (in.)	16	30		☑ Skid ☐ ☐ Cutting Head		Drilling Notes:		

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					0.5		-CONCRETE- (floor slab)										
					0.8		-RIGID INSULATION-										
					1.2		-CONCRETE- (floor slab)										
	15	S1	1.2			GP	Medium dense, gray poorly-graded GRAVEL (GP), trace brown silty sand, mps = 1.3 in., wet	100									
	16						-FILL-										
	11																
	12	2	3.2														
5																	
	6	S2	5.0			SW-SM	Very dense, brown well-graded SAND with silt (SW-SM), brick, mps = 1.3 in., damp	5	5	30	30	20	10				
	22																
	40																
	44	3	7.0				Note: coarse sand, gravel, brick in wash										
							-FILL-										
10																	
	11	S3	10.0				Dense, red BRICK, trace silty sand, mps = 1.3 in., wet										
	21																
	12						-FILL-										
	26	5	12.0		12.0												
						ML	Note: dark gray silt, coarse sand, shells in wash										
					13.0		-HARBOR BOTTOM DEPOSITS-										
							Note: gray clay in wash at 13.0 ft.										
15																	
	8	S4	15.0			CL	Very stiff, gray lean CLAY (CL), mps = 0.02 in., wet					10	90	N	M	M	
	8																
	11																
	16	1	17.0				-MARINE DEPOSITS-										
							Note: brick, coarse sand, wood being washed down by roller bit										
20																	
	3	S5	20.0			CL	Medium stiff, gray lean CLAY (CL), wet						100	N	M	M	
	3																
	3																
	4	20	22.0														
							-MARINE DEPOSITS-										
25																	
	WOH	S6	25.0														
	1																
	1					CL	Soft, gray lean CLAY (CL), trace fine sand, wet						100	N	M	M	
	1	20	27.0														
							-MARINE DEPOSITS-										
30																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
11/11/2005	1030		--	10.2	6.2
11/14/2005	1050		Well	15.0	13.1
1/19/2006	1100		Well	15.0	12.8

Sample ID

O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon Sample
G	Geoprobe
FV	Field Vane

Well Diagram

Riser Pipe; Screen; Filter Sand; Cuttings; Grout; Concrete; Bentonite Seal

Summary

Overburden (Linear ft.)	33.9
Rock Cored (Linear ft.)	--
Number of Samples	75

BORING NO. B205

Field Tests — Dilatancy: R - Rapid S - Slow N - None; Toughness: L - Low M - Medium H - High; Plasticity: N - Nonplastic L - Low M - Medium H - High; Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. **B205**

Page 2 of 2

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
30	20	S7	30.0			CL	Very stiff, gray lean CLAY (CL), trace fine sand, wet						100	N	M	M	
	18						-MARINE DEPOSITS-										
	8																
	6	4	32.0														
					33.0												
							Note: coarse sand, gravel in wash										
					33.9		-Probable GLACIAL TILL DEPOSITS-										
							NW casing refusal at 34.1 ft. Roller bit refusal at 34.3 ft.										
35					34.3		-WEATHERED BEDROCK-										
							Bottom of exploration at 34.3 ft. below ground surface										
							Note: installed 1 in. PVC well at 15.0 ft. below top of floor slab.										
40																	

NOTES:

FILE NO. 05090 BORING NO. B205

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B206

Page 1 of 2

PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORE, MIDDLE, INDIA AND FRANKLIN STREETS, PORTLAND, MAINE	PROJECT MGR.	D RILEY
CLIENT	PME 1 LIMITED PARTNERSHIP	FIELD REP.	K. B STEPHENSON
CONTRACTOR	MAINE TEST BORINGS, INC	DATE STARTED	11/1/2005
DRILLER	B. ENOS	DATE FINISHED	11/14/2005

Elevation 22.6 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel
Type	NW	SS	--
Inside Diameter (in.)	3.0	1.375	--
Hammer Weight (lb.)	300	140	
Hammer Fall (in.)	16	30	

Rig Make & Model: Surveyor

☐ Truck ☐ Tripod ☑ Cat-Head
☐ ATV ☐ Geoprobe ☐ Winch
☐ Track ☐ Air Track ☑ Roller Bit
☑ Skid ☐ Cutting Head

Hammer Type: ☐ Safety ☑ Doughnut ☐ Automatic

Drilling Mud: ☐ Bentonite ☐ Polymer ☑ None

Drilling Notes: 2.0 X 7.8 in. field vane

Casing Advance: Type Method Depth: NW/DRIVE/30.0

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					0.5		-CONCRETE- (floor slab)										
					0.85		-RIGID INSULATION-										
					1.2		-CONCRETE- (floor slab)										
	19	S1	1.2			SW-SM	Dense, brown well-graded SAND with silt (SW-SM), trace black fabric		10	30	30	20	10				
	21				2.2		with grass, mps = 0.5 in., dry -FILL-										
	20					SW-SM	Dense, light brown well-graded SAND with silt (SW-SM), mps = 0.2 in.,			30	30	30	10				
	17	12	3.2				dry										
							-FILL-										
5	23	S2	5.0			SW	Very dense, light brown well-graded SAND (SW), occasional silt seams,			35	30	30	5				
	32						mps = 0.2 in., dry										
	48				6.7		-FILL-										
	44	18	7.0			SM	Very dense, gray to black silty SAND with gravel (SM), ash, mps = 0.75	10	10	20	15	30	15				
					7.5		in., dry -FILL-										
							Note: coarse sand, gravel, brick in wash from 7.5 to 11.0 ft.										
10	6	S3	10.0														
	2				11.0												
	4					GP	Very loose, gray poorly-graded GRAVEL (GP), trace dark brown silty	100									
	6	1	12.0		12.0		sand, mps = 1.3 in., wet -HARBOR BOTTOM DEPOSITS-										
							Note: pushing wood, gravel, coarse sand down with roller bit										
15	WOH	S4	15.0			ML	Soft, gray sandy SILT (ML), mps = 0.1 in., sandy seams with				5	20	75		L	L	
	8						organics from 16.0 to 17.0 ft., wet										
	11																
	16	24	17.0														
					17.5		-MARINE DEPOSITS-										
20	WOR	FV1	20.0-20.6				FV1 from 20.0 to 20.6 ft. = 17/5 ft. lb., Su = 630 psf										
	WOH	S5	20.0			CL	Medium stiff, gray lean CLAY (CL), frequent sand seams from 16.5 to					10	90	N	M	M	
	WOH						17.0 ft., mps = 0.02 in., wet										
	WOH	24	22.0														
							-MARINE DEPOSITS-										
25	WOR	FV2	25.0-25.6				FV2 from 25.0 to 25.6 ft. = 15/1 ft. lb., Su = 560 psf										
	WOR	S6	25.0			CL	Medium stiff, gray lean CLAY (CL), occasional sand seams, mps = 0.02					5	95	N	M	M	
	3				26.4		in., wet -MARINE DEPOSITS-										
	17	24	27.0		27.0	SM	Medium dense, gray sand brown silty SAND (SM), occasional clay seams,					70	30				
							mps = 0.02 in., wet -MARINE DEPOSITS-										
							Note: coarse sand to wash at 27.0 ft.										
							-GLACIAL TILL DEPOSITS-										
30																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
11/15/2005	0730		--	23.5	9.7

Sample ID

O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon Sample
G	Geoprobe
FV	Field Vane

Well Diagram

Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary

Overburden (Linear ft.)	31.4
Rock Cored (Linear ft.)	--
Number of Samples	75
BORING NO.	B206

Field Tests: Dilatancy: R - Rapid S - Slow N - None; Toughness: L - Low M - Medium H - High; Plasticity: N - Nonplastic L - Low M - Medium H - High; Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. **B206**

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Finer	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
30	8	S7	30.0			SM	Medium dense, gray silty SAND with gravel (SM), mps = 0.75 in., wet	16	16	20	20	35	18				
	4						-GLACIAL TILL DEPOSITS-										
	23				31.4												
	50/.1	12	31.6		31.6		Very dense, gray weathered rock fragments -WEATHERED BEDROCK-										
							Split spoon refusal at 31.6 ft.										
							Bottom of exploration at 31.6 ft. below ground surface										
35																	
40																	

NOTES:

FILE NO. 05090

BORING NO. B206

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B207

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PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORE, MIDDLE, INDIA AND FRANKLIN STREETS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	FMB 1 LIMITED PARTNERSHIP	FIELD REP.	K. B. STEPHENSON
CONTRACTOR	MAINE TEST BORINGS, INC.	DATE STARTED	11/15/2005
DRILLER	B. ENOS	DATE FINISHED	11/15/2005

Elevation 21.6 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel
Type	NW	SS	–
Inside Diameter (in.)	3.0	1.375	–
Hammer Weight (lb.)	300	140	
Hammer Fall (in.)	16	30	

Rig Make & Model: ☐ Truck ☐ ATV ☐ Track ☑ Skid ☐ Tripod ☐ Geoprobe ☐ Air Track ☑ Cat-Head ☐ Winch ☑ Roller Bit ☐ Cutting Head

Surveyor

Hammer Type: ☐ Safety ☑ Doughnut ☐ Automatic

Drilling Mud: ☐ Bentonite ☐ Polymer ☑ None

Casing Advance: Type Method Depth: NW/DRIVE/33.9

Drilling Notes: 2.0 X 7.0 in. field vane

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	Sand % Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					0.38		-CONCRETE- (floor slab)										
					0.73		-RIGID INSULATION-										
					1.13		-CONCRETE, black RUBBER- (floor slab)										
	5	S1	1.2			SP	Medium dense, brown poorly-graded SAND (SP), trace fine gravel, mps =				5	90	5				
	5						0.3 in., dry										
	8				3.0		-FILL-										
	13	15	3.2				Note: gravel, coal slag in wash at 3.0 ft.										
5																	
	6	S2	5.0		5.3		Very dense, black COAL SLAG, wet -FILL-										
	73				5.9	SP	Very dense, brown poorly-graded SAND (SP), trace coarse sand, mps =				5	90	5				
	75/3	8	6.3				0.2 in., wet										
						SM	Very dense, brown silty SAND (SP), mps = 0.2 in., wet			30	30	25	15				
							-FILL-										
							Note: probable cobbles/boulders from 6.3 to 9.8 ft. Washed ahead of										
							casing to 11.0 ft.										
10																	
					10.8												
	2	S3	11.0			SM	Loose, dark gray silty SAND (SM), shells, mps = 0.2 in., wet			10	10	40	40				
	3																
	5						-HARBOR BOTTOM DEPOSITS-										
	6	16	13.0														
					13.5												
15																	
	1	FV1	15.0-15.6				FV1 from 15.0 to 15.6 ft. = 57/5 ft. lb., Su = 2115 psf										
	3	S4	15.0			CL	Very stiff, gray-brown mottled lean CLAY (CL), frequent sand seams,					25	75	N	M	M	
	4						mps = 0.02 in., wet										
	5	24	17.0				-MARINE DEPOSITS-										
20																	
	1	FV2	20.0-20.6				FV2 from 20.0 to 20.6 ft. = 5/0 ft. lb., Su = 190 psf										
	WOH	S5	20.0			CL	Very soft, gray lean CLAY (CL), frequent sand seams, mps = 0.02 in., wet					25	75	N	M	M	
	WOH				21.6		-MARINE DEPOSITS-										
	1	16	22.0			SM	Very loose, gray-brown silty SAND (SM), frequent silt seams, mps =					80	20				
							0.02 in., wet										
							-MARINE DEPOSITS-										
25																	
	2	S6	25.0			SM	Medium dense, gray silty SAND (SM), mps = 0.02 in., wet					85	15				
	2				26.0		-MARINE DEPOSITS-										
	16					SM	Medium dense, gray silty SAND (SM) with gravel, mps = 0.4 in., wet		15	5	15	35	30				
	11	8	27.0														
							-GLACIAL TILL DEPOSITS-										
30																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
11/15/2005	1610		--	25.7	9.7

Sample ID

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon Sample
G Geoprobe
FV Field Vane

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (Linear ft.)	31.8
Rock Cored (Linear ft.)	–
Number of Samples	7S

BORING NO. B207

Field Tests — Dilatancy: R - Rapid S - Slow N - None; Toughness: L - Low M - Medium H - High; Plasticity: N - Nonplastic L - Low M - Medium H - High; Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. **B207**

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Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Finer	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
30	15	S7	30.0			SM	Loose, gray silty SAND with gravel (SM), moist - 1.9 in., wet	10	5	20	10	40	15				
	5						-GLACIAL TILL DEPOSITS-										
	1				31.8												
	23	6	32.0				Medium dense, gray weathered rock fragments, dry										
							-WEATHERED BEDROCK-										
							NW casing refusal at 33.9 ft.										
					34.3												
35							Roller bit refusal at 34.9 ft.										
							Bottom of exploration at 34.3 ft. below ground surface										
40																	

NOTES:

FILE NO. 95099 BORING NO. B207

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B208

Page 1 of 1

PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORE, MIDDLE, INDIA AND FRANKLIN STREETS, PORTLAND, MAINE	PROJECT MGR.	D. BILBY
CLIENT	PME 1 LIMITED PARTNERSHIP	FIELD REP.	K. B. STEPHENSON
CONTRACTOR	MAINE TEST BORINGS, INC.	DATE STARTED	11/16/2005
DRILLER	B. ENOS	DATE FINISHED	11/16/2005

Elevation 22.6 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel
Type	NW	SS	–
Inside Diameter (in.)	3.0	1.375	–
Hammer Weight (lb.)	300	140	
Hammer Fall (in.)	16	30	

Rig Make & Model: ☐ Truck ☐ Tripod ☑ Cat-Head; ☐ ATV ☐ Geoprobe ☐ Winch; ☐ Track ☐ Air Track ☑ Roller Bit; ☑ Skid ☐ Cutting Head

Hammer Type: ☐ Safety ☑ Doughnut ☐ Automatic

Drilling Fluid: ☐ Bentonite ☐ Polymer ☑ None

Casing Advance: Type Method Depth: NW/DRIVE/28.5

Drilling Notes:

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					0.1		-BRICK PAVER-										
					0.6		-CONCRETE- (floor slab)										
	3	S1	1.0			SW	Loose, brown well-graded SAND (SW), mps = 0.5 in., damp		5	35	30	20	10				
	4																
	5																
	4	7	3.0				-FILL-										
	3	S2	3.0		3.1												
	8					CL	Very stiff, gray-brown mottled lean CLAY with sand (CL), mps = 0.2 in.,			5	5	15	75	N	M	M	
	8				4.5		damp -FILL-										
5	8	24	5.0			CL	Very stiff, gray-brown mottled lean CLAY (CL), frequent sand partings					15	85	N	M	M	
	5	S3	5.0				to seams, mps = 0.02 in., damp										
	7						Note: 5.0 to 8.5 ft., stiff										
	7																
	6	24	7.0														
							-MARINE DEPOSITS-										
					8.5												
10	1	S4	10.0														
	16				10.2	CL	Soft, gray lean CLAY (CL), wet						100	N	M	M	
	19					SM	Dense, gray-brown silty SAND (SM), frequent clay seams, mps = 0.02					75	25				
	12	6	12.0				in., wet										
					12.0		-MARINE DEPOSITS-										
15	8	S5	15.0			SM	Medium dense, gray silty SAND (SM), mps = 1.3 in., wet	5	5	30	15	30	15				
	8																
	6																
	3	9	17.0				-GLACIAL TILL DEPOSITS-										
20	12	S6	20.0			SM	Medium dense, gray silty SAND (SM), mps = 1.0 in., wet	5	5	5	10	35	40				
	5																
	6						-GLACIAL TILL DEPOSITS-										
	5	7	22.0		22.0												
25	20	S7	25.0			SM	Very dense, gray silty SAND (SM), calcite seam at approximately 26.7 ft.,	5	5	15	5	55	15				
	55						mps = 1.0 in., wet										
	55																
	55	10	27.0				-GLACIAL TILL DEPOSITS-										
					28.0												
							NW casing refusal at 28.5 ft. Advanced roller bit to 28.6 ft.										
					28.6		-WEATHERED BEDROCK-										
30							Bottom of exploration at 28.6 ft. below ground surface.										
							Installed 1" in. PVC observation well at 15.0 ft.										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
11/17/2005	0825		Well	15.0	6.3
11/19/2006	1110		Well	15.0	6.6

Sample ID

O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon Sample
G	Geoprobe
FV	Field Vane

Well Diagram

Riser Pipe; Screen; Filter Sand; Cuttings; Grout; Concrete; Bentonite Seal

Summary

Overburden (Linear ft.)	28.0
Rock Cored (Linear ft.)	–
Number of Samples	7S

BORING NO. B208

Field Tests

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B209

Page 1 of 1

PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORE, MIDDLE, INDIA AND FRANKLIN STREETS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	PME I LIMITED PARTNERSHIP	FIELD REP.	K. B. STEPHENSON
CONTRACTOR	MAINE TEST BORINGS, INC	DATE STARTED	11/16/2005
DRILLER	B. ENOS	DATE FINISHED	11/17/2005

Elevation 22.6 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel	Rig Make & Model	Surveyor	Hammer Type	Drilling Mud	Casing Advance
Type	NW	SS	–	☐ Truck ☐ Tripod	☑ Cat-Head	☐ Safety	☐ Bentonite	Type Method Depth
Inside Diameter (in.)	3.0	1.375	–	☐ ATV ☐ Geoprobe	☐ Winch	☑ Doughnut	☐ Polymer	NW/DRIVE/25.0
Hammer Weight (lb.)	300	140		☐ Track ☐ Air Track	☑ Roller Bit	☐ Automatic	☑ None	
Hammer Fall (in.)	16	30		☑ Skid ☐	☐ Cutting Head	Drilling Notes:		

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	Sand % Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					0.1		-BRICK PAVER-										
	5	S1	0.0		0.8		-CONCRETE- (floor slab)										
	5					SM	Loose, brown silty SAND with gravel (SM), mps = 1.3 in., dry	10	5	15	20	25	15				
	5						Note: probable cobbles										
	9	12	2.0				-FILL-										
					3.5		Note: brown sandy clay, gravel in wash										
							-FILL-										
					5.0												
5	11	S2	5.0			CL	Very stiff, gray-brown mottled lean CLAY (CL), mps = 0.02 in., damp					5	95	N	M	M	
	14																
	16																
	16	24	7.0														
							-MARINE DEPOSITS-										
					8.1												
10	5	S3	10.0			CL	Stiff, olive and gray mottled lean CLAY (CL), occasional sand partings,					5	95	N	M	M	
	6				10.7		mps = 0.02 in., wet										
	4					CL	Stiff, gray lean CLAY (CL), occasional sand partings, mps = 0.02 in., wet					5	95	N	M	M	
	3	12	12.0				-MARINE DEPOSITS-										
							Note: Attempted field vane-sand layer										
15	1	S4	15.0			CL	Soft, gray lean CLAY (CL), frequent sand seams to layers, occasional					25	85	N	M	M	
	WOH						dark streaks, mps = 0.02 in., wet										
	WOH																
	1	24	17.0				-MARINE DEPOSITS-										
					19.2		Note: brown silty sand in wash at 19.2 ft.										
20	4	S5	20.0			SM	Loose, brown silty SAND (SM), frequent clay seams, mps = 0.02 in.,					75	25				
	2						wet										
	6				21.7		-MARINE DEPOSITS-										
	9	16	22.0			SM	Loose, brown silty SAND (SM), mps = 0.5 in., wet	5	5	30	30	25	15				
							-GLACIAL TILL DEPOSITS-										
25	46	S6	25.0		25.5		Very dense, gray weathered rock fragments, wet										
	43						-WEATHERED BEDROCK-										
	73																
	94	6	27.0														
							Bottom of exploration at 27.0 ft. below ground surface										
							No refusal										
30																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
11/17/2005	1130	–	–	19.6	8.3

Sample ID

O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon Sample
G	Geoprobe
FV	Field Vane

Well Diagram

Riser Pipe; Screen; Filter Sand; Cuttings; Grout; Concrete; Bentonite Seal

Summary

Overburden (Linear ft.)	25.5
Rock Cored (Linear ft.)	–
Number of Samples	6S

BORING NO. B209

Field Tests

Dilatancy: R - Rapid S - Slow N - None
Toughness: L - Low M - Medium H - High
Plasticity: N - Nonplastic L - Low M - Medium H - High
Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

Appendix C

Logs of Test Pits

SEBAGO TECHNICS, INC.

TEST PIT LOG

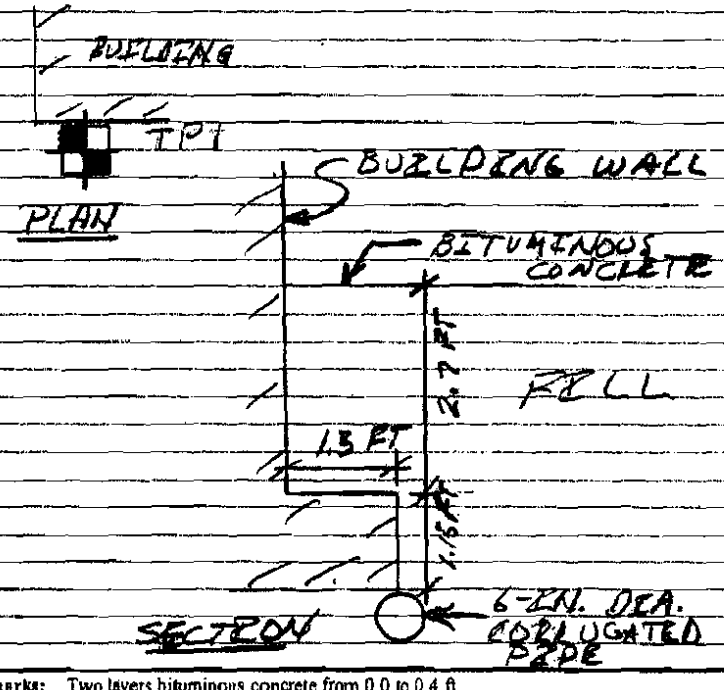
Test Pit No. **TP1**

Page 1 of 1

PROJECT	WESTIN HOTEL AND RESIDENCES	PROJECT NO.	05090
LOCATION	FORE, MIDDLE, INDIA AND FRANKLIN STREETS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	PME 1 LIMITED PARTNERSHIP	FIELD REP	K. B. STEPHENSON
CONTRACTOR	O'BRIEN BROTHERS	DATE	10/26/2005
EQUIPMENT	DAEWOO SOLAR 55V	WEATHER	CLEAR, 40s

Ground El.	16.0 ft	Location	See Plan	Groundwater depths/entry rates (in/min):
El. Datum	NAVD 88			N/E

Depth (ft)	Sample ID	Stratum Change Depth (ft)	USCS Group Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, % oversized, max particle size, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
		0.4		-BITUMINOUS CONCRETE-										
			SP	Gray poorly-graded SAND (SP), few cobbles, mps = 4 in., petroleum odor, dry										
				-FILL-										
				Note: uncovered catch basin at 1.5 ft. Basin appears filled with sand. Bituminous concrete layer surrounds rim of structure. Continued excavation east of catch basin.										
2			SP	Gray to light brown poorly-graded SAND (SP), wood, cobblestones, brick,dry										
				-FILL-										
				Note: footing encountered at 2.7 ft. below ground surface. Approximately 6 in. round steel corrugated culvert under footing. No pile apparent under footing. Gray sandy CLAY under culvert. See sketch below.										
4														
				Bottom of exploration at 4.7 ft. below ground surface										
6				No refusal										



Obstructions:

Remarks: Two layers bituminous concrete from 0.0 to 0.4 ft.

Standing water in completed pit:
at depth _____ ft
measured after _____ mins. elapsed

Boulders:

Diameter (in.)	Number		Approx. vol. (cu. ft.)
12 to 24	--	=	
over 24	--	=	

Test Pit Dimensions:
Pit Depth 4.7
Pit Length X Width 15.0 X 8.0

SEBAGO TECHNICS, INC.

TEST PIT LOG

Test Pit No. TP2

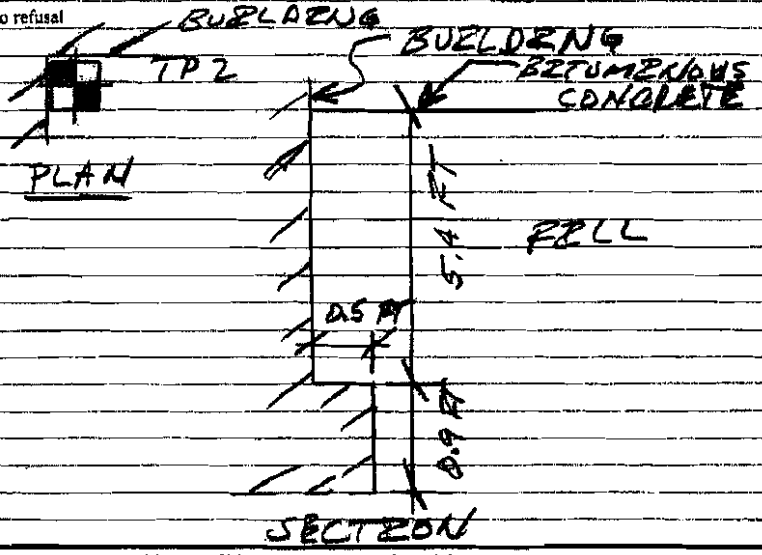
Page 1 of 1

PROJECT	WESTIN HOTEL AND RESIDENCES	PROJECT NO.	05090
LOCATION	FORE, MIDDLE, INDIA AND FRANKLIN STREETS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	PME I LIMITED PARTNERSHIP	FIELD REP	K. B. STEPHENSON
CONTRACTOR	O'BRIEN BROTHERS	DATE	10/26/2005
EQUIPMENT	DAEWOO SOLAR 55V	WEATHER	CLEAR, 40s

Ground El.	18.2 ft	Location	See Plan
El. Datum	NAVD-88		

Groundwater depths/entry rates (in/min): 7.0 ft., seeping

Depth (ft)	Sample ID	Stratum Change Depth (ft)	USCS Group Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, % oversized, max particle size, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
				-BITUMINOUS CONCRETE-										
		1.0												
			SW	Brown well-graded SAND (SW), 5% cobbles, concrete, mps = 30 in., damp										
2				-FILL-										
4				Note: footing encountered at 5.4 ft. below ground surface. No pile apparent under footing. See sketch below.										
6		6.8												
			ML	Gray sandy SILT (ML), wood, petroleum odor, wet -HARBOR BOTTOM DEPOSITS-										
				Bottom of exploration at 7.0 ft. below ground surface No refusal										



Obstructions:

Remarks: Several layers of bituminous concrete from 0.0 to 1.0 ft.

Standing water in completed pit:
at depth ____ ft.
measured after ____ mins. elapsed

Boulders:

Diameter (in.)	Number		Approx. vol. (cu. ft.)
12 to 24	--	=	
over 24	--	=	

Test Pit Dimensions:

Pit Depth	7.0
Pit Length X Width	10.0 X 10.0

SEBAGO TECHNICS, INC.

TEST PIT LOG

Test Pit No. **TP3**

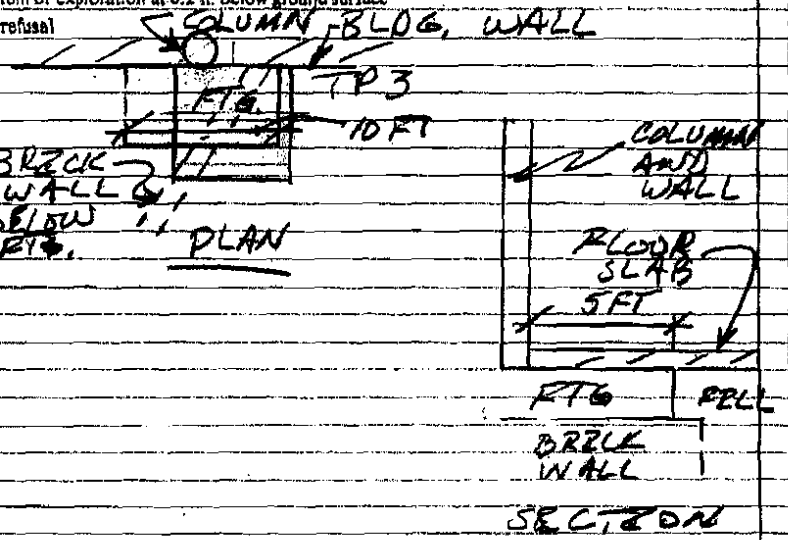
Page 1 of 1

PROJECT	WESTIN HOTEL AND RESIDENCES	PROJECT NO.	05090
LOCATION	FORE, MIDDLE, INDIA AND FRANKLIN STREETS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	PME 1 LIMITED PARTNERSHIP	FIELD REP	K. B. STEPHENSON
CONTRACTOR	O'BRIEN BROTHERS	DATE	10/26/2005
EQUIPMENT	DAEWOO SOLAR 55V	WEATHER	CLEAR, 40s

Ground El. 16.8 ft | Location See Plan | Groundwater depths/entry rates (in/min): N/E

El. Datum NAVD 88

Depth (ft)	Sample ID	Stratum Change Depth (ft)	USCS Group Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, % oversized, max particle size, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
		0.35		-CONCRETE (FLOOR SLAB)-										
		1.7		-CONCRETE (COLUMN FOOTING)-										
2			SW	Brown well-graded SAND with gravel (SW), brick, mps = 6 in., dry Note: Brick foundation/wall under portion of column footing										
				-FILL-										
4														
				Note: Column footing encountered below floor slab. No wall footing or support piles encountered. See sketch below.										
6														
				Bottom of exploration at 6.2 ft. below ground surface No refusal										



Obstructions:

Remarks:

Standing water in completed pit:
at depth ____ ft.
measured after ____ mins. elapsed

Boulders:

Diameter (in.)	Number		Approx. vol. (cu. ft.)
12 to 24	--	=	
over 24	--	=	

Test Pit Dimensions:
Pit Depth 6.2
Pit Length X Width 10.0 X 8.0

SEBAGO TECHNICS, INC.

TEST PIT LOG

Test Pit No. TP4

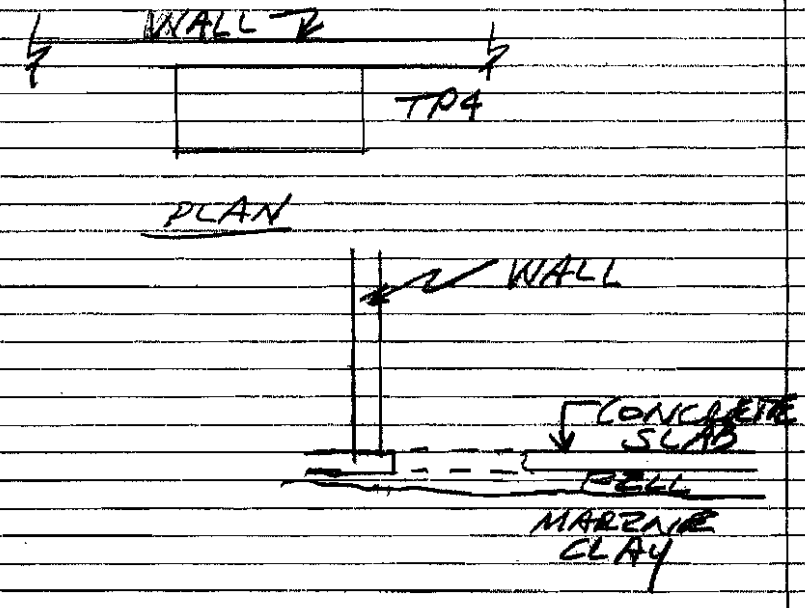
Page 1 of 1

PROJECT	WESTIN HOTEL AND RESIDENCES	PROJECT NO.	05090
LOCATION	FORE, MIDDLE, INDIA AND FRANKLIN STREETS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	PME 1 LIMITED PARTNERSHIP	FIELD REP	K. B. STEPHENSON
CONTRACTOR	O'BRIEN BROTHERS	DATE	10/26/2005
EQUIPMENT	DAEWOO SOLAR 55V	WEATHER	CLEAR, 40s

Ground El. 16.8 ft | Location See Plan | Groundwater depths/entry rates (in/min): N/E

El. Datum NAVD 88

Depth (ft)	Sample ID	Stratum Change Depth (ft)	USCS Group Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, % oversized, max particle size, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
		0.35		-CONCRETE (FLOOR SLAB)-										
		0.6		Black SAND with gravel, brick, dry -FILL-										
			CL	Gray lean CLAY (CL), damp										
				-MARINE DEPOSITS-										
2				Note: no footing or pile encountered. See sketch below.										
				Bottom of explpration at 2.5 ft below ground surface										
				No refusal										
4														



Obstructions:

Remarks:

Standing water in completed pit:
at depth ft.
measured after mins. elapsed

Boulders:

Diameter (in.)	Number		Approx. vol. (cu. ft.)
12 to 24	--	=	
over 24	--	=	

Test Pit Dimensions:

Pit Depth	2.5
Pit Length X Width	3.0 X 3.0

DESIGN/BUILD GEOTECHNICAL

geopier®

Delivering the Geopier Foundation System

Design Submittal for:

Geopier Foundation Support

For

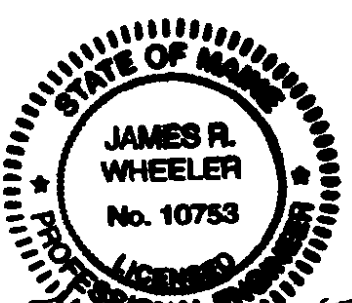
Hampton Inn and
Portside Residences
Portland, Maine

Project Number:

GNE-00692

Opechee Construction Corporation, Inc., Belmont, NH

April 26, 2010



James R. Wheeler, PE
New Hampshire Registration No. 11427

DESIGN/BUILD GEOTECHNICAL

geopier®

Delivering the Geopier Foundation System

Design Submittal for Geopier Ground Support
Hampton Inn & Portside Residences
Portland, Maine

1.0 Introduction

The design of a Geopier ground support system has been completed to support column footings and floor slab loads for the Hampton Inn & Portside Residences to be constructed in Portland, Maine. The purpose of the Geopier ground support for this project is to eliminate the need for over excavation and replacement of existing fill and to provide higher bearing pressure for spread footings while providing settlement control. The design developed to limit post-construction settlement of footings to less then 1-in., and differential settlement of adjacent footings to less than ½-in.

2.0 Design Information

The design is based on Drawing S1.7 "Foundation Loading" prepared by JSN Associates, Inc, , dated April 13, 2010, and the Geotechnical Report prepared by Sebago Technics dated April 13, 2010.

Subsurface conditions as described in the GT Report are summarized as follows and are represented graphically across the site in the Profiles that are included Appendix D:

Fill - Fill consists of loose to very dense, brown well-graded SAND with gravel (SW); to well-graded SAND with silt (SW-SM); to silty SAND with gravel (SM); to poorly-graded SAND (SP); to sandy SILT (ML); to lean CLAY (CL) with various amounts of bituminous concrete, cobblestones, concrete, cobbles, rock fragments, wood, bricks and ash. Encountered thickness varied from 1.0 foot to 16.5 feet.

Marine Sand - Marine sand consists of very loose to medium dense, gray silty SAND (SM) with frequent clay seams and trace organics; to poorly-graded SAND (SP) deposited in a marine environment. Encountered thickness varied from 0.6 feet to 12.5 feet.

Marine Clay - Marine clay consists of soft to very stiff, gray to olive lean CLAY (CL) with frequent sand seams and partings and occasional black streaks. Encountered thickness varied from 4.0 feet to 20.0 feet.

Glacial Till - Glacial till consists of loose to *very* dense, gray silty SAND with gravel (SM); to well-graded SAND (SW) with cobbles and boulders. Encountered thickness varied from 0.9 foot to 18.6 feet.

A zone of weathered rock, varying in thickness from 0.2 foot to 3.5 feet, was encountered over bedrock. The weathered rock consists of very dense, gray weathered SCHIST/QUARTZ.

Refusal, judged to be sound bedrock, was encountered at depths below ground surface varying from 18.2 feet o 43.6 feet. Equivalent refusal elevations varied from El. -1.0 to El. - 21.1.

Water was observed in the borings at depths below ground surface varying from 5.0 feet to 18.0 feet.

2.1 Design Approach

The Geopier ground support design consists of estimating the capacity, modulus, and allowable bearing pressure of Geopier elements and developing a corresponding composite Geopier/matrix soil bearing pressure to be used to size spread footings and floor slab area support. Geopier elements are designed for each column or wall footing and floor slab support based on provided loads, anticipated subsurface conditions, footing sizes, anticipated settlement and constructability.

For this project, Geopier design parameters have been selected in response to the anticipated engineering characteristics of the overburden soils. Based on our evaluations, the following parameters for Impact Grouted Aggregate Piers (GAP) were utilized for design of the ground support for the proposed building:

- Geopier Modulus: 300 pounds per cubic inch (pci)
- Geopier Diameter: 20 inches
- Geopier Length Approximately 11 to 25 ft.
- Geopier Capacity: 65 kips
- Footing Bearing Pressure: 5,500 pounds per square foot (psf)
- Soil Stiffness Modulus: 5 pci
- Lower Zone Elastic Modulus: 350 ksf in Glacial till

For support of the granite seat to be constructed immediately adjacent to the building, ungrouted Impact Rammed Aggregate Piers (RAP) were used for foundation support. RAP design parameters used for these lightly loaded elements include a Geopier Modulus of 150 pci and a Geopier Cell capacity of 30 kips.

Geopier design calculations were performed in general accordance with the Geopier Foundation Design Manual and are summarized in Attachment A. Geopier element design shall be confirmed by conducting modulus testing on one element installed at the site. Geopier Modulus Test forms and proposed modulus test set up are included in Attachment B.

3.0 Geopier Element Layout and Specifications

Geopier elements will be installed in accordance with the referenced layout plans and specification requirements as shown in the Geopier Layout Plan, Construction Notes and Typical Details included as Attachment C.

4.0 Quality Control

?#3 Agent SI

During Geopier element installation, a full time Quality Control (QC) Representative will be present on site to verify and report all QC installation procedures and prepare Daily Aggregate Pier Progress Reports. A Geopier Schedule, summarizing the key installation aspects of individual rammed aggregate piers, QC Procedures and QC Reporting forms to be used during construction are included as Attachment D.

5.0 Site Pad Preparation and Foundation Construction

Prior to the start of Geopier construction, a temporary working pad shall be constructed by others at approximately El. 16 across the building footprint. In areas where fill must be placed to achieve the temporary working pad grade, the fill material to be placed shall consist of on-site soils or imported common fill with a maximum particle size of 8 inches that is placed in lifts not exceeding 1 ft. in thickness measured before compaction. Each lift of fill shall placed and compacted with a minimum of four systematic passes of heavy construction equipment, loaded trucks, a static steel wheel roller, or other alternative means to achieve approximately 90% compaction. Soft areas, as may be evidenced by weaving under construction traffic shall be removed, refilled, and compacted to provide 90% compaction and a safe trafficable subgrade from which Geopier construction may be completed. All fill placement and compaction work shall be observed and documented by the Owner's Geotechnical Representative and copies of reports summarizing the completion of this work in general accordance with the requirements included herein shall be submitted to Design/Build Geotechnical at the completion of the work.

Following the installation of Geopier elements, foundation excavation, subgrade protection and subsequent backfill placement shall be completed in accordance with the requirements included on drawing GEO-2.0 - Geopier Details and shall be observed and documented by the Owner's Geotechnical Representative of an Independent Testing Agency. At the completion of this work, a report from the Geotechnical Representative Testing Agency shall be provided to the Geopier Designer confirming that this work was completed in accordance with project specifications and requirements included in the Geopier Design submittal.

DESIGN/BUILD GEOTECHNICAL

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Delivering the Geopier Foundation System

Design Submittal for Geopier Ground Support
Hampton Inn & Portside Residences
Portland, Maine

Attachment A:
Geopier Element Design Calculations

GEOPIER DESIGN METHODOLOGY FOR SUPPORT OF SPREAD FOOTINGS

Geopier soil reinforcing elements are designed to control foundation settlements to the project design criteria. Foundation settlements are estimated by summing the estimated settlement in the *Geopier*-reinforced zone (the "upper zone") and the estimated settlement in the zone of soil below the bottoms of the *Geopier* elements (the "lower zone") in accordance with the methodology described by Lawton et al. (1994).

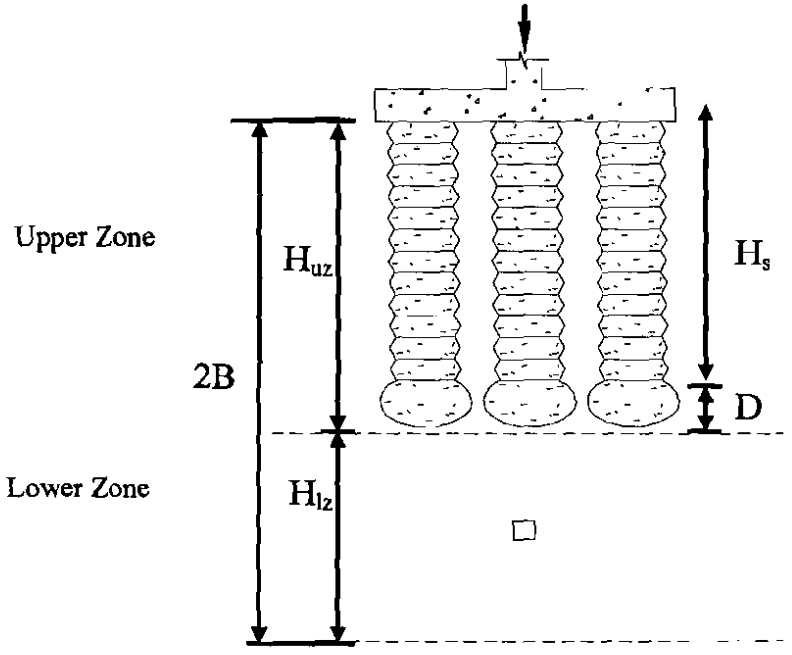


Figure 1: *Geopier* two-layer settlement approach

Upper Zone Settlement Calculations - Overview

Upper zone settlement calculations implement a spring analogy as shown in Figure 2. The *Geopier* elements act as stiff springs; the matrix soil between the piers acts as softer springs. The stiff *Geopier* elements attract a larger percentage of footing-bottom stress than the soft springs. By assuming that the footing is perfectly rigid, the top of *Geopier* stress may be computed using Equation 1:

$$\text{top-of-pier stress} = q_g = q \left[\frac{R_s}{R_s R_a - R_a + 1} \right] \qquad (1)$$

where q is the average footing-bottom stress, R_s is the ratio of the stiffness of the *Geopier* elements and the matrix soil, and R_a is the ratio of the area coverage of the *Geopier* elements to the gross footprint area.

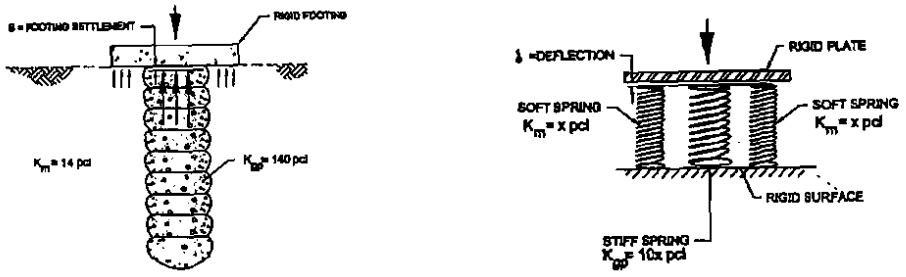


Figure 2: *Geopier* design spring analogy

The stiffness ratio, R_s, may be defined as the ratio of the spring constants of the *Geopier* (k_g) and the matrix soil (k_m), where k_g and k_m are expressed in units of pressure/deflection. The matrix soil spring constant is established using conventional geotechnical correlations and approaches. The *Geopier* spring constant is estimated using a database of spring constants established from past *Geopier* modulus tests and then verified with a modulus test performed at the project site.

Once the top-of-*Geopier* stress (q_g) is established from Equation 1, the settlement in the Upper Zone (s_{uz}) is simply computed as the ratio of q_g to the *Geopier* spring constant (k_g):

$$s_{uz} = q_g / k_g \quad . \qquad (2)$$

Lower Zone Settlement Calculations - Overview

Settlements within the "lower zone" (zone of soils beneath the upper zone which receives lower intensity footing stresses) are computed using conventional geotechnical settlement methods that involve: estimating the depth of stress influence below the footing bottom (typically taken as twice the footing width for square footings), estimating the footing-induced stress in the lower zone (established using conventional influence factor charts), and estimating the compressibility of the lower zone soils. Lower zone settlements (s_{lz}) in granular soils are estimated with the equation:

$$s_{lz} = q\, I\, H_{lz} / E_s \qquad (3)$$

where q is the average footing-bottom stress, I is the stress influence factor in the lower zone, H_{lz} is the thickness of the lower zone, and E_s is the secant modulus of the soil in the lower zone.

The estimated settlement of *Geopier*-supported footings (s) is determined by summing the upper zone and lower zone settlement values:

$$s = s_{uz} + s_{lz} \qquad (4)$$

Footing Settlement Estimates for the Hampton Inn & Portside Residences Project

Settlement calculations for the project follow, based on the following parameter values selected for design:

q_{all} = 45.5 ksf

Q_{cell} = 65 kips (load supported by one *Geopier* and surrounding soil)

k_g = 300 pci

k_m = 5 pci

E_s = 350 ksf (in Glacial Till)

Calculate settlement at interior footing F8, located at grid G-7.2:

Footing Load (P) = kips (Column load plus contributory floor area load)

Required Number of Geopier Elements: $\frac{P}{Q_{cell}} = \frac{264.0 \text{ kips}}{65 \text{ kips}} = 4.1$ **[Use 5 elements]**

Required Footing Area (A): $\frac{P}{q_{all}} = \frac{264.0 \text{ kips}}{5.5 \text{ ksf}} = 48 \text{ ft}^2$

Use standard as-designed footing, F8, sized at 8 ft. by 7 ft. i.e.

(A_f = 64 ft^2), and B = 8.0 ft.

Bearing Pressure (q): $\frac{P}{A_f} = \frac{264.0 \text{ kips}}{64 \text{ ft}^2} =$ **4.13 ksf**

Stiffness Ratio (R_s): $\frac{k_g}{k_m} = \frac{300 \text{ pci}}{5 \text{ pci}} = 60$

Area Replacement Ratio (Ra): $\frac{A_g}{A_f} = \frac{5 \times 2.18 \text{ft}^2}{64 \text{ ft}^2} = 0.17$

Top-of-Geopier Stress (q_g): $q\left[\frac{R_s}{R_s R_a - R_a + 1}\right] = 4.13\left[\frac{60}{60(0.17)-0.17+1}\right]$

q_g = **22.39 ksf**

Geopier Settlement Analysis

Settlement = Upper zone settlement (s_{uz}) + Lower zone settlement (s_{lz})

Upper zone settlement (s_{uz}): $\frac{q_g}{k_g} = \frac{(22.39\ \text{ksf})(1000\ \#/\text{kip})}{(300\ \text{pci})(144\ \text{in}^2/\text{ft}^2)}$ = **0.52 inches**

Lower zone settlement (s_{lz}): $\frac{q\, I_\sigma H}{E_{lz}}$

Shaft length (H_s): penetrate Fill, Soft Clay and Marine Deposits soils and penetrate the underlying Glacial Till by 1 to 2 ft. **(At this location, estimate H_s = 24 ft.)**

Upper Zone Thickness (H_{uz}) = H_s + d = 24 + 1.7 = 25.7 ft.

Lower Zone Thickness (H_{lz}) = 2B – (H_{uz}) = (2 * 8 ft) – (25.7 ft) = -9.7 feet, ie, **No Lower Zone**

Lower zone midpoint (z) = (Hs + 2.5 ft) + (H_{lz}/2) = **No Lower Zone**

Depth to width ratio (z/B) = **No Lower Zone**

Influence factor (I_σ): From Westergaard Chart for (z/B) = **No Lower Zone**

Lower zone settlement (s_{lz}): $\frac{q\, I_\sigma H}{E_{lz}}$ = **No Lower Zone**

Total settlement (s): (s_{uz} + s_{lz}) = (0.52 in) + (0.00 in) = **0.52 inches**

Evaluation of Estimated Settlement

Using the previously described settlement evaluation procedure, settlement calculations were completed to estimate settlement for strip footings and the interior column footings to be constructed for the project. These estimates are summarized on the following spreadsheets. As indicated in these calculations, estimated settlements for the strip and column footings range from 0.2 to 0.6 in. and suggest a maximum anticipated differential settlement of less than 0.5 in.

[redacted]
DESIGN/BUILD GEOTECHNICAL

ESTIMATED FOOTING SETTLEMENT CALCULATIONS
RECTANGULAR FOOTINGS, ELASTIC LZ

geopier®
GEOPIER® Foundation Company

Project: Hampton Inn & Portside Residences, Portland, ME
No.: GNE-00892
Designer: JR Wheeler/CJ Dahlen
Date: 23-Apr-10

INPUT PARAMETER VALUES:

Parameter	Symb	Val.
Geopier diameter (in)	d	20
Depth to groundwater (ft)	dgw	10
Total unit weight of soil (pcf)	g	125
Soil frict. angle (degr)	f	25
Soil undr shear str (psf)	c	1500
Max. hor. pressure (psf)	pmax	2500
Geopier Design Parameters		
Geopier cell cap. (kips)	Qcell	65
Footing bearing press. (ksf)	qall	5.5
Geopier stiffn. modulus (pci)	kg	300
Soil stiffness modulus (pci)	km	5
Stress Distribution Factor	SDF	2

Notes:
Use shortest permitted shaft length, resulting in the thickest lower zone, and correspondingly the largest anticipated settlement estimate.

FOOTING LZ SETTLEMENT CALCULATIONS - RECTANGULAR FOOTINGS Sheet 1 of 2

Parameter	Symb	Equation	F3 @ F.5-1	F3 @ F.5-9	F4 @ E.1-5	F4 @ F.5-3.5	F4 @ F-9	F4.5 @ L-6	F4.5 @ L-9	F5 @ K-7.5	F5 @ E-1	F5 @ E-3	F5.5 @ A-5.1	F5.5 @ H-7.8
Column load (kips)	P		32.00	46.00	88.00	40.00	116.00	75.00	80.00	60.00	100.00	122.00	145.00	214.00
Select footing width (ft)	B		3.00	3.00	4.00	4.00	4.00	4.50	4.50	5.00	5.00	5.00	5.50	5.50
Required footlig length (ft)	Lr	(P/qall)/B	1.94	2.97	3.00	1.82	5.38	3.03	3.23	2.18	3.64	4.44	4.79	7.07
Selected footing length (ft)	L		3.00	3.00	4.00	4.00	4.00	4.50	4.50	5.00	5.00	5.00	5.50	5.50
Footing bearing pressure	q	P/(B*L)	3.56	5.44	4.13	2.50	7.38	3.70	3.95	2.40	4.00	4.88	4.79	7.07
Required No. Geopier elems	Nr	P/Qcell	0.49	0.75	1.02	0.62	1.82	1.15	1.23	0.92	1.54	1.88	2.23	3.29
Selected No. Geopier elems	N		1	1	2	2	2	2	2	1	2	2	3	4
Area replacement ratio	Ra	N*Ag/(B*L)	0.24	0.24	0.27	0.27	0.27	0.22	0.22	0.09	0.17	0.17	0.22	0.29
Stiffness ratio	Rs	kg/km	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
Stress at top of GP (ksf)	qg	q*Rs/(Rs*Ra-Ra+1)	13.94	21.35	14.48	8.78	25.89	16.21	17.29	23.42	21.24	25.92	20.89	23.55
Load at top of GP (kips)	Qg	qg*Ag	30.42	46.57	31.60	19.15	56.49	35.35	37.71	51.09	46.35	56.54	45.58	51.39
Upper zone settlement (in)	suz	qg/kg	0.32	0.49	0.34	0.20	0.60	0.38	0.40	0.54	0.49	0.60	0.48	0.55
SHAFT LENGTH REQUIREMENTS AND LOWER ZONE SETTLEMENT														
Depth of Embedment	Df		3	3	2	3	3	3	3	2	3	3	3	3
Trial shaft length (ft)	Hs		14	23	20	15	23	24	24	25	11	11	15	24
Drill depth (ft)	Hdrill	Df+Hs	17	26	22	18	26	27	27	27	14	14	18	27
Vertical effective stress at Df (psf)	s'df	Df*g	375	375	250	375	375	375	375	250	375	375	375	375
Vertical effective stress at gwt (psf)	s'gwt	dgwt*g	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250
Vertical effective stress at bot (psf)	s'bot	Hdrill*g-(Hdrill-dgwt)*62.4	1688	2252	2001	1751	2252	2314	2314	2314	1500	1500	1751	2314
Rankine passive ep coeff	Kp	tan^2(45+phrs/2)	2	2	2	2	2	2	2	2	2	2	2	2
Rankine passive press at Df (psf)	pdf	s'df*Kp	924	924	616	924	924	924	924	616	924	924	924	924
Rankine passive press at gwt (psf)	pgwt	s'gwt*Kp	3080	3080	3080	3080	3080	3080	3080	3080	3080	3080	3080	3080
Rankine passive press at bot (psf)	pbot	s'bot*Kp	4160	5548	4931	4314	5548	5702	5702	5702	3697	3697	4314	5702
Maximum allow hor pressure (psf)	platmax	platmax	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
Lat earth pressure profile type	ptype	If statements	Type C	Type C	Type C	Type C	Type C	Type C	Type C	Type C	Type C	Type C	Type C	Type C
Type A avg lateral pressure (psf)	pavga	weighted avg	2611	3610	3142	2906	3610	3694	3694	3577	2506	2506	2906	3694
Type B critical depth (ft)	zcritb	interpolation	6	6	6	6	6	6	6	6	6	6	6	6
Type B avg lateral pressure (psf)	pavgb	weighted avg	2173	2301	2185	2195	2301	2309	2309	2248	2084	2084	2195	2309
Type C critical depth (ft)	zcritc	interpolation	8	8	8	8	8	8	8	8	8	8	8	8
Type C avg lateral pressure (psf)	pavgc	weighted avg	2212	2325	2212	2231	2325	2332	2332	2270	2133	2133	2231	2332
Type D avg lateral pressure (psf)	pavgd	weighted avg	2542	3236	2773	2619	3236	3313	3313	3159	2310	2310	2619	3313
Type E critical depth (ft)	zcrite	interpolation	10	11	11	10	11	11	11	11	9	9	10	11
Type E avg lateral pressure (psf)	pavge	weighted avg	2116	2231	2089	2134	2231	2240	2240	2151	2052	2052	2134	2240
Design avg lateral pressure (psf)	pavg	pavg for type	2212	2325	2212	2231	2325	2332	2332	2270	2133	2133	2231	2332
Avg drained unit friction (psf)	fsd	pavg*tan(phim)	1031	1084	1031	1040	1084	1087	1087	1058	995	995	1040	1087
Undrained unit friction (psf)	fsu	=cm	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Limiting unit friction (psf)	fs	If statements	1031	1084	1031	1040	1084	1087	1087	1058	995	995	1040	1087
Frictional resistance force (kips)	Qs	fs*pi*d*Hs+EB	79	134	111	85	134	140	140	142	61	61	85	140
Allowable tensile resistance (kips)	Qsall	Qs/2	40	67	56	43	67	70	70	71	30	30	43	70
Is shaft long enough?		Qs>Pcdem?	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok

Parameter	Symb	Equation	F3 @ F.5-1	F3 @ F.5-9	F4 @ E.1-5	F4 @ F.5-3.5	F4 @ F-9	F4.5 @ L-6	F4.5 @ L-9	F5 @ K-7.5	F5 @ E-1	F5 @ E-3	F5.5 @ A-5.1	F5.5 @ H-7.8
Dpth to bottm of LZ from ftg (ft)	H2b	SDF*sqrt(B*L)	6.00	6.00	8.00	8.00	8.00	9.00	9.00	10.00	10.00	10.00	11.00	11.00
Upper zone thickness (ft)	Huz	Hs+d	15.67	24.67	21.67	16.67	24.67	25.67	25.67	26.67	12.67	12.67	16.67	25.67
Lower zone thickness (ft)	Hlz	H2b-Huz	-10	-19	-14	-9	-17	-17	-17	-17	-3	-3	-8	-15
Thickness of LZ sublayer 1(ft)	Hlz1		0	0	0	0	0	0	0	0	0	0	0	0
Thickness of LZ sublayer 2 (ft)	Hlz2		0	0	0	0	0	0	0	0	0	0	0	0
Thickness of LZ sublayer 3 (ft)	Hlz3		0	0	0	0	0	0	0	0	0	0	0	0
Total thickness ok?			Hlz = 0	Hlz = 0	Hlz = 0	Hlz = 0	Hlz = 0	Hlz = 0	Hlz = 0	Hlz = 0	Hlz = 0	Hlz = 0	Hlz = 0	Hlz = 0
E modulus of LZ sblyr 1 (ksf)	Elz1		350	350	350	350	350	350	350	350	350	350	350	350
E modulus of LZ sblyr 2 (ksf)	Elz2		350	350	350	350	350	350	350	350	350	350	350	350
E modulus of LZ sblyr 3 (ksf)	Elz3		350	350	350	350	350	350	350	350	350	350	350	350
Settlemnt of LZ sublayer 1 (ksf)	slz1	q*I*Hlz/Elz	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sett. of LZ sublayer 2 (ksf)	slz2	q*I*Hlz/Elz	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sett. of LZ sublayer 3 (ksf)	slz3	q*I*Hlz/Elz	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total lower zone sett. (in)	slz	slz1+slz2+slz3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total UZ + LZ settlement (in)	s		0.32	0.49	0.34	0.20	0.60	0.38	0.40	0.54	0.49	0.60	0.48	0.55

DESIGN/BUILD GEOTECHNICAL

ESTIMATED FOOTING SETTLEMENT CALCULATIONS
RECTANGULAR FOOTINGS, ELASTIC LZ

geopier®
GEOPIER® Foundation Company

Project: Hampton Inn & Portside Residences, Portland, ME
No.: GNE-00692
Designer: JR Wheeler/CJ Dahlen
Date: 23-Apr-10

INPUT PARAMETER VALUES:

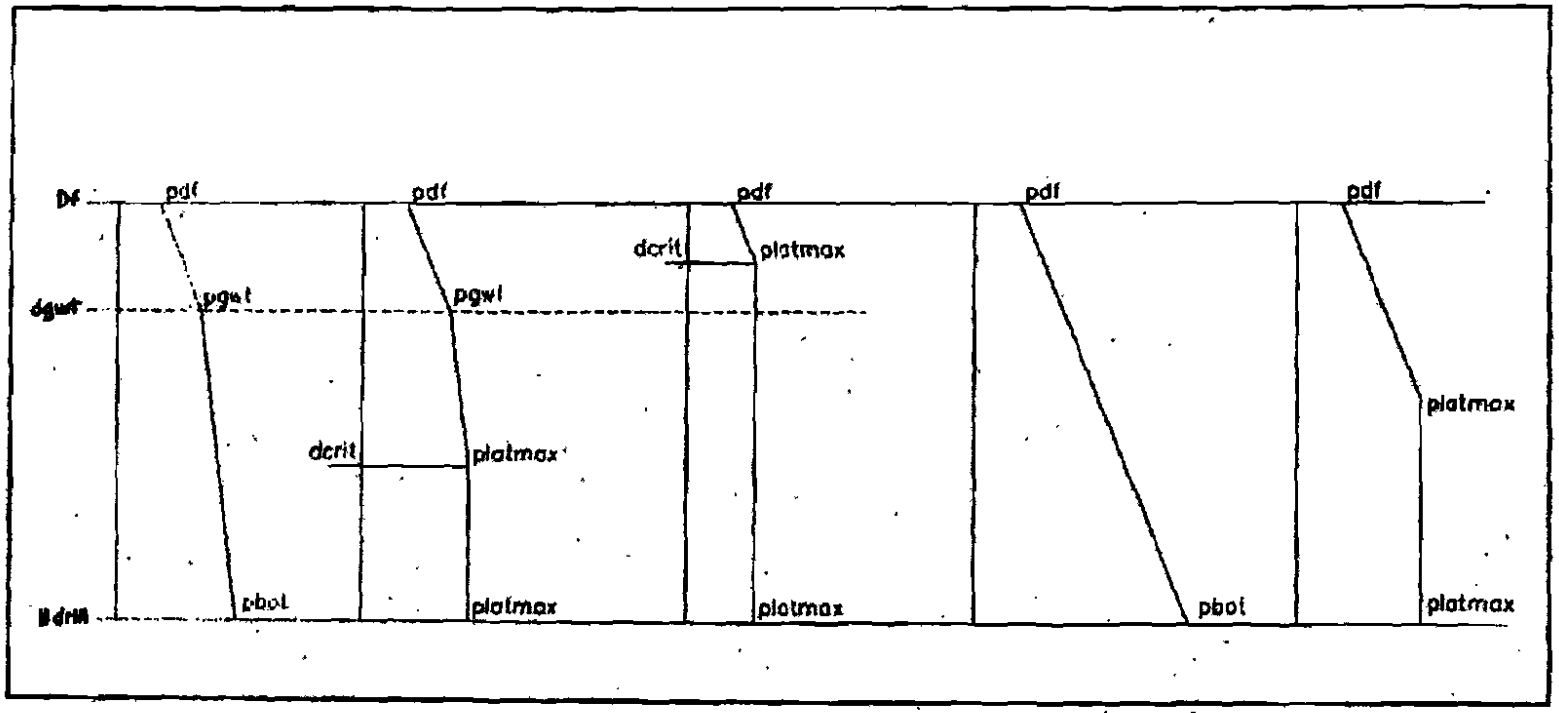
Parameter	Symb	Val.
Geopier diameter (in)	d	26
Depth to groundwater (ft)	dgw	10
Total unit weight of soil (pcf)	g	125
Soil frict. angle (deg)	f	25
Soil undr shear str (psf)	c	1500
Max. hor. pressure (psf)	pmax	2500
Geopier Design Parameters		
Geopier cell cap. (kips)	Qcell	65
Footing bearing press. (ksf)	qall	5.5
Geopier stiffn. modulus (pci)	kg	300
Soil stiffness modulus (pci)	km	5
Stress Distribution Factor	SDF	2

Notes:
Use shortest permitted shaft length, resulting in the thickest lower zone, and correspondingly the largest anticipated settlement estimate

FOOTING UZ SETTLEMENT CALCULATIONS - RECTANGULAR FOOTINGS Sheet 2 of 2

Parameter	Symb	Equation	F8 @ D-5.1	F6 @ A-9	F6.5 @ H-5.2	F7 @ E-7.4	F7 @ H-5.5	F7 @ A-7	F8 @ H-9	F8 @ G-7.2	F8 @ H-7.2	F6.5x13 @ B/C-5.1	F7x13.5 @ B/C-4
Column load (kips)	P		98.00	183.00	214.00	200.00	257.00	275.00	224.00	264.00	284.00	367.00	388.00
Select footing width (ft)	B		6.00	8.00	6.50	7.00	7.00	7.00	8.00	8.00	8.00	6.50	7.00
Required footing length (ft)	Lr	(P/qall)/B	2.97	3.55	5.99	5.19	6.68	7.14	5.09	6.00	6.45	10.27	10.08
Selected footing length (ft)	L		6.00	8.00	6.50	7.00	7.00	7.00	8.00	8.00	8.00	13.00	13.50
Footing bearing pressure	q	P/(B*L)	2.72	5.08	5.07	4.08	5.24	5.61	3.50	4.13	4.44	4.34	4.11
Required No. Geopier elems	Nr	P/Qcell	1.51	2.82	3.29	3.08	3.95	4.23	3.45	4.06	4.37	5.65	5.97
Selected No. Geopier elems	N		3	3	4	4	5	5	4	5	5	6	6
Area replacement ratio	Ra	N*Ag/(B*L)	0.18	0.18	0.21	0.18	0.22	0.22	0.14	0.17	0.17	0.15	0.18
Stiffness ratio	Rs	kg/km	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
Stress at top of GP (ksf)	qg	q*Rs/(Ra*Rs-Ra+1)	13.93	26.01	23.05	21.28	22.26	23.82	23.22	22.39	24.06	25.70	20.71
Load at top of GP (kips)	Qg	qg*Ag	30.39	56.74	50.28	46.43	48.57	51.96	50.65	48.84	52.54	56.07	45.18
Upper zone settlement (in)	suz	qg/kg	0.32	0.60	0.55	0.49	0.52	0.55	0.54	0.52	0.56	0.59	0.48
SHAFT LENGTH REQUIREMENTS AND LOWER ZONE SETTLEMENT													
Depth of Embedment	Df		4	3	3	2	3	3	3	2	3	2	2
Trial shaft length (ft)	Hs		16	21	23	22	23	17	24	24	24	18	14
Drill depth (ft)	Hdrill	Df+Hs	20	24	28	24	26	20	27	26	27	20	16
Vertical effective stress at Df (psf)	s'df	Df*g	500	375	375	250	375	375	375	250	375	250	250
Vertical effective stress at gwt (psf)	s'gwt	dgw*g	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250	1250
Vertical effective stress at bot (psf)	s'bot	Hdrill*g-(Hdrill-dgwt)*62.4	1876	2126	2252	2126	2252	1876	2314	2252	2314	1876	1626
Rankine passive ep coeff	Kp	tan^2(45+phm/2)	2	2	2	2	2	2	2	2	2	2	2
Rankine passive press at Df (psf)	pdf	s'df*Kp	1232	924	924	616	924	924	924	616	924	616	616
Rankine passive press at gwt (psf)	pgwt	s'gwt*Kp	3080	3080	3080	3080	3080	3080	3080	3080	3080	3080	3080
Rankine passive press at bot (psf)	pbot	s'bot*Kp	4622	5239	5548	5239	5548	4622	5702	5548	5702	4622	4005
Maximum allow hor pressure (psf)	platmax	platmax	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
Lat earth pressure profile type	ptype	if statements	Type C	Type C	Type C	Type C	Type C	Type C	Type C	Type C	Type C	Type C	Type C
Type A avg lateral pressure (psf)	pavga	weighted avg	3215	3440	3610	3319	3610	3090	3694	3492	3694	2961	2574
Type B critical depth (ft)	zcritb	interpolation	6	6	6	6	6	6	6	6	6	6	6
Type B avg lateral pressure (psf)	pavgb	weighted avg	2303	2252	2301	2213	2301	2231	2309	2237	2309	2150	2050
Type C critical depth (ft)	zcritc	interpolation	8	8	8	8	8	8	8	8	8	8	8
Type C avg lateral pressure (psf)	pavgc	weighted avg	2337	2308	2325	2238	2325	2263	2332	2280	2332	2180	2088
Type D avg lateral pressure (psf)	pavgd	weighted avg	2927	3082	3236	2928	3236	2773	3313	3082	3313	2619	2311
Type E critical depth (ft)	zcrite	interpolation	10	11	11	11	11	10	11	11	11	10	10
Type E avg lateral pressure (psf)	pavge	weighted avg	2263	2212	2231	2116	2231	2164	2240	2140	2240	2057	1976
Design avg lateral pressure (psf)	pavg	pavg for type	2337	2308	2325	2238	2325	2263	2332	2280	2332	2180	2088
Avg drained unit friction (psf)	fad	pavg*tan(phim)	1090	1076	1084	1044	1084	1055	1087	1054	1087	1016	974
Undrained unit friction (psf)	fsu	=cm	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Limiting unit friction (psf)	fs	if statements	1090	1076	1084	1044	1084	1055	1087	1054	1087	1016	974
Frictional resistance force (kips)	Qs	fs*pi*d*Hs+EB	91	118	131	120	131	84	137	132	137	96	71
Allowable tensile resistance (kips)	Qsall	Qs/2	46	59	65	60	65	47	68	66	68	48	36
Is shaft long enough?		Qs>Pcdem?	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok

Parameter	Symb	Equation	F8 @ D-5.1	F6 @ A-9	F6.5 @ H-5.2	F7 @ E-7.4	F7 @ H-5.5	F7 @ A-7	F8 @ H-9	F8 @ G-7.2	F8 @ H-7.2	F6.5x13 @ B/C-5.1	F7x13.5 @ B/C-4
Dpth to botlm of LZ from ftg (ft)	Hzb	SDF*sqrt(B*L)	12.00	12.00	13.00	14.00	14.00	14.00	16.00	16.00	16.00	16.38	19.44
Upper zone thickness (ft)	Huz	Hs+d	17.67	22.67	24.67	23.67	24.67	18.67	25.67	25.67	25.67	19.67	15.67
Lower zone thickness (ft)	Hlz	Hzb-Hlz	-6	-11	-12	-10	-11	-5	-10	-10	-10	-2	4
Thickness of LZ sublayer 1 (ft)	Hlz1		0	0	0	0	0	0	0	0	0	0	2
Thickness of LZ sublayer 2 (ft)	Hlz2		0	0	0	0	0	0	0	0	0	0	1
Thickness of LZ sublayer 3 (ft)	Hlz3		0	0	0	0	0	0	0	0	0	0	1
Total thickness ok?			Hlz = 0	Hlz = 0	Hlz = 0	Hlz = 0	Hlz = 0	Hlz = 0	Hlz = 0	Hlz = 0	Hlz = 0	Hlz = 0	ok
E modulus of LZ sublyr 1 (ksf)	Elz1		350	350	350	350	350	350	350	350	350	350	350
E modulus of LZ sublyr 2 (ksf)	Elz2		350	350	350	350	350	350	350	350	350	350	350
E modulus of LZ sublyr 3 (ksf)	Elz3		350	350	350	350	350	350	350	350	350	350	350
Settlemnt of LZ sublayer 1 (ksf)	slz1	q*I*Hlz/Elz	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
Sett. of LZ sublayer 2 (ksf)	slz2	q*I*Hlz/Elz	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Sett. of LZ sublayer 3 (ksf)	slz3	q*I*Hlz/Elz	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Total lower zone sett. (in)	slz	slz1+slz2+slz3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Total UZ + LZ settlement (in)	s		0.32	0.60	0.53	0.49	0.52	0.55	0.54	0.52	0.56	0.59	0.53



Lateral Earth Pressure Cases to Determine Average Earth Pressure

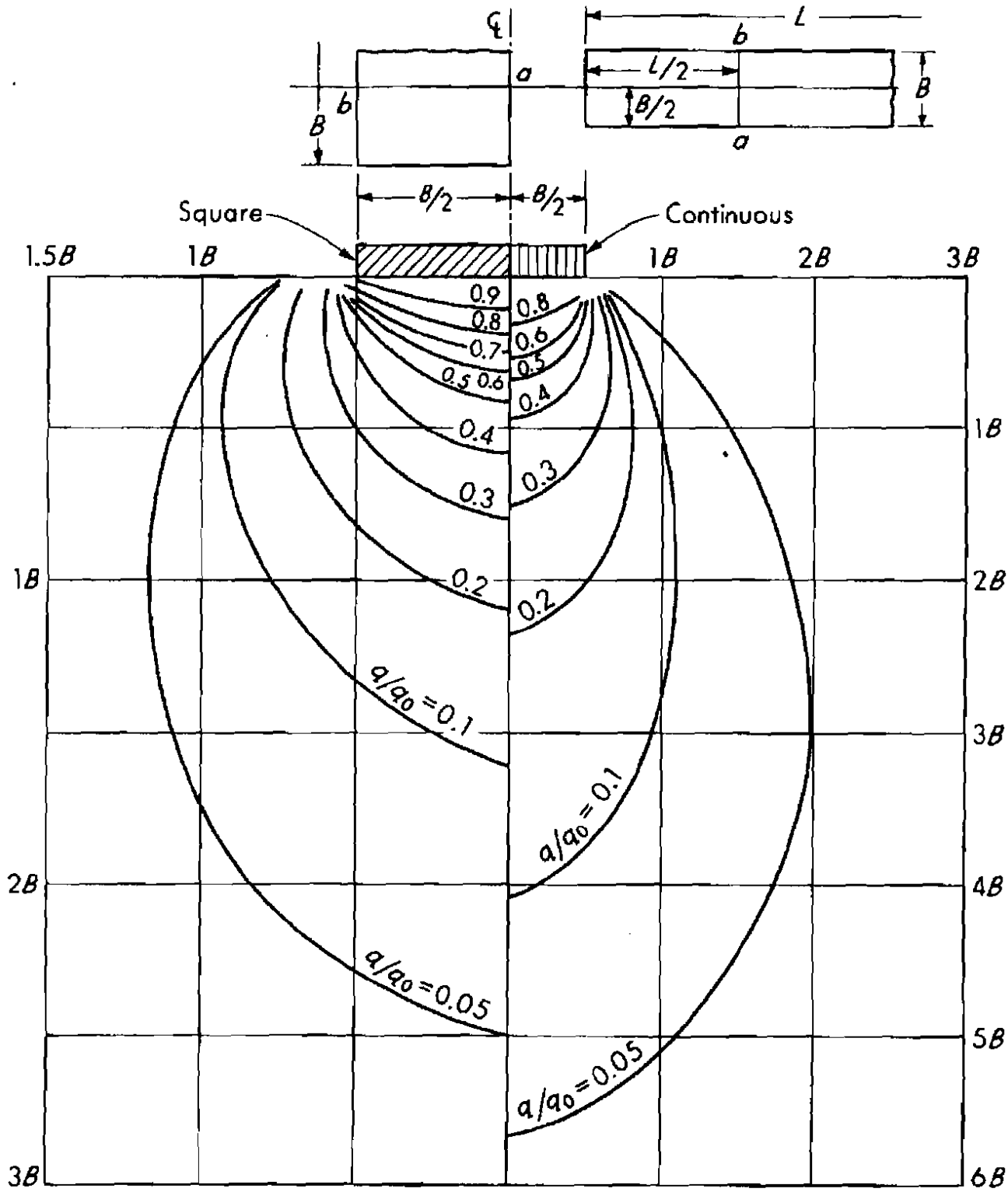


Fig. 2-16 Pressure isobars based on the Westergaard equation for square and long continuous footings of dimension $B \times B$ or $B \times L$. Values for the continuous footings are at the point $L/2$ from the end. Chart constructed from Fig. 2-15 ($\mu = 0$). Applicable along line AB as shown.

Representing GEOPIER Foundation Company - GNE

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Design Calculations - 2-Layer Elastic Lower Zone Analysis

Project: Hampton Hotel & Portside Residences, Portland, ME
Project No. GNE-00692
Engineer: JR Wheeler, Design/Build Geotechnical, LLC
Date: 4/23/2010

Pier Diameter 20 in
Pier Area 2.18 SF
Stress Dist. Depth 5 x B

20-IN DIAMETER GEOPIER ELEMENTS: LIGHTLY-LOADED STRIP FOOTINGS

Location From	To	Wall Load (klps/ft)	Geopier Cell Capacity (klps)	Allow. Footing Stress (ksf)	Req'd. Geopier Spacing (ft)	Select. Geopier Spacing (ft)	Req'd. Footing Width (ft)	Select. Footing Width (ft)	Equiv. Ftg Press. (ksf)	Geopier Modul. (pci)	Soil Modul. (pci)	Stiffn. Ratio, Rs	Area Ratio, Ra	Geopier Stress (ksf)	UZ Settl. (in)	Shaft Length (ft)	Stress Dist. Depth (ft)	Lower Zone Thickn. (ft)	Upper Portion of LZ thickn.	Upper z/B	Upper I, sigma	Upper E (ksf)	Lower z/B	Lower I, sigma	Lower E (ksf)	LZ Settl. (in)	Total Settlement (in)
Low		1.50	65	5.5	39.0	9.0	0.27	2.00	1.35	300	5	60	0.22	5.84	0.14	11	10	-2.667	3.5	7.2	0.022	300	6.5	0.03	300	0.00	0.14
Typical		2.50	65	5.5	23.4	9.0	0.45	2.00	2.25	300	5	60	0.22	9.73	0.23	11	10	-2.667	3.5	7.2	0.022	300	6.5	0.03	300	0.00	0.23
Highest		3.00	65	5.5	19.5	9.0	0.55	2.00	2.70	300	5	60	0.22	11.68	0.27	11	10	-2.667	11.0	9.1	0.009	300	8.4	0.012	300	0.00	0.27
Gannite Seat	RAPs	0.50	30	3.0	54.0	8.3	0.17	2.00	0.42	150	5	30	0.22	1.70	0.08	18	10	-7.667	11.0	11.6	0.003	300	9.7	0.007	300	0.00	0.08

Notes:
1. Evaluate maximum design pier spacing and shortest estimated shaft length to provide estimate of maximum anticipated strip footing settlement.

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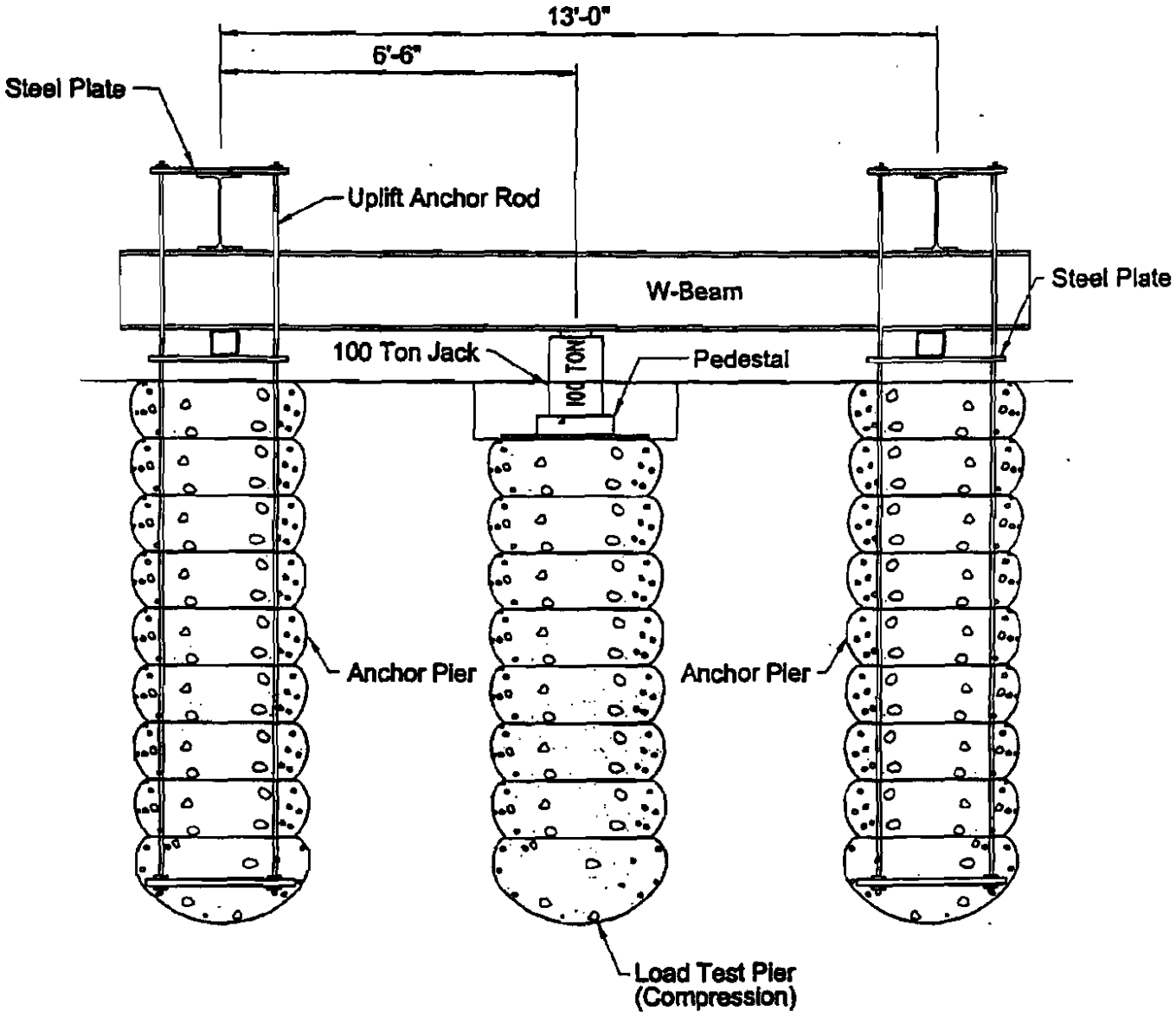
Design Submittal for Geopier Ground Support
Hampton Inn & Portside Residences
Portland, Maine

Attachment B:
Geopier Element Modulus Test Forms



Typical Modulus Load Test Setup

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Representing *GEOPIER* Foundation Company - GNE

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GEOPIER MODULUS LOAD TEST SCHEDULE

Project Number: GNE-00692
Project Name: Hampton Inn & Portside Residences
Project Location: Portland, ME
Date: 4/23/2010

Maximum *GEOPIER* Design Stress: 26,000 psf — Maximum top-of pier stress estimaed at Footing F6 at Grid Location A-9
Geopier Dismeter: 20 in.
Pier Area: 2.18 sf

Load No.	Ram Load, (tons)	Geopier Stress, (psf)	Percent of Design Stress	Minimum Duration	Maximum Duration	Remarks
	1.42	1,300	5.0%	N/A	N/A	Seating load
1	4.73	4,334	16.7%	15 min	60 min	
2	9.45	8,666	33.3%	15 min	60 min	
3	14.18	13,000	50.0%	15 min	60 min	
4	18.91	17,334	66.7%	15 min	60 min	
5	23.63	21,666	83.3%	15 min	60 min	
6	28.36	26,000	100.0%	15 min	60 min	
7	33.08	30,328	116.6%	60 min	240 min	
8	37.81	34,666	133.3%	15 min	60 min	
9	42.54	39,000	150.0%	15 min	60 min	
10	28.36	26,000	100.0%	N/A	N/A	Rebound, unload
11	18.72	17,160	66.0%	N/A	N/A	Rebound, unload
12	9.36	8,580	33.0%	N/A	N/A	Rebound, unload
13	1.42	1,300	5.0%	N/A	N/A	Rebound, unload

Notes:

1 - The Geopier element to be used in the modulus load testing should be installed in a manner similar to production. The modulus load test should be performed in an accessible location within or close to the building footprint area that is agreeable to the general contractor and the engineer and preferably close a deep boring, B-2, B-3, B-201, B-203, B-204, or B-205, at which glacial till was encountered.

2 - The modulus load test shall be performed to a stress not less than 150% of the design maximum top-of-Geopier stress indicated in the Geopier Design Calculations.

3 - Depending on the location selected for the modulus load test Geopier element shall be installed to a depth of approximately 14 to 27 feet below the temporary working grade at approximately El. 16 with a base constructed approximately 1 to 2 ft. into the Glacial till that underlies the Fill, Soft Clay, and loose Marine Deposits.

4 - One telltale shall be installed at the base of pier. Telltale deflections shall be monitored concurrent with top of Geopier deflections during the modulus load test.

5 - The modulus load test setup shall be as shown th attached sketch "Typical Modulus Load Test Setup". At the discretion of the Geopier Installer and subject to the approval of the Designer, helical anchors or dead weight may be usad in lieu of uplift Geopier elements to provide adequate reection during modulus load testing.

6 - A representative of the owner's geotechnical consultent should be present to witness the load test.

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Design Submittal for Geopier Ground Support
Hampton Inn & Portside Residences
Portland, Maine

Attachment C:
Geopier Location Plan, Construction Notes & Specifications

(See enclosed GEO-Series Drawings)

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Delivering the Geopier Foundation System

Design Submittal for Geopier Ground Support
Hampton Inn & Portside Residences
Portland, Maine

Attachment D:
Geopier Schedule and Quality Control Forms

DESIGN/BUILD GEOTECHNICAL

Representing *Geopier* Foundation Company - GNE

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GEOPIER SCHEDULE

Project Number: GNE-00692
Project Name: Hampton Inn & Portside Residences
Project Location: Portland, ME
Date: 4/23/2010

FF Elev, Structural 0.0
FF Elev. Civil 17.6

Pier		Design	Footing Design Data, ft			Design Installation Data, ft			Proposed Geopier Geometry		
No.	Type	Capacity kg, kips	Type	Appx. Depth Below FFE	Appx. Bottom Elev.	Surface Elev.	Est. Drill Depth	Top Depth	Bottom El, ft	Top El, ft.	Shaft Length, ft
1	GAP	65	F4	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
2	GAP	65	F4	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
3	GAP	65	Strip	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
4	GAP	65	Strip	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
5	GAP	65	F5	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
6	GAP	65	F5	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
7	GAP	65	F6	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
8	GAP	65	F6	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
9	GAP	65	Strip	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
10	GAP	65	F3	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
11	GAP	65	Strip	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
12	GAP	65	F5	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
13	GAP	65	F5	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
14	GAP	65	Strip	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
15	GAP	65	Strip	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
16	GAP	65	F3	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
17	GAP	65	Strip	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
18	GAP	65	Strip	4.5	13.1	16.0	16	1.9	0.0	13.1	13.1
19	GAP	65	F3	4.5	13.1	16.0	16	1.9	0.0	13.1	13.1
20	GAP	65	Strip	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
21	GAP	65	F5	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
22	GAP	65	F5	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
23	GAP	65	Strip	4.5	13.1	16.0	16	1.9	0.0	13.1	13.1
24	GAP	65	F6	4.5	13.1	16.0	16	1.9	0.0	13.1	13.1
25	GAP	65	F6	4.5	13.1	16.0	16	1.9	0.0	13.1	13.1
26	GAP	65	F6	4.5	13.1	16.0	16	1.9	0.0	13.1	13.1
27	GAP	65	Strip	4.5	13.1	16.0	16	1.9	0.0	13.1	13.1
28	GAP	65	Strip	4.5	13.1	16.0	16	1.9	0.0	13.1	13.1
29	GAP	65	F4	4.5	13.1	16.0	16	1.9	0.0	13.1	13.1
30	GAP	65	F4	4.5	13.1	16.0	16	1.9	0.0	13.1	13.1
31	GAP	65	Strip	4.5	13.1	16.0	16	1.9	0.0	13.1	13.1
32	GAP	65	Strip	4.5	13.1	16.0	18	1.9	-2.0	13.1	15.1
33	GAP	65	F4	4.5	13.1	16.0	18	1.9	-2.0	13.1	15.1
34	GAP	65	F3	4.5	13.1	16.0	20	1.9	-4.0	13.1	17.1
35	GAP	65	F3	4.5	13.1	16.0	20	1.9	-4.0	13.1	17.1
36	GAP	65	Strip	4.5	13.1	16.0	22	1.9	-6.0	13.1	19.1
37	GAP	65	F3	4.5	13.1	16.0	22	1.9	-6.0	13.1	19.1
38	GAP	65	F3	4.5	13.1	16.0	22	1.9	-6.0	13.1	19.1
39	GAP	65	Strip	4.5	13.1	16.0	22	1.9	-6.0	13.1	19.1
40	GAP	65	F4	4.5	13.1	16.0	24	1.9	-8.0	13.1	21.1
41	GAP	65	F4	4.5	13.1	16.0	24	1.9	-8.0	13.1	21.1
42	GAP	65	Strip	4.5	13.1	16.0	24	1.9	-8.0	13.1	21.1
43	GAP	65	F6	4.5	13.1	16.0	24	1.9	-8.0	13.1	21.1
44	GAP	65	F6	4.5	13.1	16.0	24	1.9	-8.0	13.1	21.1
45	GAP	65	F6	4.5	13.1	16.0	24	1.9	-8.0	13.1	21.1
46	GAP	65	Strip	4.5	13.1	16.0	24	1.9	-8.0	13.1	21.1
47	GAP	65	F3	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
48	GAP	65	Strip	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
49	GAP	65	F6	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
50	GAP	65	F6	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1

DESIGN/BUILD GEOTECHNICAL

Representing *Geopier* Foundation Company - GNE

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GEOPIER SCHEDULE

Project Number: GNE-00692
Project Name: Hampton Inn & Portside Residences
Project Location: Portland, ME
Date: 4/23/2010

FF Elev, Structural 0.0
FF Elev. Civil 17.6

Pier		Design	Footing Design Data, ft			Design Installation Data, ft			Proposed Geopier Geometry		
No.	Type	Capacity kg, kips	Type	Appx. Depth Below FFE	Appx. Bottom Elev.	Surface Elev.	Est. Drill Depth	Top Depth	Bottom El, ft	Top El, ft.	Shaft Length, ft
51	GAP	65	F6	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
52	GAP	65	Strip	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
53	GAP	65	F6.5	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
54	GAP	65	F6.5	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
55	GAP	65	F6.5	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
56	GAP	65	F6.5	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
57	GAP	65	Strip	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
58	GAP	65	F7	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
59	GAP	65	F7	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
60	GAP	65	F7	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
61	GAP	65	F7	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
62	GAP	65	Strip	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
63	GAP	65	F8	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
64	GAP	65	F8	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
65	GAP	65	F8	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
66	GAP	65	F8	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
67	GAP	65	F8	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
68	GAP	65	Strip	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
69	GAP	65	F5	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
70	GAP	65	F5	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
71	GAP	65	F5	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
72	GAP	65	F5	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
73	GAP	65	Strip	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
74	GAP	65	F8	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
75	GAP	65	F8	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
76	GAP	65	F8	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
77	GAP	65	F8	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
78	GAP	65	F3	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
79	GAP	65	F3	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
80	GAP	65	Strip	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
81	GAP	65	F3	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
82	GAP	65	Strip	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
83	GAP	65	F6	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
84	GAP	65	F6	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
85	GAP	65	F6	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
86	GAP	65	Strip	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
87	GAP	65	F3	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
88	GAP	65	Strip	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
89	GAP	65	F4	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
90	GAP	65	F4	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
91	GAP	65	Strip	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
92	GAP	65	F5	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
93	GAP	65	F5	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
94	GAP	65	Strip	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
95	GAP	65	Strip	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
96	GAP	65	Strip	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
97	GAP	65	Strip	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
98	GAP	65	F6	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
99	GAP	65	F6	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1
100	GAP	65	F6	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1

DESIGN/BUILD GEOTECHNICAL

Representing *Geopier* Foundation Company - GNE

geopier®

GEOPIER SCHEDULE

Project Number: GNE-00692
Project Name: Hampton Inn & Portside Residences
Project Location: Portland, ME
Date: 4/23/2010

FF Elev, Structural 0.0
FF Elev. Civil 17.6

Pier		Design	Footing Design Data, ft			Design Installation Data, ft			Proposed Geopier Geometry		
No.	Type	Capacity kg, kips	Type	Appx. Depth Below FFE	Appx. Bottom Elev.	Surface Elev.	Est. Drill Depth	Top Depth	Bottom El, ft	Top El, ft.	Shaft Length, ft
101	GAP	65	Strip	4.5	13.1	16.0	24	1.9	-8.0	13.1	21.1
102	GAP	65	F5	4.5	13.1	16.0	24	1.9	-8.0	13.1	21.1
103	GAP	65	F5	4.5	13.1	16.0	24	1.9	-8.0	13.1	21.1
104	GAP	65	Strip	4.5	13.1	16.0	24	1.9	-8.0	13.1	21.1
105	GAP	65	F7	4.5	13.1	16.0	24	1.9	-8.0	13.1	21.1
106	GAP	65	F7	4.5	13.1	16.0	24	1.9	-8.0	13.1	21.1
107	GAP	65	F7	4.5	13.1	16.0	24	1.9	-8.0	13.1	21.1
108	GAP	65	F7	4.5	13.1	16.0	24	1.9	-8.0	13.1	21.1
109	GAP	65	Strip	4.5	13.1	16.0	24	1.9	-8.0	13.1	21.1
110	GAP	65	Strip	4.5	13.1	16.0	24	1.9	-8.0	13.1	21.1
111	GAP	65	F6	4.5	13.1	16.0	24	1.9	-8.0	13.1	21.1
112	GAP	65	F6	4.5	13.1	16.0	24	1.9	-8.0	13.1	21.1
113	GAP	65	F6	4.5	13.1	16.0	24	1.9	-8.0	13.1	21.1
114	GAP	65	Strip	4.5	13.1	16.0	22	1.9	-6.0	13.1	19.1
115	GAP	65	Strip	4.5	13.1	16.0	22	1.9	-6.0	13.1	19.1
116	GAP	65	F7	4.5	13.1	16.0	20	1.9	-4.0	13.1	17.1
117	GAP	65	F7	4.5	13.1	16.0	20	1.9	-4.0	13.1	17.1
118	GAP	65	F7	4.5	13.1	16.0	20	1.9	-4.0	13.1	17.1
119	GAP	65	F7	4.5	13.1	16.0	20	1.9	-4.0	13.1	17.1
120	GAP	65	F7	4.5	13.1	16.0	20	1.9	-4.0	13.1	17.1
121	GAP	65	Strip	4.5	13.1	16.0	20	1.9	-4.0	13.1	17.1
122	GAP	65	F5	4.5	13.1	16.0	20	1.9	-4.0	13.1	17.1
123	GAP	65	F5	4.5	13.1	16.0	20	1.9	-4.0	13.1	17.1
124	GAP	65	Strip	4.5	13.1	16.0	18	1.9	-2.0	13.1	15.1
125	GAP	65	F5	4.5	13.1	16.0	18	1.9	-2.0	13.1	15.1
126	GAP	65	F5	4.5	13.1	16.0	18	1.9	-2.0	13.1	15.1
127	GAP	65	F5	4.5	13.1	16.0	18	1.9	-2.0	13.1	15.1
128	GAP	65	Strip	4.5	13.1	16.0	18	1.9	-2.0	13.1	15.1
129	GAP	65	F5	4.5	13.1	16.0	16	1.9	0.0	13.1	13.1
130	GAP	65	F5	4.5	13.1	16.0	16	1.9	0.0	13.1	13.1
131	GAP	65	Strip	4.5	13.1	16.0	16	1.9	0.0	13.1	13.1
132	GAP	65	F5	4.5	13.1	16.0	16	1.9	0.0	13.1	13.1
133	GAP	65	F5	4.5	13.1	16.0	16	1.9	0.0	13.1	13.1
134	GAP	65	Strip	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
135	GAP	65	F6	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
136	GAP	65	F6	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
137	GAP	65	F6	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
138	GAP	65	Strip	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
139	GAP	65	F6	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
140	GAP	65	F6	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
141	GAP	65	F6	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
142	GAP	65	Strip	4.5	13.1	16.0	14	1.9	2.0	13.1	11.1
143	GAP	65	Strip	3.0	14.6	16.0	14	0.4	2.0	14.6	12.6
144	GAP	65	Strip	3.0	14.6	16.0	14	0.4	2.0	14.6	12.6
145	GAP	65	F5	3.0	14.6	16.0	14	0.4	2.0	14.6	12.6
146	GAP	65	F5	3.0	14.6	16.0	14	0.4	2.0	14.6	12.6
147	GAP	65	F6	3.0	14.6	16.0	14	0.4	2.0	14.6	12.6
148	GAP	65	F6	3.0	14.6	16.0	14	0.4	2.0	14.6	12.6
149	GAP	65	F5	3.0	14.6	16.0	14	0.4	2.0	14.6	12.6
150	GAP	65	F5	3.0	14.6	16.0	14	0.4	2.0	14.6	12.6

DESIGN/BUILD GEOTECHNICAL

Representing *Geopier* Foundation Company - GNE

geopier®

GEOPIER SCHEDULE

Project Number: GNE-00692
Project Name: Hampton Inn & Portside Residences
Project Location: Portland, ME
Date: 4/23/2010

FF Elev, Structural 0.0
FF Elev. Civil 17.6

Pier		Design	Footing Design Data, ft			Design Installation Data, ft			Proposed Geopier Geometry		
No.	Type	Capacity kg, kips	Type	Appx. Depth Below FFE	Appx. Bottom Elev.	Surface Elev.	Est. Drill Depth	Top Depth	Bottom El, ft	Top El, ft.	Shaft Length, ft
151	GAP	65	F6	3.0	14.6	16.0	14	0.4	2.0	14.6	12.6
152	GAP	65	F7x13.5	3.0	14.6	16.0	16	0.4	0.0	14.6	14.6
153	GAP	65	F7x13.5	3.0	14.6	16.0	16	0.4	0.0	14.6	14.6
154	GAP	65	F7x13.5	3.0	14.6	16.0	16	0.4	0.0	14.6	14.6
155	GAP	65	F7x13.5	3.0	14.6	16.0	16	0.4	0.0	14.6	14.6
156	GAP	65	F7x13.5	3.0	14.6	16.0	16	0.4	0.0	14.6	14.6
157	GAP	65	F7x13.5	3.0	14.6	16.0	16	0.4	0.0	14.6	14.6
158	GAP	65	F7x13.5	3.0	14.6	16.0	16	0.4	0.0	14.6	14.6
159	GAP	65	F7x13.5	3.0	14.6	16.0	16	0.4	0.0	14.6	14.6
160	GAP	65	F6.5x13	3.0	14.6	16.0	20	0.4	-4.0	14.6	18.6
161	GAP	65	F6.5x13	3.0	14.6	16.0	20	0.4	-4.0	14.6	18.6
162	GAP	65	F6.5x13	3.0	14.6	16.0	20	0.4	-4.0	14.6	18.6
163	GAP	65	F6.5x13	3.0	14.6	16.0	20	0.4	-4.0	14.6	18.6
164	GAP	65	F6.5x13	3.0	14.6	16.0	20	0.4	-4.0	14.6	18.6
165	GAP	65	F6.5x13	3.0	14.6	16.0	20	0.4	-4.0	14.6	18.6
166	GAP	65	F7x13.5	3.0	14.6	16.0	22	0.4	-6.0	14.6	20.6
167	GAP	65	F7x13.5	3.0	14.6	16.0	22	0.4	-6.0	14.6	20.6
168	GAP	65	F7x13.5	3.0	14.6	16.0	22	0.4	-6.0	14.6	20.6
169	GAP	65	F7x13.5	3.0	14.6	16.0	22	0.4	-6.0	14.6	20.6
170	GAP	65	F7x13.5	3.0	14.6	16.0	22	0.4	-6.0	14.6	20.6
171	GAP	65	F7x13.5	3.0	14.6	16.0	22	0.4	-6.0	14.6	20.6
172	GAP	65	F6	3.0	14.6	16.0	18	0.4	-2.0	14.6	16.6
173	GAP	65	F6	3.0	14.6	16.0	18	0.4	-2.0	14.6	16.6
174	GAP	65	F6	3.0	14.6	16.0	18	0.4	-2.0	14.6	16.6
175	GAP	65	F6	6.0	11.6	16.0	20	3.4	-4.0	11.6	15.6
176	GAP	65	F6	6.0	11.6	16.0	20	3.4	-4.0	11.6	15.6
177	GAP	65	F6	6.0	11.6	16.0	20	3.4	-4.0	11.6	15.6
178	GAP	65	F6	6.0	11.6	16.0	20	3.4	-4.0	11.6	15.6
179	GAP	65	F6	6.0	11.6	16.0	20	3.4	-4.0	11.6	15.6
180	GAP	65	F6	6.0	11.6	16.0	20	3.4	-4.0	11.6	15.6
181	GAP	65	F6	6.0	11.6	16.0	20	3.4	-4.0	11.6	15.6
182	GAP	65	Strip	6.0	11.6	16.0	22	3.4	-6.0	11.6	17.6
183	GAP	65	Strip	6.0	11.6	16.0	22	3.4	-6.0	11.6	17.6
184	GAP	65	Strip	6.0	11.6	16.0	22	3.4	-6.0	11.6	17.6
185	GAP	65	Strip	6.0	11.6	16.0	22	3.4	-6.0	11.6	17.6
186	GAP	65	F6	6.0	11.6	16.0	22	3.4	-6.0	11.6	17.6
187	GAP	65	F6	6.0	11.6	16.0	22	3.4	-6.0	11.6	17.6
188	GAP	65	F6	6.0	11.6	16.0	22	3.4	-6.0	11.6	17.6
189	GAP	65	F6	6.0	11.6	16.0	22	3.4	-6.0	11.6	17.6
190	GAP	65	F6	6.0	11.6	16.0	22	3.4	-6.0	11.6	17.6
191	GAP	65	F7	3.0	14.6	16.0	24	0.4	-8.0	14.6	22.6
192	GAP	65	F7	3.0	14.6	16.0	24	0.4	-8.0	14.6	22.6
193	GAP	65	F7	3.0	14.6	16.0	24	0.4	-8.0	14.6	22.6
194	GAP	65	F7	3.0	14.6	16.0	24	0.4	-8.0	14.6	22.6
195	GAP	65	F4.5	3.0	14.6	16.0	22	0.4	-6.0	14.6	20.6
196	GAP	65	F6	3.0	14.6	16.0	24	0.4	-8.0	14.6	22.6
197	GAP	65	F7	3.0	14.6	16.0	22	0.4	-6.0	14.6	20.6
198	GAP	65	F7	3.0	14.6	16.0	22	0.4	-6.0	14.6	20.6
199	GAP	65	F7	3.0	14.6	16.0	22	0.4	-6.0	14.6	20.6
200	GAP	65	F7	3.0	14.6	16.0	22	0.4	-6.0	14.6	20.6

DESIGN/BUILD GEOTECHNICAL

Representing *Geopier* Foundation Company - GNE

geopier®

GEOPIER SCHEDULE

Project Number:	GNE-00692	**FF Elev, Structural**	0.0
Project Name:	Hampton Inn & Portside Residences	**FF Elev. Civil**	17.6
Project Location:	Portland, ME		
Date:	4/23/2010		

Pier		Design	Footing Design Data, ft			Design Installation Data, ft			Proposed Geopier Geometry		
No.	Type	Capacity kg, kips	Type	Appx. Depth Below FFE	Appx. Bottom Elev.	Surface Elev.	Est. Drill Depth	Top Depth	Bottom El, ft	Top El, ft.	Shaft Length, ft
201	GAP	65	F7	3.0	14.6	16.0	24	0.4	-8.0	14.6	22.6
202	GAP	65	F7	3.0	14.6	16.0	24	0.4	-8.0	14.6	22.6
203	GAP	65	F7	3.0	14.6	16.0	24	0.4	-8.0	14.6	22.6
204	GAP	65	F7	3.0	14.6	16.0	24	0.4	-8.0	14.6	22.6
205	GAP	65	F6	3.0	14.6	16.0	24	0.4	-8.0	14.6	22.6
206	GAP	65	F6	3.0	14.6	16.0	24	0.4	-8.0	14.6	22.6
207	GAP	65	F6	3.0	14.6	16.0	26	0.4	-10.0	14.6	24.6
208	GAP	65	F6	3.0	14.6	16.0	26	0.4	-10.0	14.6	24.6
209	GAP	65	F6	3.0	14.6	16.0	26	0.4	-10.0	14.6	24.6
210	GAP	65	F7	3.0	14.6	16.0	26	0.4	-10.0	14.6	24.6
211	GAP	65	F7	3.0	14.6	16.0	26	0.4	-10.0	14.6	24.6
212	GAP	65	F7	3.0	14.6	16.0	26	0.4	-10.0	14.6	24.6
213	GAP	65	F7	3.0	14.6	16.0	26	0.4	-10.0	14.6	24.6
214	GAP	65	F8	3.0	14.6	16.0	26	0.4	-10.0	14.6	24.6
215	GAP	65	F8	3.0	14.6	16.0	26	0.4	-10.0	14.6	24.6
216	GAP	65	F8	3.0	14.6	16.0	26	0.4	-10.0	14.6	24.6
217	GAP	65	F8	3.0	14.6	16.0	26	0.4	-10.0	14.6	24.6
218	GAP	65	F8	3.0	14.6	16.0	26	0.4	-10.0	14.6	24.6
219	GAP	65	F7	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
220	GAP	65	F7	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
221	GAP	65	F7	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
222	GAP	65	F7	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
223	GAP	65	Strip	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
224	GAP	65	Strip	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
225	GAP	65	F7	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
226	GAP	65	F7	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
227	GAP	65	F7	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
228	GAP	65	F7	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
229	GAP	65	F7	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
230	GAP	65	Strip	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
231	GAP	65	F4	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
232	GAP	65	Strip	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
233	GAP	65	F4.5	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
234	GAP	65	F4.5	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
235	GAP	65	Strip	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
236	GAP	65	Strip	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
237	GAP	65	F5	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
238	GAP	65	F5	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
239	GAP	65	Strip	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
240	GAP	65	F4.5	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
241	GAP	65	F4.5	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
242	GAP	65	Strip	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
243	GAP	65	Strip	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
244	GAP	65	F7	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
245	GAP	65	F7	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
246	GAP	65	F7	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
247	GAP	65	F7	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
248	GAP	65	Strip	4.5	13.1	16.0	27	1.9	-11.0	13.1	24.1
249	GAP	65	F7	6.0	11.6	16.0	27	3.4	-11.0	11.6	22.6
250	GAP	65	F7	6.0	11.6	16.0	27	3.4	-11.0	11.6	22.6

DESIGN/BUILD GEOTECHNICAL

Representing *Geopier* Foundation Company - GNE

geopier®

GEOPIER SCHEDULE

Project Number: GNE-00692
Project Name: Hampton Inn & Portside Residences
Project Location: Portland, ME
Date: 4/23/2010

FF Elev, Structural 0.0
FF Elev. Civil 17.6

Pier		Design	Footing Design Data, ft			Design Installation Data, ft			Proposed Geopier Geometry		
No.	Type	Capacity kg, kips	Type	Appx. Depth Below FFE	Appx. Bottom Elev.	Surface Elev.	Est. Drill Depth	Top Depth	Bottom El, ft	Top El, ft.	Shaft Length, ft
251	GAP	65	F7	6.0	11.6	16.0	27	3.4	-11.0	11.6	22.6
252	GAP	65	F7	6.0	11.6	16.0	27	3.4	-11.0	11.6	22.6
253	GAP	65	F5	6.0	11.6	16.0	27	3.4	-11.0	11.6	22.6
254	GAP	65	F5	6.0	11.6	16.0	27	3.4	-11.0	11.6	22.6
255	GAP	65	F5	6.0	11.6	16.0	27	3.4	-11.0	11.6	22.6
256	GAP	65	Strip	6.0	11.6	16.0	27	3.4	-11.0	11.6	22.6
257	GAP	65	F5	6.0	11.6	16.0	27	3.4	-11.0	11.6	22.6
258	GAP	65	Strip	6.0	11.6	16.0	27	3.4	-11.0	11.6	22.6
259	GAP	65	F5	6.0	11.6	16.0	27	3.4	-11.0	11.6	22.6
260	GAP	65	Strip	6.0	11.6	16.0	27	3.4	-11.0	11.6	22.6
261	GAP	65	F3	3.0	14.6	16.0	27	0.4	-11.0	14.6	25.6
262	RAP	30	Granite Seat	4.5	13.1	16.0	16	1.9	0.0	13.1	13.1
263	RAP	30	Granite Seat	4.5	13.1	16.0	16	1.9	0.0	13.1	13.1
264	RAP	30	Granite Seat	4.5	13.1	16.0	16	1.9	0.0	13.1	13.1
265	RAP	30	Granite Seat	4.5	13.1	16.0	16	1.9	0.0	13.1	13.1
266	RAP	30	Granite Seat	4.5	13.1	16.0	16	1.9	0.0	13.1	13.1
267	RAP	30	Granite Seat	4.5	13.1	16.0	16	1.9	0.0	13.1	13.1
268	GAP	65	F4.5	3.0	14.6	16.0	22	0.4	-6.0	14.6	20.6
269	GAP	65	F7	4.5	13.1	16.0	26	1.9	-10.0	13.1	23.1

DESIGN/BUILD GEOTECHNICAL

geopier®

Delivering the Geopier Foundation System

QUALITY CONTROL PACKAGE FOR GEOPIER FOUNDATIONS

Date: April 26, 2010

Project Number: GNE-00692

Project: Hampton Inn & Portside Residences
Portland, Maine

Geopier Designer: James R. Wheeler, PE, Design/Build Geotechnical, LLC
Phone: 508-481-3849
Mobile: 978-618-0811
Fax: 508-461-1114

Geotechnical Engineer: Sebago Technics
Contact: Ken Recker, PE
Phone: 207856-0277

Structural Engineer: JSN Associates, Inc.
Referenced Drawings: S1.7 "Foundation Loading"
Date of Drawings: April 13, 2010

Anticipated Geotechnical Conditions:

Beneath a 1 to 16.5 ft layer of granular Fill, Marine sand consisting primarily of very loose to medium dense silty Sand with frequent clay seams and trace organics was encountered. Beneath the Marine Sand, a 4 to 20 ft. thick Marine Clay Deposit consisting of soft to very stiff lean Clay with frequent sand seams was encountered, beneath which Glacial Till was encountered at depths ranging from roughly 14 to 27 ft. across the building footprint. and Groundwater levels noted on the logs range in depth from 5 to 18 ft. below existing ground surface.

Potential Anomalies:

Organic Silt or Peat may be encountered.

Material To Be Encountered At Bottom Of Shaft:

Working from a temporary grade at approximately El. 16, piers shall completely penetrate the Fill, Marine Sand and soft Marine Clay, and terminate a minimum of 1 to 2 ft. in the underlying Glacial Till or at refusal in this deposit with refusal defined as less than 6 inches of penetration under full hammer and crowd energy in 60 seconds.. Cement grout used to construct piers shall be carried up to El. 10.0. Estimated drill depths, based on linear interpolation of the elevation of the top of Glacial Till determined in the available borings in addition to other Geopier element geometry is summarized in the Geopier Schedule. If unanticipated ground conditions are encountered, call Jim Wheeler.

ATTACHMENT 1 – DAILY QUALITY CONTROL FORM
ATTACHMENT 2 – GEOTECHNICAL INFORMATION

GEOTECHNICAL INFORMATION

DESIGN/BUILD GEOTECHNICAL

impact™

Project Nsme: Hampton Inn & Portside Residences
Location: Portland, Maine
Date:

Hammer:
Rig Type:

GFC # GNE-00692

Stone Gradation
Grout Mix

Hopper Volume ____ cf
Mandrel Diameter ____ in

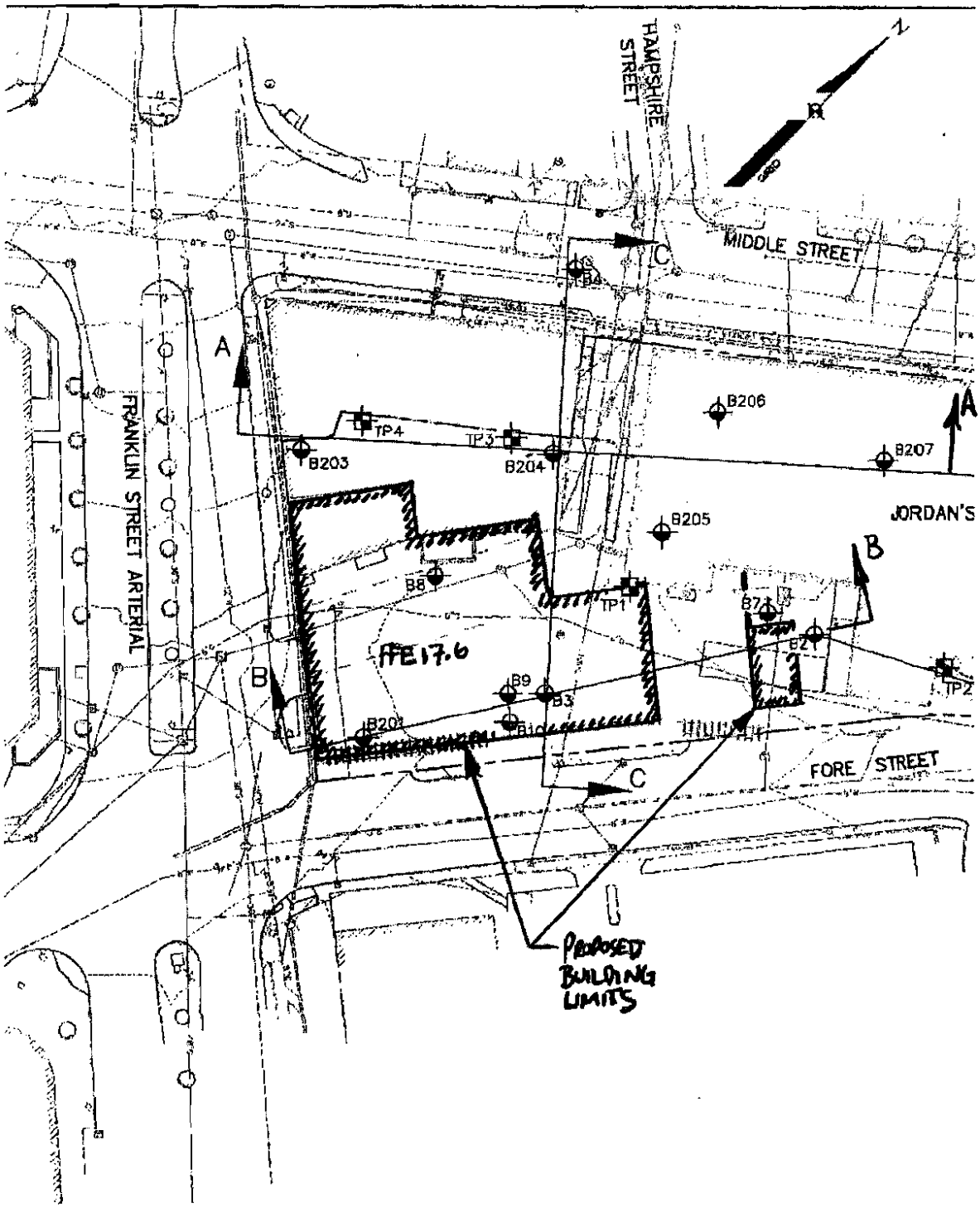
Volume of bucket ____ cf
Est. Grout Req'd. ____ cf/ft

Top Grout El. ____

Pier No.	Pier Type	Des. Cap. kips	Bottom Footing El, ft	Ground Surface Elevation, ft Planned	Ground Surface Elevation, ft Actual	Mandrel Penetration Data Bottom Depth,ft Planned	Mandrel Penetration Data Bottom Depth,ft Actual	Mandrel Penetration Data Top Depth, ft Planned	Mandrel Penetration Data Top Depth, ft Actual	Impact Bottom El, ft	Impact Top El, ft.	Impact Shaft Length,ft	Design Shaft Length	Actual Grout Vol. cf.	Install Date	Mandrel Stroke, ft Up Stroke	Mandrel Stroke, ft Down Stroke	No. Buckets	Install Time (min)	Rock Spoil Cone Bottom Dia., in.	Rock Spoil Cone Height in.	Pier Volume, cf	Nominal Pier Dia., in	Remarks

GNE QC Representative:
_____ (HDI)

Owner's QA Representative:
_____



SUBSURFACE LEGEND

SYMBOL	DESCRIPTION
B201	NUMBER AND LOCATION OF BORINGS DRILLED BY MAINE TEST BORINGS, INC. DURING THE PERIOD OCTOBER 26, 2005 AND NOVEMBER 1 TO 11, 2005
B1	NUMBER AND LOCATION OF BORINGS DRILLED BY GREAT WORKS PUMP AND TEST BORING, INC. DURING THE PERIOD APRIL 20 TO 28, 2006
TP2	NUMBER AND LOCATION OF TEST PITS EXCAVATED BY O'BRIEN BROTHERS ON OCTOBER 26, 2005

C C

SUBSURFACE PROFILE

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

SUBSURFACE EXPLORATION PLAN
B:
JORDAN'S MEATS PROPERTY
FORE ST, INDIA ST, MIDDLE ST, FRANKLIN ST. ARTERIAL
PORTLAND, MAINE
FOR:
PME 1 LIMITED PARTNERSHIP
197 FIRST AVENUE, SUITE 110
WESTBROOK, ME 04092

DATE	SCALE
4-29-06	1" = 30'

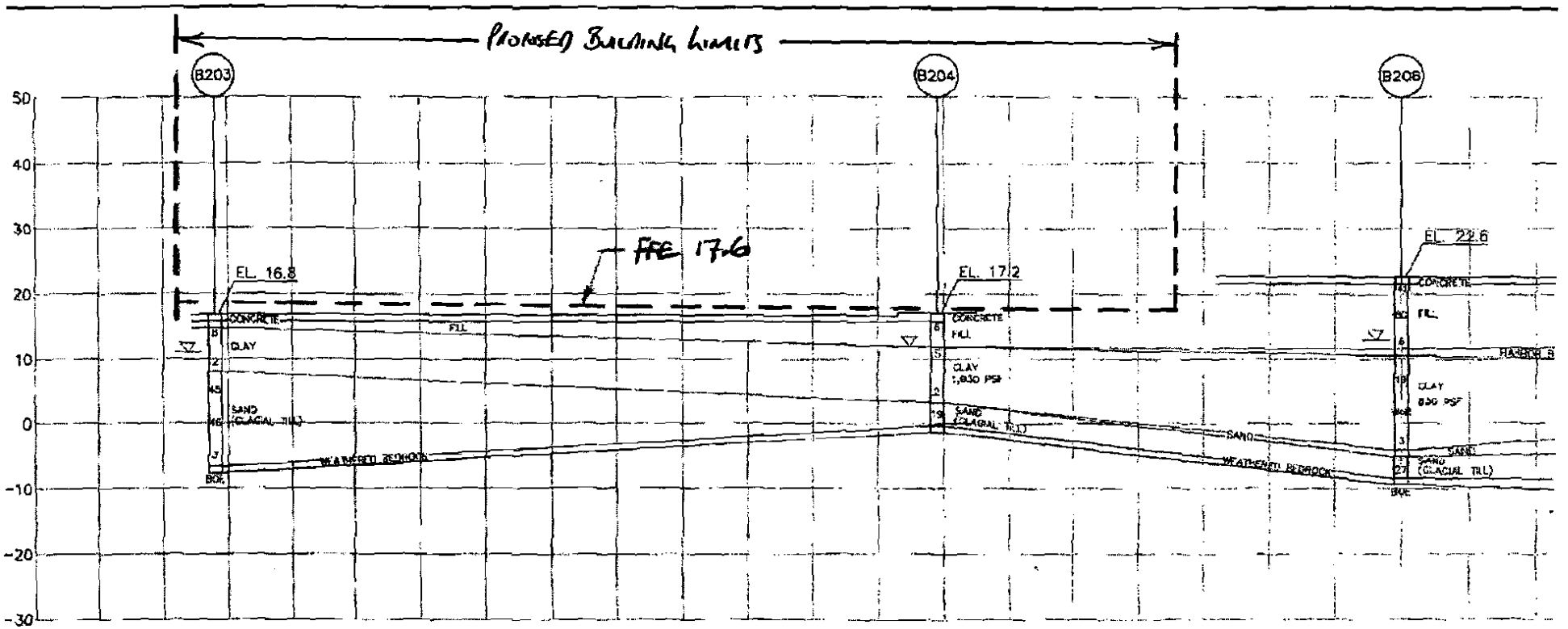
SHEET 1 OF 4

Sebago Technics
Engineering Expertise You Can Build On
Two Chabon Drive
Westbrook, Maine 04092-1339
Tel (207) 856-0277

PROJECT NO.	FIELD BOOK	DESIGN	DRAWN
2-1-0956C	-	KLS	MAL

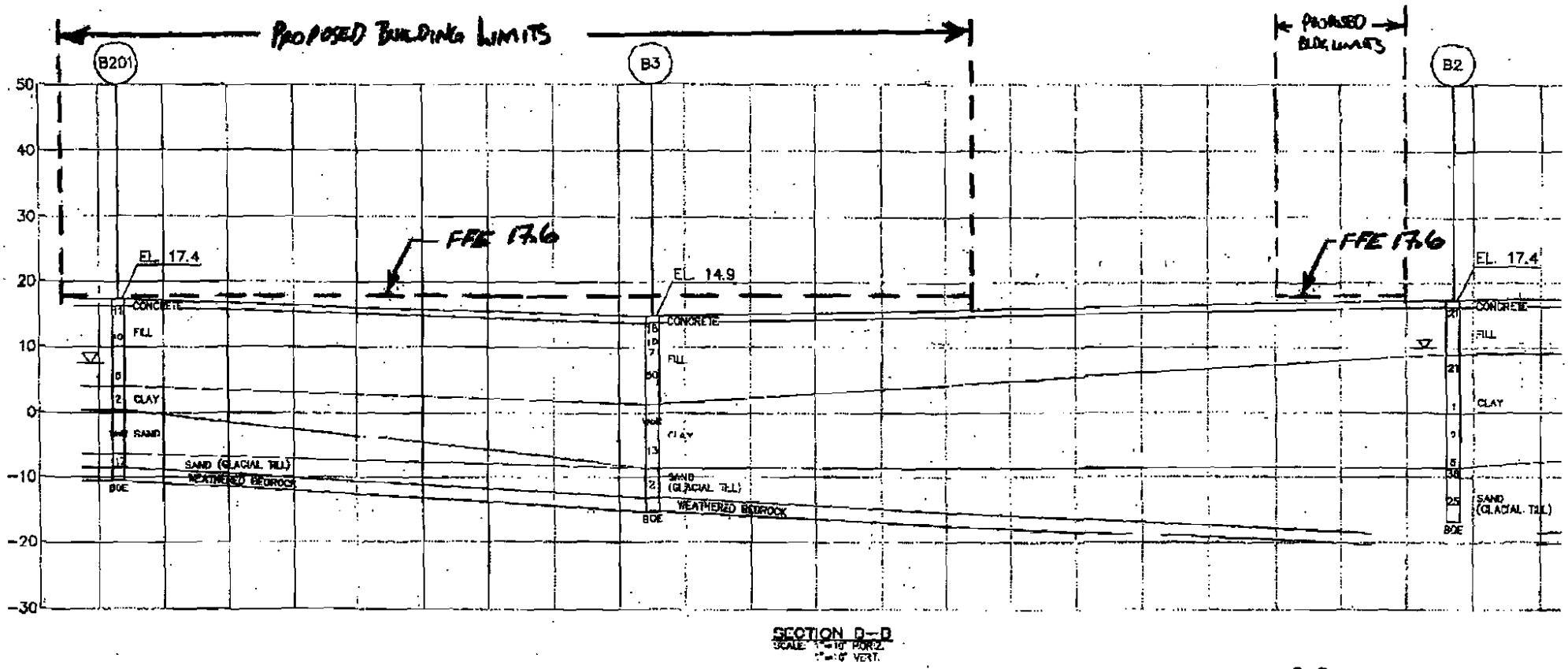
REV'D	BY	DATE	STATUS
-	-	-	-

PLAN PLACED ON MYLAR AND MODIFIED WITH METES, BOUNDS AND EASEMENTS FROM SURVEY PREPARED BY SEBAGO TECHNICS, INC. AFT & CRAFTING ALTERATIONS OR ADDITIONS TO THIS PLAN BY ANY PARTY OTHER THAN SEBAGO TECHNICS, INC. WILL RENDER THE SAME VOID AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.



SECTION A–A
SCALE: 1"=10' HORIZ.
1"=10' VERT

GAE-00628
WESTBROOK/RESIDENCES
PORTLAND, ME
SUBSURFACE PROFILE A-A
4/1/2010 JWJ



SECTION B–B
SCALE: 1"=10' HORIZ.
1"=5' VERT.

CNE-00692
WESTON ROEL/ASSOCIATES
PORTLAND, ME
SUBSURFACE PROFILE B-B
4/1/2010 DW

TABLE I
SUMMARY OF EXPLORATIONS
WESTIN HOTEL AND RESIDENCES
PORTLAND, MAINE

Expl. No.	Depth (Ft)	Ground Sur. El. (Ft)	Depth to Water (Ft.)	Strata Thickness (Ft.)						Approx. El. Top of Glacial Till (Ft)	Approx. El. Top of Bedrock (Ft)
				Fill	Marine Sand/ Silt	Marine Clay	Glacial Till	Weathered Rock	Bedrock		
TP1	4.7	16.0	NE	4.7*	--	--	--	--	--	--	--
TP2	7.0	18.2	7.0	7.0*	--	--	--	--	--	--	--
TP3	6.2	16.8	NE	6.2*	--	--	--	--	--	--	--
TP4	2.5	16.8	NE	2.5*	--	--	--	--	--	--	--
B201	27.5	17.4	9.0	13.0	6.5	4.0	2.0	2.0	0.0*	-6.1	-10.1
B202	43.6	22.5	NE	8.0	5.9	9.0	18.6	3.1	0.0*	-0.4	-21.1
B203	24.2	16.8	5.3	1.0	--	7.5	15.5	0.2	0.0*	8.3	-7.4
B204	18.2	17.2	5.0	4.5	--	9.5	3.9	0.3	0.0*	3.2	-1.0
B205	34.3	22.6	13.1	13.0	--	20.0	0.9	0.4	0.0*	-10.4	-11.7
B206	31.6	22.6	9.7	12.0	0.6	14.4	4.4	0.2	0.0*	-4.4	-9.0
B207	34.3	22.6	9.7	13.5	4.4	8.1	5.8	2.5	0.0*	-3.4	-11.7
B208	28.6	22.6	6.3	4.5	1.8	5.7	16.0	0.6	0.0*	10.6	-6.0
B209	27.0	22.6	8.3	5.0	2.5	14.2	3.8	1.5*	--	0.9	--
B1	35.0	18.5	NE	8.0	--	10.0	15.0	2.0	0.0*	0.5	-16.5
B2	34.0	17.4	7.8	8.5	--	17.5	8.0	--	0.0*	-8.6	-16.6
B3	30.0	14.9	NE	14.0	--	10.0	5.5	0.5	0.0*	-9.1	-15.1
B4	34.0	27.9	18.0	16.5	2.5/1.5	4.5	5.5	3.5	0.0*	2.9	-6.1
B5	30.3	27.6	10.0	10.0	12.5	--	7.5	0.3	0.0*	5.4	-2.4
B6	10.0	25.5	NE	7.8	--	2.2*	--	--	--	--	--
B7	17.0	17.3	NE	14.0	--	3.0*	--	--	--	--	--
B8	7.0	16.0	NE	5.0	--	2.0*	--	--	--	--	--
B9	17.0	15.2	9.0	16.5	--	0.5*	--	--	--	--	--
B10	16.0	15.6	9.5	14.0	--	2.0*	--	--	--	--	--

NOTES:

1. ELEVATIONS REFERENCED TO NORTH AMERICAN VERTICAL DATUM (NAVD) 1988.
2. NE INDICATES WATER NOT ENCOUNTERED WITHIN DEPTH OF BORING.
3. -- INDICATES STRATUM NOT ENCOUNTERED WITHIN DEPTH OF BORING.
4. * INDICATES DEPTH OF PENETRATION INTO STRATUM.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. **B2**

Page 1 of 2

PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORMER JORDAN'S MEATS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	PMH I LIMITED PARTNERSHIP	FIELD REP.	K. STEPHENSON
CONTRACTOR	GREAT WORKS TEST BORING	DATE STARTED	4/21/2005
DRILLER	D. BOLSTRIDGE	DATE FINISHED	4/21/2005

Elevation 17.4 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel
Type	SSA/HW	SS	–
Inside Diameter (in.)	4.0	1 3/8	–
Hammer Weight (lb.)	300	140	
Hammer Fall (in.)	24	30	

Rig Make & Model: Mobile B53

- [x] Truck
- [ ] ATV
- [ ] Track
- [ ] Skid
- [ ] Tripod
- [ ] Geoprobe
- [ ] Air Track
- [ ] Cat-Head
- [x] Winch
- [ ] Roller Bit
- [x] Cutting Head

Hammer Type: [x] Safety [ ] Doughnut [ ] Automatic

Drilling Mud: [ ] Bentonite [x] Polymer [ ] None

Casing Advance: Type Method Depth — SSA to 10 ft./HW to 30 ft.

Drilling Notes:

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	Fines % Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Dry Strength
0	69	S1	0.0		0.5		-BITUMINOUS CONCRETE-										
	21	10	1.0		1.0	SM	Very dense, gray brown silty SAND with gravel (SM), mps = 1.0 in., dry	5	10	15	20	30	18				
	50/5		1.0				PID = 1.3 ppm										
						SM	Gray, silty SAND (SM) with wood and cobbles, creosote odor										
							PID = 31.0 ppm										
	Cuttings	S2															
5			5.0														
			5.0			SM	Gray, silty SAND (SM) with wood and cobbles, creosote odor										
							PID = 14.3 ppm										
	Cuttings	S3															
							-FILL-										
			8.5		8.5												
10	7	S4	10.0			CL	Very stiff, olive lean CLAY (CL), wet						100	N	M	M	
	9																
	12																
	10	8	12.0														
					13.0												
15	1	S5	15.0			CL	Soft, gray CLAY (CL), wet, frequent sand partings						10	90	N	M	M
	1																
	WOH																
	1	24	17.0														
20	2	S6	20.0			CL	Soft, gray lean CLAY with sand (CL), wet, occasional black streaks						15	85	N	M	M
	1																
	1																
	1	24	22.0														
							-MARINE DEPOSIT-										
25	4	S7	25.0			CL	Medium stiff, gray lean CLAY (CL), wet, occasional sand partings						10	90	N	M	M
	3				26.6												
	27					SM	Medium dense, gray silty SAND with gravel (SM), mps = 1.4 in., wet	5	10	20	20	30	15				
	11	24	27.0														
							-GLACIAL TILL-										
30																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
4/21/2005	1420		10.0	34.0	7.3

Sample ID

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon Sample
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (Linear ft.)	34.0
Rock Cored (Linear ft.)	–
Number of Samples	8S
BORING NO.	B2

Field Tests — Dilatancy: R - Rapid S - Slow N - None; Plasticity: N - Nonplastic L - Low M - Medium H - High; Toughness: L - Low M - Medium H - High; Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B2

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
30	4	S8	30.0			SM	Medium dense, gray silty SAND with gravel (SM), mps = 1.3 in., wet	10	15	40	10	10	15				
	7																
	18																
	28	2	32.0														
							GLACIAL TILL										
					34.0												
35							Bottom of Exploration at 34.0 ft. below ground surface Roller bit Refusal										
40																	

NOTES:

FILE NO. 05090 BORING NO. B2

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B3

Page 1 of 2

PROJECT	WESTON HOTEL AND RESIDENCES	STI JOB NO.	05590
LOCATION	FORMER JORDAN'S MEATS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	FMB 1 LIMITED PARTNERSHIP	FIELD REP.	K. STEPHENSON
CONTRACTOR	GREAT WORKS TEST BORING	DATE STARTED	4/21/2005
DRILLER	D. BOLSTRIDGE	DATE FINISHED	4/21/2005

Elevation 14.9 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel	Rig Make & Model				Mobile B53		Hammer Type		Drilling Mud		Casing Advance
Type	SSA/HW	SS	–	☑ Truck	☐ Tripod			☐ Cat-Head		☑ Safety		☐ Bentonite		Type Method Depth
Inside Diameter (in.)	4.0	1 3/8	–	☐ ATV	☐ Geoprobe			☑ Winch		☐ Doughnut		☑ Polymer		SSA to 4.4 ft/HW to 29.5
Hammer Weight (lb.)	300	140		☐ Track	☐ Air Track			☐ Roller Bit		☐ Automatic		☐ None		ft.
Hammer Fall (in.)	24	30		☐ Skid	☐			☑ Cutting Head		Drilling Notes:				

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					0.1		-BITUMINOUS CONCRETE-										
	11	S1	0.4			SW-SM	Medium dense, brown well-graded SAND with silt (SW-SM), mps =			10	20	50	10				
	10						0.2 in., dry, trace bituminous concrete										
	8						PID = 0 ppm										
	7	15	2.4														
	7	S2	2.4			SW-SM	Medium dense, brown well-graded SAND with silt (SW-SM), mps =		5	20	20	45	10				
	9						0.3 in., dry										
	9						PID = 0 ppm										
	7	12	4.4														
5	7	S3	5.0			SW-SM	Loose, brown well-graded SAND with silt and gravel (SW-SM), mps =	10	5	30	30	15	10				
	4						1.4 in., wet										
	3						PID = 0 ppm										
	3	2	7.0				-FILL-										
	2	S4	7.0		7.5	SW	Very dense, brown well-graded SAND (SW), mps = 1.4 in., wet	5		10	20	60	5				
	50/0.1	3	7.6				PID = 0 ppm										
							Bricks and Concrete in wash return										
							-FILL-										
10	36	S5	10.0		10.2	SM	Very dense, gray silty SAND (SM), mps = 0.2 in., wet, with bricks			10	10	60	20				
	50/0.2	4	10.7				WOOD, wet										
							Wood in wash return										
					12.0												
							-FILL-										
					14.0												
15	WOH	S6	15.0			CL	Soft, gray lean CLAY (CL), wet, frequent sand partings, occasional black streaks					10	90	N	M	M	
	WOH																
	WOH																
	WOH	24	17.0														
20	WOH	S7	20.0			CL	Soft, gray lean CLAY with sand (CL), wet					15	85	N	M	M	
	WOH																
	13																
	13	24	22.0														
							-MARINE DEPOSIT-										
					24.0												
25	2	S8	25.0			SM	Very loose, gray silty SAND with gravel (SM), mps = 1.4 in., wet	10	10	10	15	35	30				
	1																
	1																
	2	24	27.0														
							-GLACIAL TILL-										
					29.5												
30							WEATHERED BEDROCK										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water

Sample ID

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon Sample
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (Linear ft.)	29.5
Rock Cored (Linear ft.)	–
Number of Samples	8S

BORING NO. B1

Field Tests Dilatancy: R - Rapid S - Slow N - None Plasticity: N - Nonplastic L - Low M - Medium H - High

Toughness: L - Low M - Medium H - High Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B7

Page 1 of 1

PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORMER JORDAN'S MEATS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	PMI I LIMITED PARTNERSHIP	FIELD REP.	K. STEPHENSON
CONTRACTOR	GREAT WORKS TEST BORING	DATE STARTED	4/25/2005
DRILLER	D. BOLSTRIDGE	DATE FINISHED	4/25/2005

Elevation 17.3 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel	Rig Make & Model			Mobile B53		Hammer Type		Drilling Mud		Casing Advance
Type	SSA	SS	--	☑ Truck	☐ Tripod		☐ Cat-Head		☑ Safety		☐ Bentonite		Type Method Depth
Inside Diameter (in.)	--	1 3/8	--	☐ ATV	☐ Geoprobe		☑ Winch		☐ Doughnut		☐ Polymer		
Hammer Weight (lb.)	--	140	[redacted]	☐ Track	☐ Air Track		☐ Roller Bit		☐ Automatic		☑ None		SSA/17.4 ft.
Hammer Fall (in.)	--	30		☐ Skid	☐		☑ Cutting Head		Drilling Notes:				

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					0.3		BITUMINOUS CONCRETE										
	8	S1	0.5		0.5	SW	Medium dense, gray well-graded SAND with gravel (SW), mps = 1.4 in.										
	14					SM	Dense, gray silty SAND with gravel (SM), mps = 1.0 in., dry, slight	5	10	10	10	50	15				
	17						petroleum odor										
	30	12	2.5				PID = 7.8 ppm										
	10	S2	2.5			SM	Dense, gray silty SAND with gravel (SM), mps = 1.3 in., dry	10	10	15	25	30	15				
	23						PID = 1.3 ppm										
	50/0.4	9	3.9		3.9		FILL										
5																	
	50/0.4	S3	5.0				Gray CONCRETE FRAGMENTS, dust										
		3	5.4				PID = 5.0 ppm										
10							FILL										
					11.0												
	1	S4	11.0			SM	Very dense, gray silty SAND with gravel (SM), mps = 1.0 in., dry, wood	5	10	20	20	30	15				
	15	4	12.0				in tip of spoon										
	50/0						PID = 27.0 ppm										
							Wood in cuttings to 14.0 ft.										
							FILL										
					14.0												
15																	
	1	S5	15.0			CL	Soft, gray lean CLAY (CL), damp, occasional sand partings					5	95	N	M	M	
	1																
	1																
	2	24	17.0				MARINE DEPOSIT										
							Bottom of Exploration at 17.0 ft. below ground surface.										
							No Refusal										
20																	
25																	
30																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
4/25/2005	0920		--	17.0	Dry

Sample ID

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon Sample
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (Linear ft.)	17.0
Rock Cored (Linear ft.)	--
Number of Samples	5S
BORING NO.	B7

Field Tests — Dilatancy: R - Rapid S - Slow N - None; Toughness: L - Low M - Medium H - High; Plasticity: N - Nonplastic L - Low M - Medium H - High; Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B8

Page 1 of 1

PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORMER JORDAN'S MEATS, PORTLAND, MAINE	PROJECT MGR.	D. BILBY
CLIENT	PMB I LIMITED PARTNERSHIP	FIELD REP.	K. STEPHENSON
CONTRACTOR	GREAT WORKS TEST BORING	DATE STARTED	4/25/2005
DRILLER	D. BOLSTRIDGE	DATE FINISHED	4/25/2005

Elevation 16 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel
Type	SSA	SS	--
Inside Diameter (in.)	--	1 3/8	--
Hammer Weight (lb.)	--	140	
Hammer Fall (in.)	--	30	

Rig Make & Model: Mobile B53

- [x] Truck
- [ ] ATV
- [ ] Track
- [ ] Skid
- [ ] Tripod
- [ ] Geoprobe
- [ ] Air Track
- [ ] Cat-Head
- [x] Winch
- [ ] Roller Bit
- [x] Cutting Head

Hammer Type: [x] Safety [ ] Doughnut [ ] Automatic

Drilling Fluid: [ ] Bentonite [ ] Polymer [x] None

Casing Advance: Type Method Depth: SSA/7.0 ft.

Drilling Notes:

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test: Dilatancy	Field Test: Toughness	Field Test: Plasticity	Field Test: Strength
0	10	S1	0.0		0.1		-BITUMINOUS CONCRETE-										
	16					SW	Dense, brown well-graded SAND (SW), mps = 0.3 in., dry		5	30	30	30	5				
	21/0.2	3	1.2				PID = 1.3 ppm										
					2.0												
	2	S2	3.0			CL	Stiff, gray lean CLAY (CL), mps = 0.2 in. damp, sand seams		5		5	10	80				
	3						PID = 17.0 ppm										
	4						-FILL-										
5	5	15	5.0		5.0												
	1	S3	5.0			CL	Stiff, gray brown lean CLAY (CL), damp, frequent sand partings, petroleum odor					10	90	N	M	M	
	2																
	3						PID = 261.0 ppm										
	4	24	7.0				-MARINE DEPOSIT-										
							Bottom of Exploration at 7.0 ft. below ground surface No Refusal										
10																	
15																	
20																	
25																	
30																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
4/25/2005	0950		--	7.0	Dry

Sample ID

- O - Open End Rod
- T - Thin Wall Tube
- U - Undisturbed Sample
- S - Split Spoon Sample
- G - Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (Linear ft.)	7.0
Rock Cored (Linear ft.)	--
Number of Samples	3S
BORING NO.	B8

Field Tests

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B9

Page 1 of 1

PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORMER JORDAN'S MEATS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	PME I LIMITED PARTNERSHIP	FIELD REP.	K. STEPHENSON
CONTRACTOR	GREAT WORKS TEST BORING	DATE STARTED	4/25/2005
DRILLER	D. BOLSTRIDGE	DATE FINISHED	4/25/2005

Elevation 15.2 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel	Rig Make & Model			Mobile B53		Hammer Type		Drilling Mud		Casing Advance
Type	SSA	SS	–	☑ Truck	☐ Tripod		☐ Cat-Head		☑ Safety		☐ Bentonite		Type Method Depth
Inside Diameter (in.)	–	1 3/8	–	☐ ATV	☐ Geoprobe		☑ Winch		☐ Doughnut		☐ Polymer		
Hammer Weight (lb.)	–	140		☐ Track	☐ Air Track		☐ Roller Bit		☐ Automatic		☑ None		SSA/17.0 ft.
Hammer Fall (in.)	–	30		☐ Skid			☑ Cutting Head		Drilling Notes:				

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	Sand % Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	6		0.0		0.1		-BITUMINOUS CONCRETE-										
	6	NR															
	6																
	6		2.0														
	3	S1	2.0			SW	Loose, brown well-graded SAND (SW), mps = 1.0 in., dry	5		25	25	40	5				
	3						PID = 1.3 ppm										
	3																
	3	I4	4.0														
	1	S2	4.0			SW	Loose, brown well-graded SAND (SW), mps = 0.3 in., dry	5		25	25	40	5				
5	2						PID = 0 ppm										
	2																
	1	I5	6.0				-FILL-										
	1	S3	6.0			SW	Loose, brown well-graded SAND (SW), mps = 0.3 in., dry	5		25	25	40	5				
	2				7.0		PID = 0 ppm										
	2					SM	Loose, gray brown silty SAND (SM), mps = 0.4 in., wet	5	5	25	30	25	15				
	4	I2	8.0		8.0		-FILL-										
	1	S4	8.0			SW	Medium dense, gray brown well-graded SAND (SW), mps = 0.2 in., wet			25	30	30	5				
	1						bricks										
	1						PID = 0 ppm										
10	17	I8	10.0		10.0		-FILL-										
	20	S5	10.0				WOOD, wet										
	50/0	4	10.5				PID = 0 ppm										
							-FILL-										
					12.5												
	8	S6	13.0			SM	Medium dense, gray silty SAND (SM), mps = 0.2 in., wet, brick			20	30	25	15				
	11						fragments PID = 0 ppm										
	5																
15	5	3	15.0														
	2	S7	15.0			SM	Medium dense, gray silty SAND (SM), mps = 0.2 in., wet, brick			20	30	25	15				
	1						fragments PID = 0 ppm										
	1				16.5		-FILL-										
	WOH	3	17.0			CL	Soft, gray lean CLAY (CL), wet -MARINE DEPOSIT-										
							Bottom of Exploration at 17.0 ft. below ground surface.										
							No Refusal										
20																	
25																	
30																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
4/25/2005	1030		--	15.0	9.0

Sample ID

O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon Sample
G	Geoprobe

Well Diagram

River Pipe; Screen; Filter Sand; Cuttings; Grout; Concrete; Bentonite Seal

Summary

Overburden (Linear ft.)	17.0
Rock Cored (Linear ft.)	–
Number of Samples	7S
BORING NO.	B9

Field Tests — Dilatancy: R - Rapid S - Slow N - None; Toughness: L - Low M - Medium H - High; Plasticity: N - Nonplastic L - Low M - Medium H - High; Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. **B10**

Page 1 of 1

PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORMER JORDAN'S MEATS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	FMB I LIMITED PARTNERSHIP	FIELD REP.	K. STEPHENSON
CONTRACTOR	GREAT WORKS TEST BORING	DATE STARTED	4/25/2005
DRILLER	D. BOLSTRIDGE	DATE FINISHED	4/25/2005

Elevation 15.6 ft. ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel
Type	SSA	SS	–
Inside Diameter (in.)	–	1 3/8	–
Hammer Weight (lb.)	–	140	
Hammer Fall (in)	–	30	

Rig Make & Model: ☑ Truck ☐ ATV ☐ Track ☐ Skid ☐ Tripod ☐ Geoprobe ☐ Air Track — Mobile B53: ☐ Cat-Head ☑ Winch ☐ Roller Bit ☑ Cutting Head

Hammer Type: ☑ Safety ☐ Doughnut ☐ Automatic

Drilling Fluid: ☐ Bentonite ☑ Polymer ☐ None

Casing Advance: Type Method Depth — SSA/14.0 ft.

Drilling Notes:

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	3	S1	0.0		0.1		-BITUMINOUS CONCRETE-										
	4					SW	Loose, brown well-graded SAND (SW), mps = 1.0 in., dry	5	5	20	25	45					
	2						PID = 0 ppm										
	4	S1	2.0														
	4	S2	2.0			SW	Loose, brown well-graded SAND (SW), mps = 1.4 in., dry	5	5	30	30	30					
	2						PID = 0 ppm										
	2																
	2	S3	4.0														
	1	S3	4.0			SW	Very loose, brown well-graded SAND (SW), mps = 0.7 in., dry	5	5	30	30	30					
	1						PID = 0 ppm										
5	1						-FILL-										
	2	S2	6.0														
	3	S4	6.0			SW	Loose, brown well-graded SAND (SW), mps = 0.7 in., dry	5	5	30	30	30					
	2						PID = 0 ppm										
	3	S	7.5		7.5												
	50/0						CONCRETE										
					8.5		-FILL-										
10																	
	11	S5	10.0			SP	Loose, gray poorly-graded SAND (SP), mps = 0.2 in., wet, bricks			10	30	60	10				
	2						PID = 0 ppm										
	1																
	10	S	12.0				-FILL-										
	20	S6	12.0		12.3												
	35						BRICKS, WOOD, some mud, wet PID = 0 ppm										
	50/0.3	6	13.3				-FILL-										
					14.0												
	3	S7	14.0			CL	Medium stiff, gray lean CLAY (CL), occasional sand partings, wet					5	95	N	M	M	
15	2																
	1						-MARINE DEPOSIT-										
	1	S8	16.0														
							Bottom of Exploration at 16.0 ft. below ground surface.										
							No Refusal										
20																	
25																	
30																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
4/25/2005	1210		–	16.0	9.5

Sample ID

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon Sample
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (Linear ft.)	16.0
Rock Cored (Linear ft.)	–
Number of Samples	7S
BORING NO.	B10

Field Tests — Dilatancy: R - Rapid S - Slow N - None; Toughness: L - Low M - Medium H - High; Plasticity: N - Nonplastic L - Low M - Medium H - High; Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. **B201**

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PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORE, MIDDLE, INDIA AND FRANKLIN STREETS, PORTLAND, ME	PROJECT MGR.	D. RILEY
CLIENT	PME I LIMITED PARTNERSHIP	FIELD REP.	K. STEPHENSON
CONTRACTOR	MAINE TEST BORINGS, INC.	DATE STARTED	10/26/2005
DRILLER	R. IDANO	DATE FINISHED	10/26/2005

Elevation 17.4 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel
Type	HSA	SS	
Inside Diameter (in.)	2.5	1.375	
Hammer Weight (lb.)		140	
Hammer Fall (in.)		30	

Rig Make & Model: Mobile B47

- ☐ Truck ☐ Tripod ☐ Cat-Head
- ☐ ATV ☐ Geoprobe ☑ Winch
- ☐ Track ☐ Air Track ☐ Roller Bit
- ☐ Skid ☑ Trailer ☑ Cutting Head

Hammer Type: ☐ Safety ☑ Doughnut ☐ Automatic

Drilling Mud: ☐ Bentonite ☐ Polymer ☑ None

Casing Advance: Type Method Depth — HSA/Spin/27.5

Drilling Notes:

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test: Dilatancy	Field Test: Toughness	Field Test: Plasticity	Field Test: Strength
0					0.2		-BITUMINOUS CONCRETE-										
	7	S1	0.7			SW	Medium dense, brown well-graded SAND with gravel (SW), mps = 1.0 in., uncrs brick 0.7 to 1.0 ft., damp	5	10	20	25	40					
	6																
	5																
	22	12	2.7														
							-FILL-										
5	2	S2	5.0			SW	Loose, brown well-graded SAND with gravel (SW), mps = 1.0 in., brick, wet	5	10	20	25	40					
	3																
	7																
	11	2	7.0														
							-FILL-										
10	6	S3	10.0				Loose, red BRICK, wet										
	3						-FILL-										
	2						Note: poor recoveries from 5.0 to 12.0 ft. due to pushing brick										
	13	2	12.0				fragments with split spoon										
					13.0												
15	1	S4	15.0			CL	Soft, gray lean CLAY (CL), frequent sand partings to seams, mps = 0.02 in., wet					10	90	N	M	M	
	1																
	1						-MARINE DEPOSITS-										
	2	24	17.0		17.0												
20	WOR	S5	20.0			SM	Very loose, gray silty SAND (SM), frequent clay seams, mps = 0.02 in., wet					70	30				
	WOR																
	WOH																
	WOH	24	22.0														
							-MARINE DEPOSITS-										
					23.5'												
25	26	S6	25.0		25.5	SM	Very dense, gray silty SAND (SM), mps = 0.25 in., wet	5	25	25	30	15					
	91	12	26.0				-GLACIAL TILL DEPOSITS-										
							Very dense, gray weathered SCHIST, wet										
							-WEATHERED BEDROCK-										
					27.5		Note: advanced HSA to 27.5 ft.										
							HSA refusal at 27.5 ft.										
							Bottom of exploration at 27.5 ft. below ground surface										
30																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
10/26/2005	1504		--	10.0	9.0

Sample ID

- G Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon Sample
- G Geoprobe
- FV Field Vane

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (Linear ft.)	25.5
Rock Cored (Linear ft.)	--
Number of Samples	6S

BORING NO. B201

Field Tests — Dilatancy: R - Rapid S - Slow N - None; Toughness: L - Low M - Medium H - High; Plasticity: N - Nonplastic L - Low M - Medium H - High; Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B203

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PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORE, MIDDLE, INDIA AND FRANKLIN STREETS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	FME 1 LIMITED PARTNERSHIP	FIELD REP.	K. B. STEPHENSON
CONTRACTOR	MAINE TEST BORINGS, INC.	DATE STARTED	11/7/2005
DRILLER	B. ENOS	DATE FINISHED	11/8/2005

Elevation 16.8 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel
Type	NW	SS	–
Inside Diameter (in.)	3.0	1.375	–
Hammer Weight (lb.)	300	140	
Hammer Fall (in.)	16	30	

Rig Make & Model: Surveyor

☐ Truck ☐ Tripod ☑ Cat-Head
☐ ATV ☐ Geoprobe ☐ Winch
☐ Track ☐ Air Track ☑ Roller Bit
☑ Skid ☐ Cutting Head

Hammer Type: ☐ Safety ☑ Doughnut ☐ Automatic

Drilling Mud: ☐ Bentonite ☐ Polymer ☑ None

Casing Advance: Type Method Depth: NW/DRIVE/24.0

Drilling Notes:

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0					0.3		-CONCRETE- (floor slab)										
	3	NR	0.4		1.0		No recovery. Brown silty sand with gravel visible in borehole. -FILL-										
	4					CL	Note: gray-brown mottled lean CLAY (CL) in wash from 1.0 to 3.0 ft.										
	4																
	5		2.4				-MARINE DEPOSITS-										
					3.0												
5	1	S1	5.0			CL	Soft, gray lean CLAY (CL), frequent sand seams, mps = 0.02 in., wet					15	85	N	M	M	
	1																
	1																
	1	24	7.0														
							-MARINE DEPOSITS-										
					8.5												
							Note: coarse sand in wash at 8.5 ft.										
10	45	S2	10.0			SM	Dense, gray-brown silty SAND (SM), mps = 0.5 in., wet		5	5	5	70	15				
	27																
	18																
	7	5	12.0														
							-GLACIAL TILL DEPOSITS-										
15	18	S3	15.0			SM	Dense, gray silty SAND with gravel (SM), mps = 1.25 in., wet	5	20	10	20	25	20				
	21																
	35																
	16	8	17.0				-GLACIAL TILL DEPOSITS-										
					20.0												
20	4	S4	20.0			SW	Very loose, gray well-graded SAND (SW), mps = 0.4 in., wet		10	20	10	45	5				
	1																
	2																
	6	1	22.0														
							-GLACIAL TILL DEPOSITS-										
					24.0												
					24.2		NW casing refusal at 24.0 ft. -BEDROCK-										
25							Roller bit refusal at 24.2 ft.										
							Bottom of exploration at 24.2 ft. below ground surface										
30																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
11/8/2005	0908	–	–	22.0	5.3

Sample ID

O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon Sample
G	Geoprobe
FV	Field Vane

Well Diagram

Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary

Overburden (Linear ft.)	24.0
Rock Cored (Linear ft.)	–
Number of Samples	4S

BORING NO. B203

Field Tests — Dilatancy: R - Rapid S - Slow N - None; Toughness: L - Low M - Medium H - High; Plasticity: N - Nonplastic L - Low M - Medium H - High; Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. **B204**

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PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05098
LOCATION	FORE, MIDDLE, INDIA AND FRANKLIN STREETS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	PME I LIMITED PARTNERSHIP	FIELD REP.	K. B. STEPHENSON
CONTRACTOR	MAINE TEST BORINGS, INC.	DATE STARTED	11/8/2005
DRILLER	B. ENOS	DATE FINISHED	11/8/2005

Elevation 17.2 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel
Type	NW	SS	--
Inside Diameter (in.)	3.0	1.375	--
Hammer Weight (lb.)	300	140	
Hammer Fall (in.)	16	30	

Rig Make & Model: ☐ Truck ☐ Tripod ☑ Cat-Head; ☐ ATV ☐ Geoprobe ☐ Winch; ☐ Track ☐ Air Track ☑ Roller Bit; ☑ Skid ☐ Cutting Head

Surveyor

Hammer Type: ☐ Safety ☑ Doughnut ☐ Automatic

Drilling Mud: ☐ Bentonite ☐ Polymer ☑ None

Casing Advance: Type Method Depth — NW/DRIVE/17.9

Drilling Notes: 3.0 X 7.0 in. Field Vane

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	% Fine	% Fines	Field Test: Dilatancy	Field Test: Toughness	Field Test: Plasticity	Dry Strength
0					0.4		-CONCRETE- (boiler slab)										
	8	S1	0.6		0.8		-CONCRETE- (floor slab)										
	1					SM	Loose, gray silty SAND (SW), ash, brick, mps = 1.3 in., dry				10	75	15				
	5																
	8	2	2.8														
							-FILL-										
					4.5												
5	3	S2	5.0			CL	Stiff, gray-brown mottled lean CLAY (CL), occasional sand partings, mps = 0.02 in., wet					10	90	N	M	M	
	3																
	2																
	3	16	7.0														
							-MARINE DEPOSITS-										
10	WOR	FV1	10.0-10.6				Field Vane #1 from 10.0-10.6 ft. = 52/1 ft. lb., Su = 1930 psf										
	1	S3	10.0			CL	Stiff gray-brown mottled lean CLAY (CL), occasional sand partings, mps = 0.02 in., wet					10	90	N	M	M	
	WOH	24	12.0		10.4	CL	Stiff gray lean CLAY (CL), occasional sand partings and dark streaks, mps = 0.02 in., wet					5	95	N	M	M	
							-MARINE DEPOSITS-										
					14.0												
15	11	S4	15.0			SM	Medium dense, gray-brown silty SAND (SM), occasional silt laminae, two 0.5 in. gravel pieces, wet		10			75	15				
	13																
	9																
	4	11	17.0				-GLACIAL TILL DEPOSITS-										
					17.9												
							NW casing refusal at 17.9 ft.										
					18.2		-BEDROCK-										
							Roller-bit refusal at 18.2 ft.										
20							Bottom of exploration at 18.2 ft. below ground surface										
25																	
30																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
11/9/2005	0715	--	--	17.0	5.0

Sample ID

O Open End Rod; T Thin Wall Tube; U Undisturbed Sample; S Split Spoon Sample; G Geoprobe; FV Field Vane

Well Diagram

Riser Pipe; Screen; Filter Sand; Cuttings; Grout; Concrete; Bentonite Seal

Summary

Overburden (Linear ft.)	17.9
Rock Cored (Linear ft.)	--
Number of Samples	45

BORING NO. B204

Field Tests — Dilatancy: R - Rapid S - Slow N - None; Toughness: L - Low M - Medium H - High; Plasticity: N - Nonplastic L - Low M - Medium H - High; Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B205

Page 1 of 2

PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORE, MIDDLE, INDIA AND FRANKLIN STREETS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	PMS 1 LIMITED PARTNERSHIP	FIELD REP.	K. B. STEPHENSON
CONTRACTOR	MAINE TEST BORINGS, INC.	DATE STARTED	11/10/2005
DRILLER	B. ENOS	DATE FINISHED	11/11/2005

Elevation 23.6 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel
Type	NW	SS	–
Inside Diameter (in.)	3.0	1.375	–
Hammer Weight (lb.)	300	140	
Hammer Fall (in.)	16	30	

Rig Make & Model: ☐ Truck ☐ ATV ☐ Track ☑ Skid ☐ Tripod ☐ Geoprobe ☐ Air Track ☑ Cat-Head ☐ Winch ☑ Roller Bit ☐ Cutting Head

Surveyor:

Hammer Type: ☐ Safety ☑ Doughnut ☐ Automatic

Drilling Mud: ☐ Bentonite ☐ Polymer ☑ None

Casing Advance: Type Method Depth: NW/OSHVE/34.1

Drilling Notes:

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description [density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation]	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test: Dilatancy	Field Test: Toughness	Field Test: Plasticity	Field Test: Strength
0					0.5		-CONCRETE- (floor slab)										
					0.8		-RIGID INSULATION-										
					1.2		-CONCRETE- (floor slab)										
	15	S1	1.2			GP	Medium dense, gray poorly-graded GRAVEL (GP), trace brown silty	100									
	16						sand, max = 1.5 in., wet										
	13						-FILL-										
	12	2	3.2														
5																	
	6	S2	5.0			SW-SM	Very dense, brown well-graded SAND with silt (SW-SM), brick, rags =	5	5	30	30	20	10				
	22						1.5 in., damp										
	40																
	44	8	7.0				Note: coarse sand, gravel, brick to wash										
							-FILL-										
10																	
	11	S3	10.0				Dense, red BRICK, trace silty sand, rags = 1.5 in., wet										
	21																
	12						-FILL-										
	26	5	12.0		12.0												
						ML	Note: dark gray silt, coarse sand, shells in wash										
					13.0		-HARBOR BOTTOM DEPOSITS-										
							Note: gray clay in wash at 13.0 ft.										
15																	
	1	S4	15.0			CL	Very stiff, gray lean CLAY (CL), rags = 6.02 in., wet						70	98	N	M	M
	2																
	11																
	16	1	17.0				-MARINE DEPOSITS-										
							Note: brick, coarse sand, wood being washed down by roller bit										
20																	
	3	S5	20.0			CL	Medium stiff, gray lean CLAY (CL), wet						100	N	M	M	
	3																
	3																
	4	20	22.0														
							-MARINE DEPOSITS-										
25																	
	WOH	S6	25.0														
	1																
	1					CL	Soft, gray lean CLAY (CL), trace fine sand, wet						100	N	M	M	
	1	20	27.0														
							-MARINE DEPOSITS-										
30																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
11/11/2005	1030		–	10.2	8.2
11/14/2005	1050		Well	15.0	13.1
1/19/2006	1100		Well	15.0	12.8

Sample ID

O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon Sample
G	Geoprobe
FV	Field Vane

Well Diagram

Riser Pipe; Screen; Filter Sand; Cuttings; Grout; Concrete; Bentonite Seal

Summary

Overburden (Linear ft.)	33.9
Rock Cored (Linear ft.)	–
Number of Samples	15
BORING NO.	B205

Field Tests — Dilatancy: R - Rapid S - Slow N - None; Toughness: L - Low M - Medium H - High; Plasticity: N - Nonplastic L - Low M - Medium H - High; Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. **B205**

Page 2 of 2

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
30	20	S7	30.0			CL	Very stiff, gray lean CLAY (CL), trace fine sand, wet						100	N	M	M	
	18						-MARINE DEPOSITS-										
	8																
	6	4	32.0														
					33.0												
							Note: coarse sand, gravel in wash										
					33.9		-Probable GLACIAL TILL DEPOSITS-										
							NW casing refusal at 34.1 ft. Roller bit refusal at 34.3 ft.										
35					34.3		-WEATHERED BEDROCK-										
							Bottom of exploration at 34.3 ft. below ground surface.										
							Note: installed 1 in. PVC well at 15.0 ft. below top of floor slab.										
40																	

NOTES:

FILE NO. 05980 BORING NO. B205

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. **B206**

Page 1 of 1

PROJECT	WESTIN HOTEL AND RESIDENCES	STI JOB NO.	05090
LOCATION	FORE, MIDDLE, INDIA AND FRANKLIN STREETS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	PME I LIMITED PARTNERSHIP	FIELD REP.	K. B. STEPHENSON
CONTRACTOR	MAINE TEST BORINGS, INC.	DATE STARTED	11/11/2005
DRILLER	B. ENOS	DATE FINISHED	11/14/2005

Elevation 22.6 ft. Datum NAVD 88 Boring Location See Plan

Item	Casing	Sampler	Core Barrel	Rig Make & Model	Surveyor	Hammer Type	Drilling Mud	Casing Advance
Type	NW	SS	–	☐ Truck ☐ Tripod ☑ Cat-Head		☐ Safety	☐ Bentonite	Type Method Depth
Inside Diameter (in.)	3.0	1.375	–	☐ ATV ☐ Geoprobe ☐ Winch		☑ Doughnut	☐ Polymer	NW/DRIVE/60.0
Hammer Weight (lb.)	300	140		☐ Track ☐ Air Track ☑ Roller Bit		☐ Automatic	☑ None	
Hammer Fall (in.)	16	30		☑ Skid ☐ ☐ Cutting Head		Drilling Notes: 2.0 X 7.0 in. field vane		

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	Silt or Clay % Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Dry Strength
0					0.5		-CONCRETE (floor slab)										
					0.83		-RIGID INSULATION-										
					1.2		-CONCRETE (floor slab)										
	19	S1	1.2			SW-SM	Dense, brown well-graded SAND with silt (SW-SM), trace black fabric		20	30	30	20	10				
	21				2.2		with grass, mps = 0.5 in., dry -FILL-										
	20					SW-SM	Dense, light brown well-graded SAND with silt (SW-SM), mps = 0.2 in.,				30	30	30	10				
	17	S2	3.2				dry										
							-FILL-										
5	23	S2	5.0			SW	Very dense, light brown well-graded SAND (SW), occasional silt seams,				35	30	30	5			
	32						mps = 0.2 in., dry										
	46				6.7		-FILL-										
	44	S3	7.0			SM	Very dense, gray to black silty SAND with gravel (SM), mh, mps = 0.75	30	10	30	15	30	15				
					7.5		in., dry -FILL-										
							Note: coarse sand, gravel, brick in wash from 7.5 to 11.0 ft.										
10	6	S3	10.0														
	2				11.0												
	4					GP	Very loose, gray poorly-graded GRAVEL (GP), trace dark brown silty	100									
	6	S4	12.0		12.0		sand, mps = 1.3 in., wet -HARBOR BOTTOM DEPOSITS-										
							Note: pushing wood, gravel, coarse sand down with roller bit										
15	WOH	S4	15.0			ML	Soft, gray sandy SILT (ML), mps = 0.1 in., sandy seams with				5	20	75		L	L	
	8						organics from 16.0 to 17.0 ft., wet										
	11																
	16	S4	17.0														
					17.5		-MARINE DEPOSITS-										
20	WOR	FV1	20.0-20.6				FV1 from 20.0 to 20.6 ft. = 1773 ft. lb., Su = 630 psf										
	WOH	S5	20.0			CL	Medium stiff, gray lean CLAY (CL), frequent sand seams from 16.5 to					10	90	N	M	M	
	WOH						17.0 ft., mps = 0.02 in., wet										
	WOH	S4	22.0														
							-MARINE DEPOSITS-										
25	WOR	FV2	25.0-25.6				FV2 from 25.0 to 25.6 ft. = 1571 ft. lb., Su = 560 psf										
	WOR	S6	25.0			CL	Medium stiff, gray lean CLAY (CL), occasional sand seams, mps = 0.02					5	95	N	M	M	
	3				26.4		in., wet -MARINE DEPOSITS-										
	17	S4	27.0		27.0	SM	Medium dense, gray and brown silty SAND (SM), occasional clay seams,					70	30				
							mps = 0.02 in., wet -MARINE DEPOSITS-										
							Note: coarse sand in wash at 27.0 ft.										
							-GLACIAL TILL DEPOSITS-										
30																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
11/15/2005	0730		–	23.5	9.7

Sample ID

O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon Sample
G	Geoprobe
FV	Field Vane

Well Diagram

Riser Pipe; Screen; Filter Sand; Cuttings; Grout; Concrete; Bentonite Seal

Summary

Overburden (Linear ft.)	31.4
Rock Cored (Linear ft.)	--
Number of Samples	29

BORING NO. B206

Field Tests

Dilatancy: R - Rapid S - Slow N - None

Toughness: L - Low M - Medium H - High

Plasticity: N - Nonplastic L - Low M - Medium H - High

Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST BORING REPORT

BORING NO. B206

Page 1 of 1

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
30	5	S7	30.0			SM	Medium dense, gray silty SAND with gravel (SM), mps = 0.75 in., wet	10	10	20	20	25	15				
	6						-GLACIAL TILL DEPOSITS-										
	28				31.6												
	50/.1	12	31.6		31.6		Very dense, gray weathered rock fragments -WEATHERED BEDROCK-										
							Split spoon refusal at 31.6 ft.										
							Bottom of exploration at 31.6 ft. below ground surface										
35																	
40																	

NOTES:

FILE NO. 05090

BORING NO. B206

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Sebago Technics, Inc.

SEBAGO TECHNICS, INC.

TEST PIT LOG

Test Pit No. **TP1**

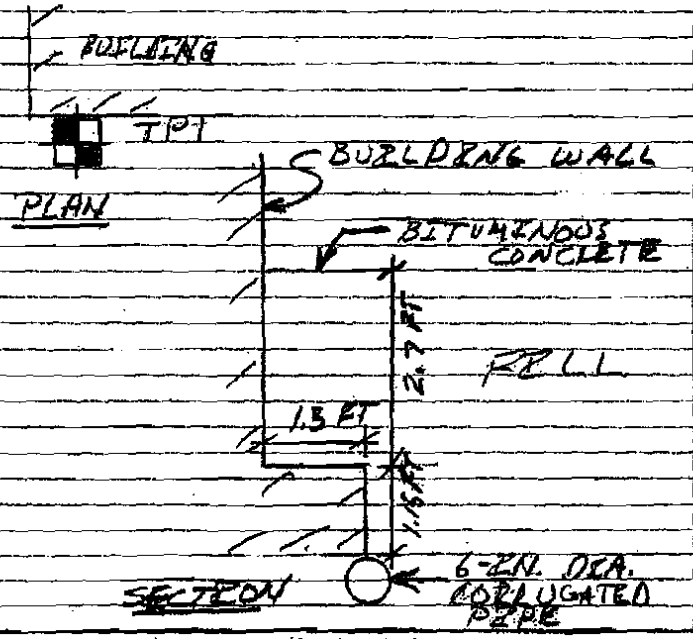
Page 1 of 1

PROJECT	WESTIN HOTEL AND RESIDENCES	PROJECT NO.	05090
LOCATION	FORE, MIDDLE, INDIA AND FRANKLIN STREETS, PORTLAND, MAINE	PROJECT MGR.	D. RILEY
CLIENT	PME I LIMITED PARTNERSHIP	FIELD REP	K. B. STEPHENSON
CONTRACTOR	O'BRIEN BROTHERS	DATE	10/26/2005
EQUIPMENT	DAEWOO SOLAR 55V	WEATHER	CLEAR, 40s

Ground El. 16.0 ft | Location See Plan | Groundwater depths/entry rates (in/min): N/E

El. Datum NAVD 88

Depth (ft)	Sample ID	Stratum Change Depth (ft)	USCS Group Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, % oversized, max particle size, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
		0.4		-BITUMINOUS CONCRETE-										
			SP	Gray poorly-graded SAND (SP), few cobbles, mps ~ 4 in., petroleum odor, dry										
				-FILL-										
				Note: uncovered catch basin at 1.5 ft. Basin appears filled with sand. Bituminous concrete										
2				layer surrounds rim of structure. Continued excavation east of catch basin.										
			SP	Gray to light brown poorly-graded SAND (SP), wood, cobblestones, brick, dry										
				-FILL-										
				Note: footing encountered at 2.7 ft. below ground surface. Approximately 6 in. round										
				steel corrugated culvert under footing. No pile apparent under footing. Gray sandy										
4				CLAY under culvert. See sketch below.										
				Bottom of exploration at 4.7 ft. below ground surface										
				No refusal										
6														



Obstructions:

Remarks: Two layers bituminous concrete from 0.0 to 0.4 ft.

Standing water in completed pit:
at depth _____ ft
measured after _____ mins. elapsed

Boulders:

Diameter (in.)	Number		Approx. vol. (cu. ft.)
12 to 24	--	=	
over 24	--	=	

Test Pit Dimensions:

Pit Depth	4.7
Pit Length X Width	15.0 X 8.0

PROPOSED DEVELOPMENT

OLD PORT HOSPITALITY, LLC

PORTLAND, ME

January 25, 2010

1/27/10

beginning sketch

OPECHEE CONSTRUCTION CORPORATION

1/27/10

MIDDLE STREET VIEW

FORE STREET VIEW

PROPOSED DEVELOPMENT

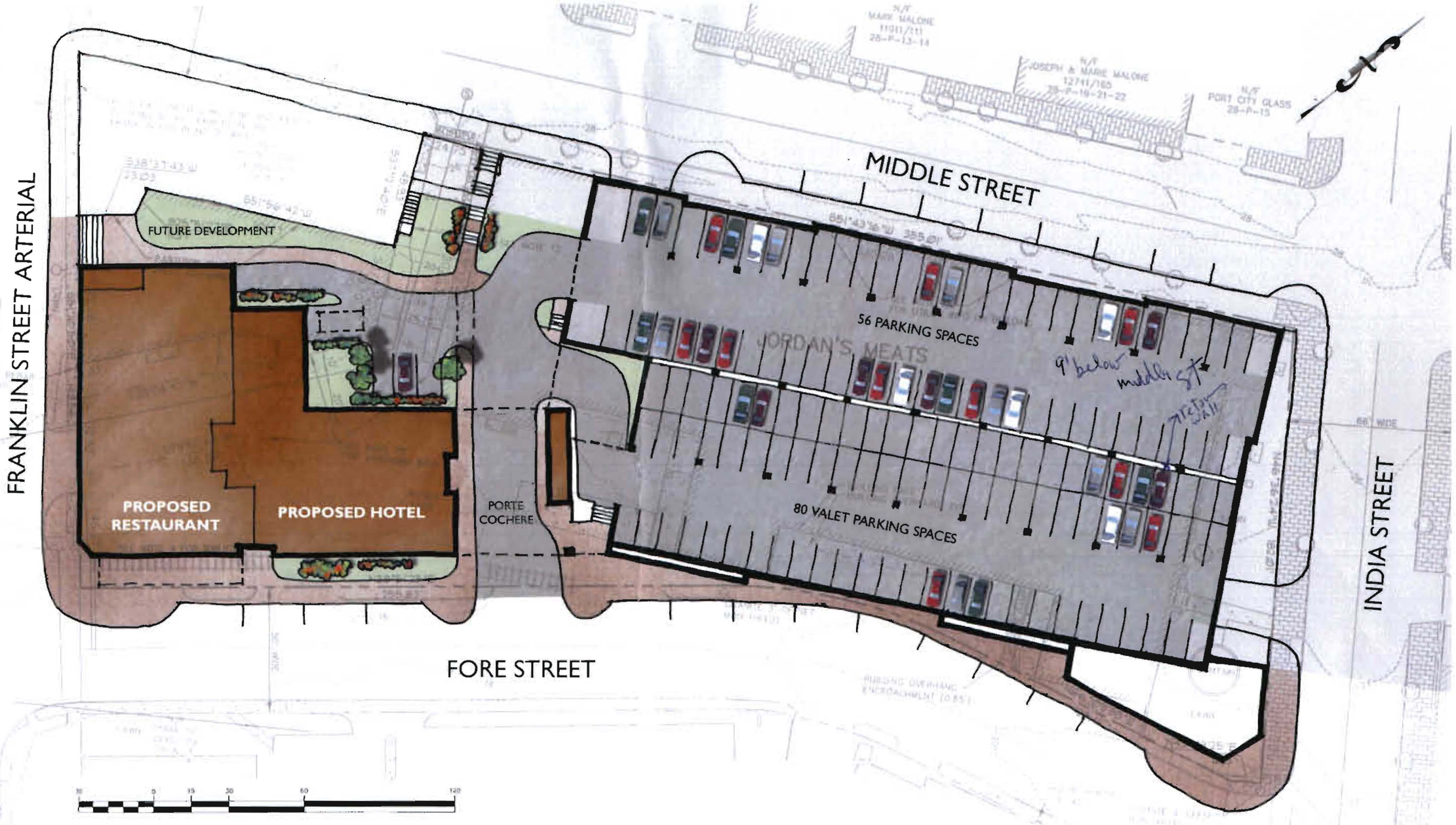
OLD PORT HOSPITALITY, LLC

PORTLAND, ME

January 25, 2010

OPECHEE

CONSTRUCTION CORPORATION



PARKING LEVEL 1

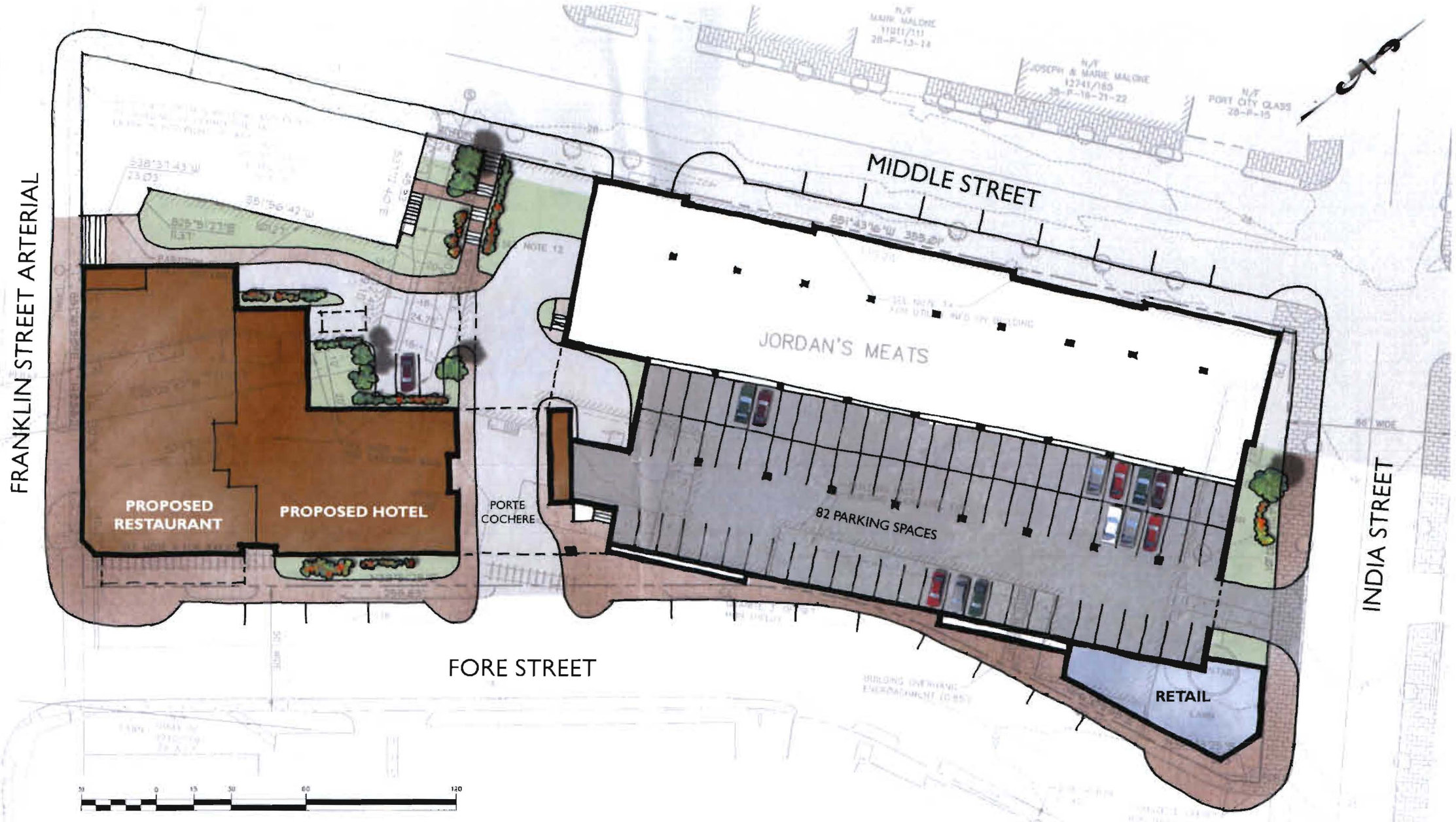
PROPOSED DEVELOPMENT

OLD PORT HOSPITALITY, LLC

PORTLAND, ME

January 25, 2010

OPECHEE CONSTRUCTION CORPORATION



PARKING LEVEL 2

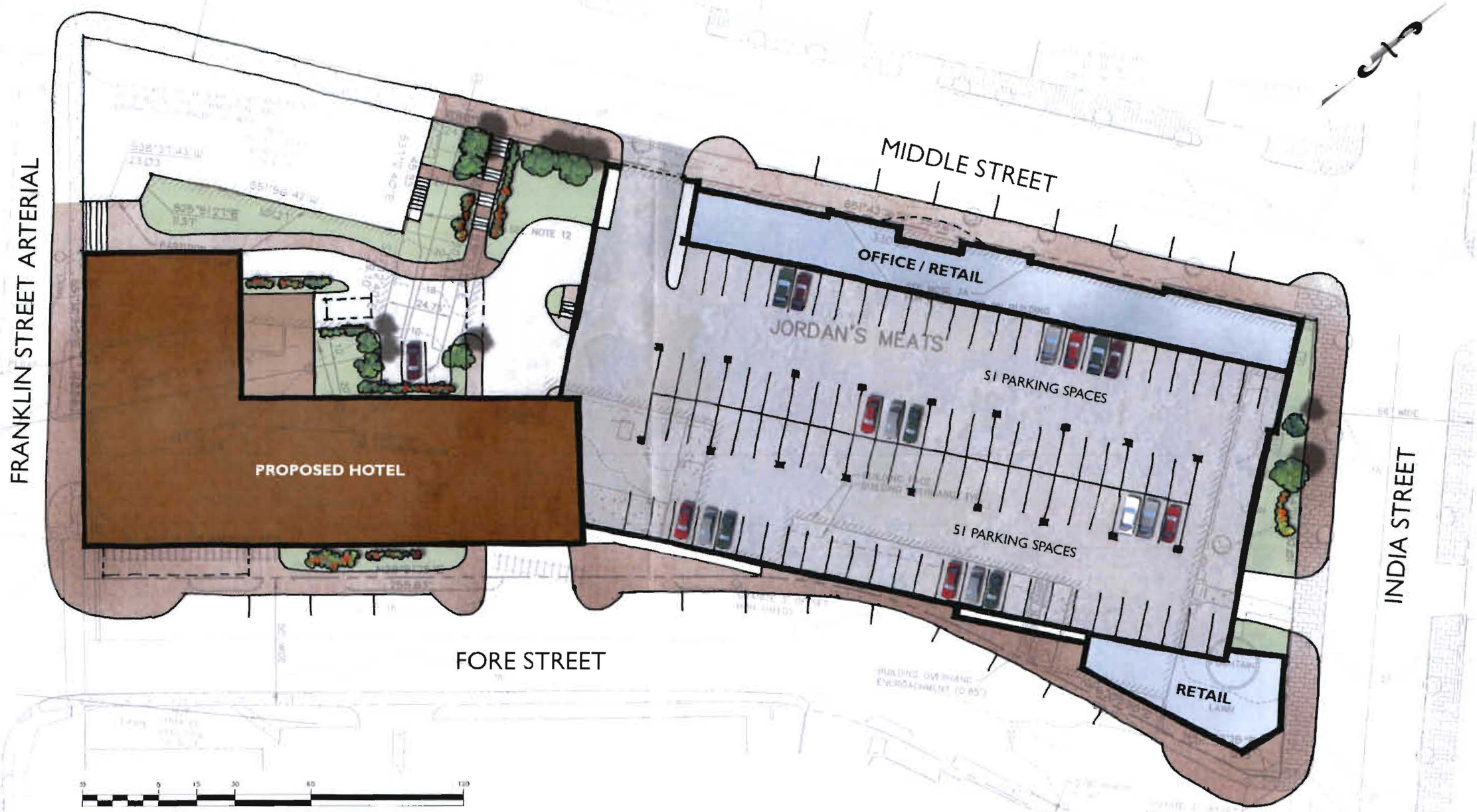
PROPOSED DEVELOPMENT

OLD PORT HOSPITALITY, LLC

PORTLAND, ME

January 25, 2010

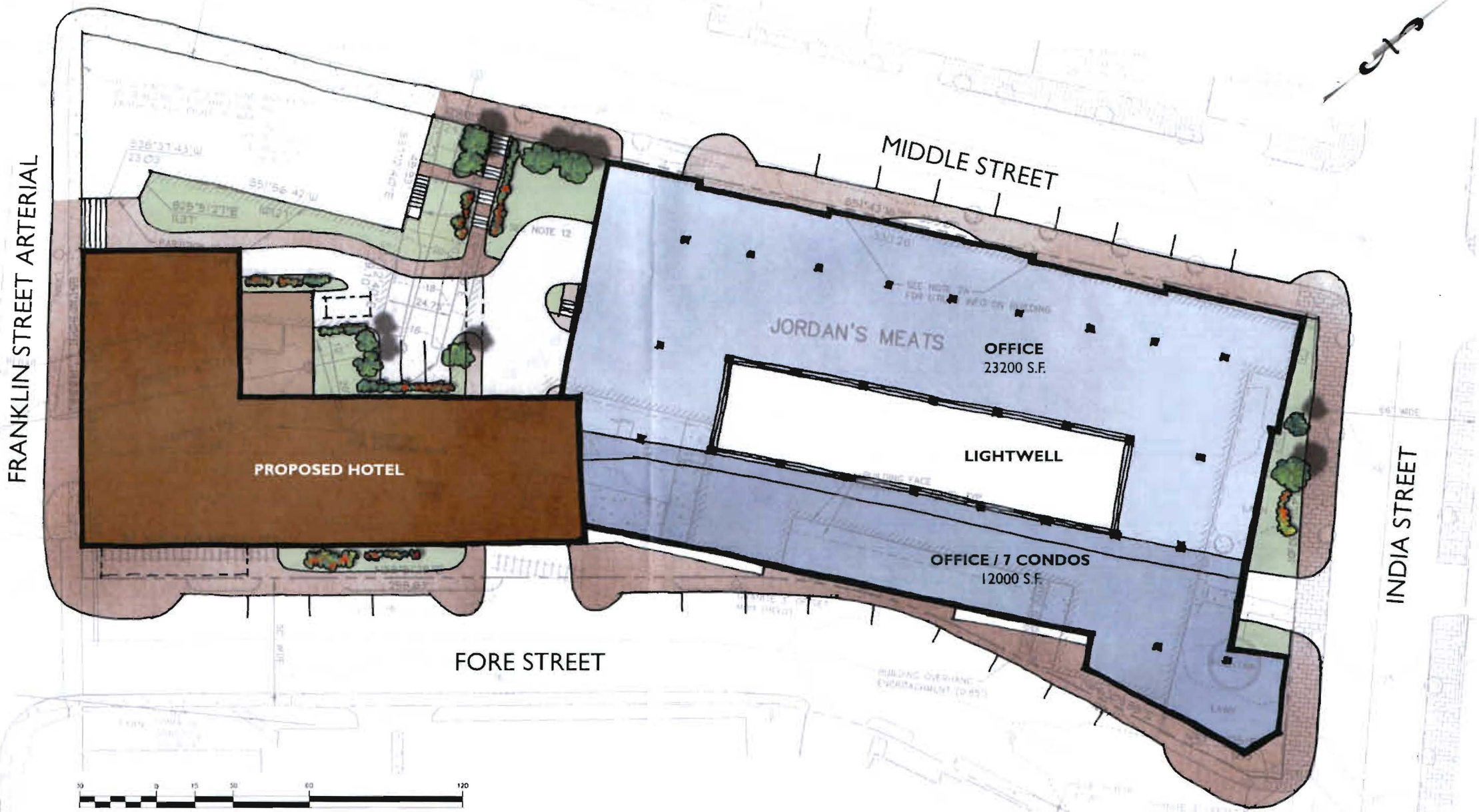
OPECHEE CONSTRUCTION CORPORATION



PARKING LEVEL 3

PROPOSED DEVELOPMENT
OLD PORT HOSPITALITY, LLC
PORTLAND, ME
January 25, 2010

OPECHEE
CONSTRUCTION CORPORATION



UPPER FLOOR

PROPOSED DEVELOPMENT

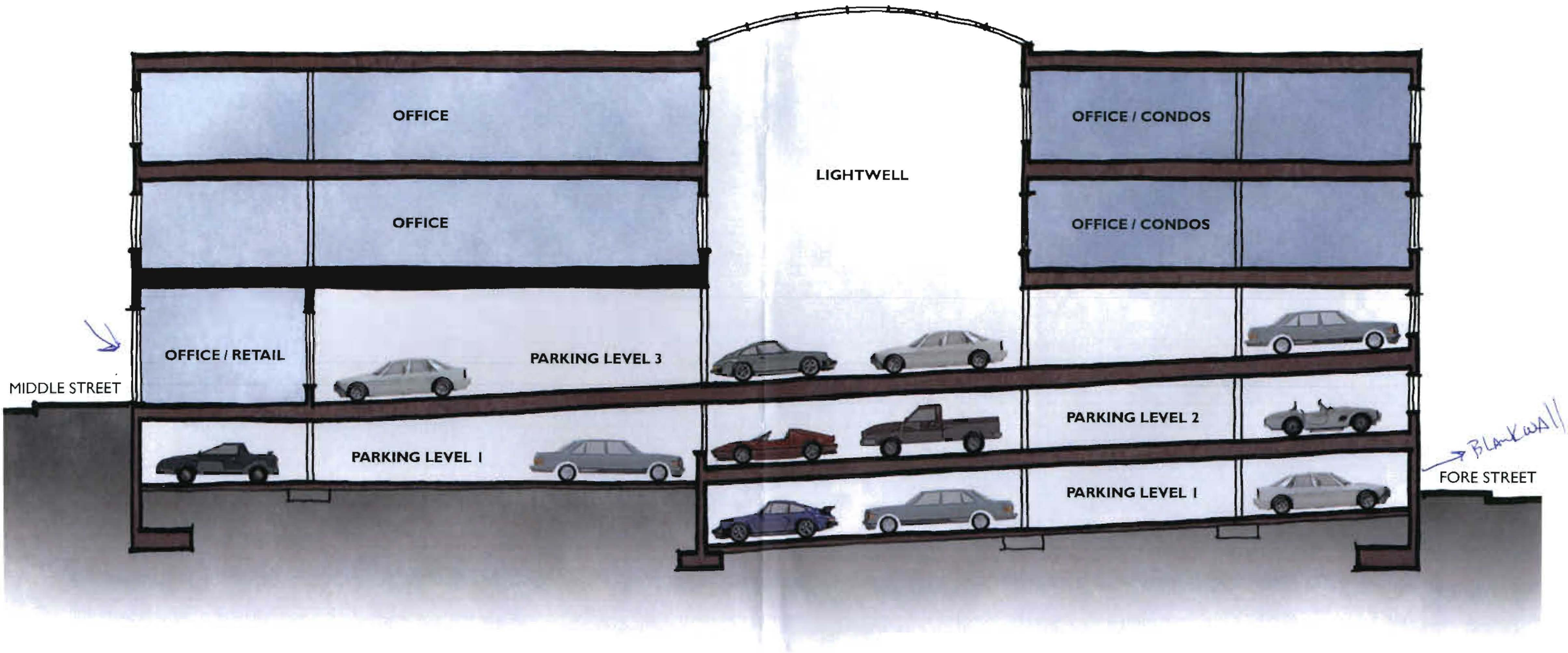
OLD PORT HOSPITALITY, LLC

PORTLAND, ME

January 25, 2010

OPECHEE

CONSTRUCTION CORPORATION



SECTION

PROPOSED DEVELOPMENT

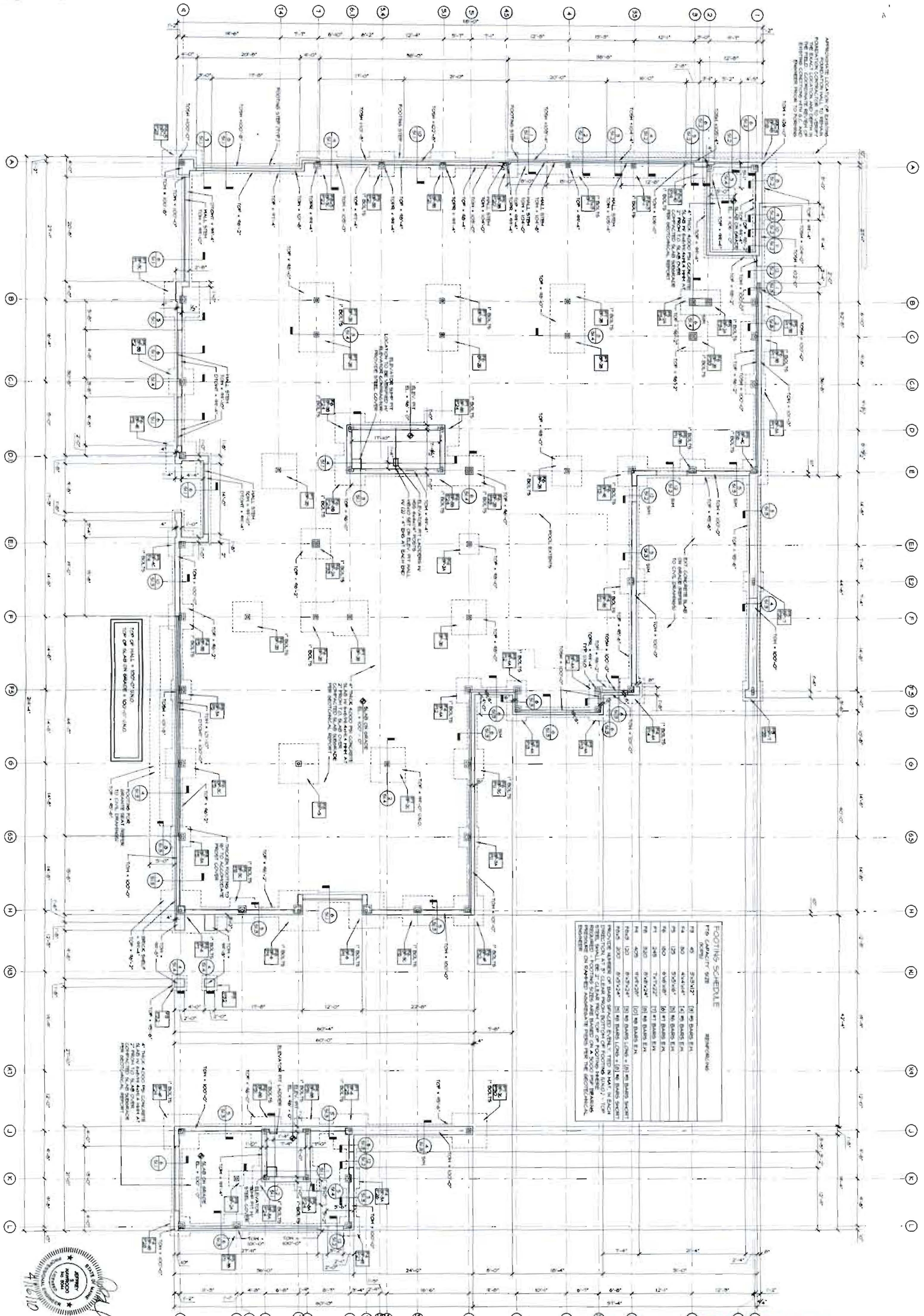
OLD PORT HOSPITALITY, LLC

PORTLAND, ME

January 25, 2010

OPECHEE

CONSTRUCTION CORPORATION



PROJECT:
Hotel, Restaurant,
& Portside Residences
Portland ME

FOUNDATION PLAN

OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527 9990 FAX (603) 527 9991

S1
SHEET:

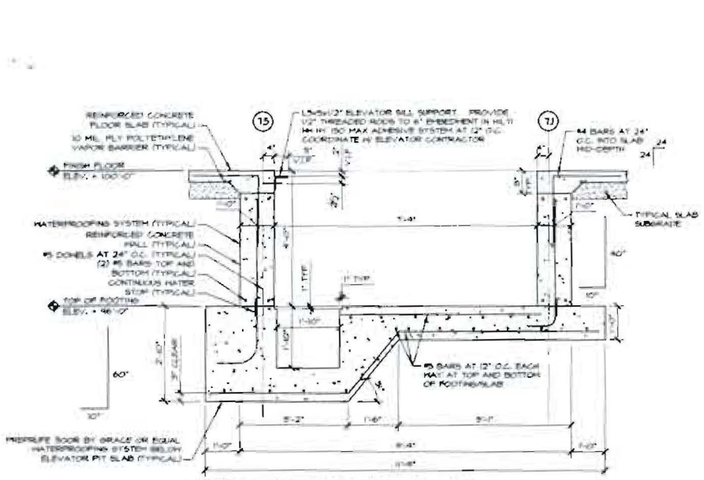
DATE: 04/16/10
SCALE: 1/8"=1'-0"
DRAWN BY: DHB

JEFFREY S. MARROCCO NO. 9044 STATE OF MAINE REGISTERED PROFESSIONAL ENGINEER

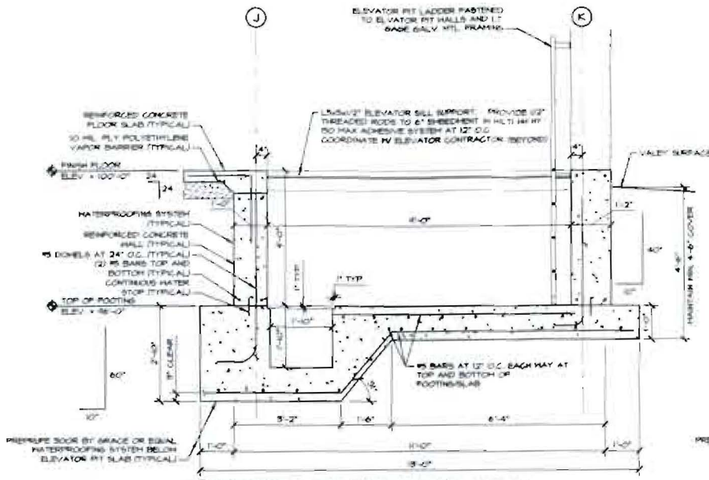
REVISION SCHEDULE
DATE | BY

RECEIVED
MAY 18 2010

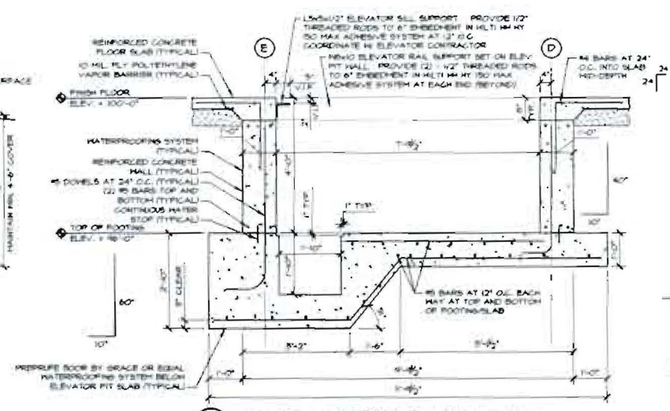
Dept. of Building Inspections
City of Portland Maine



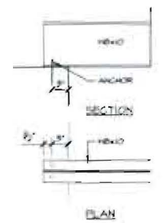
1 / S1.1 ELEVATOR FOUNDATION AND SUMP SECTION
1/2" = 1'-0"



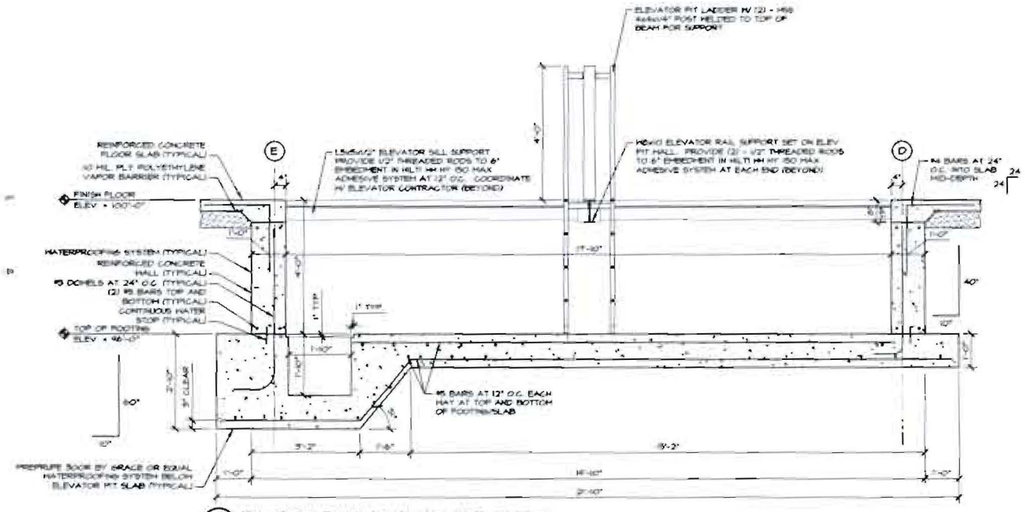
2 / S1.1 ELEVATOR FOUNDATION AND SUMP SECTION
1/2" = 1'-0"



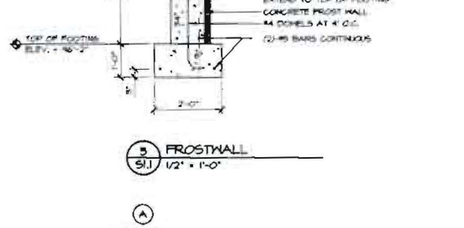
3 / S1.1 ELEVATOR FOUNDATION AND SUMP SECTION
1/2" = 1'-0"



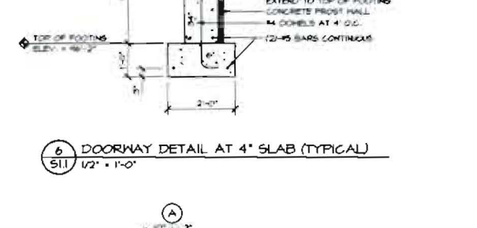
ELEVATOR BEAM POCKET DETAIL
1" = 1'-0"



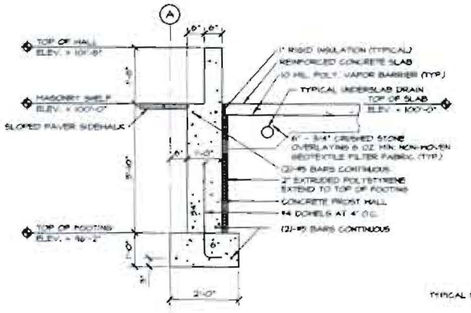
4 / S1.1 ELEVATOR FOUNDATION AND SUMP SECTION
1/2" = 1'-0"



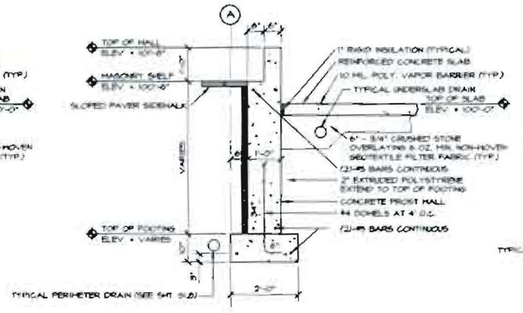
5 / S1.1 FROSTWALL
1/2" = 1'-0"



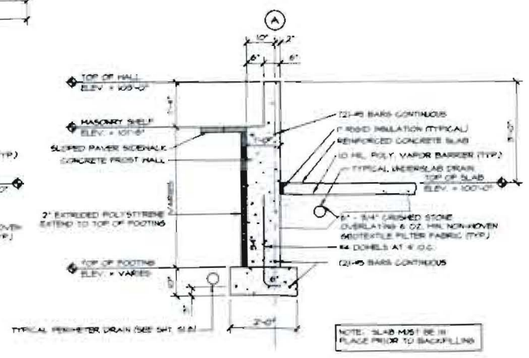
6 / S1.1 DOORWAY DETAIL AT 4" SLAB (TYPICAL)
1/2" = 1'-0"



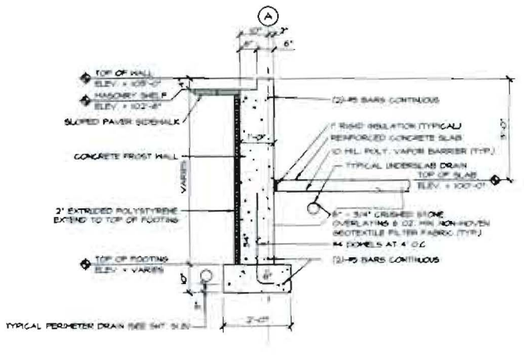
7 / S1.1 MASONRY SHELF DETAIL
1/2" = 1'-0"



8 / S1.1 MASONRY SHELF DETAIL
1/2" = 1'-0"



9 / S1.1 MASONRY SHELF DETAIL



10 / S1.1 MASONRY SHELF DETAIL
1/2" = 1'-0"

REVISION SCHEDULE

BY	DATE	REVISION DESCRIPTION

OPECHEE
CONSTRUCTION CORPORATION
116 CORPORATE DRIVE, BELMONT, ME 04958
PHONE (207) 322-2100 FAX (207) 322-2511

FOUNDATION DETAILS

PROJECT: Hotel, Restaurant, & Portside Residences — Portland ME

DATE: 04/16/10
SCALE: SEE PLAN
DRAWN BY: CHD

S1.1
SHEET:

1 / S1.2 RETAINING WALL DETAIL
1/2" = 1'-0"

G.C. TO VERIFY IN THE FIELD W/ ENGINEER EXISTING CONDITIONS TO DETERMINE IF WALL IS TO BE CAST AGAINST EXISTING FOUNDATION OR ALTERNATE METHOD OF CONSTRUCTION THIS APPLIES TO DETAILS 2, 3, 4, & 5/S1.2

2 / S1.2 RETAINING WALL DETAIL
1/2" = 1'-0"

NOTE:
BACKFILL BOTH SIDES TO TOP OF FOOTING WITH COMPACTED STRUCTURAL FILL PER GEOTECHNICAL REPORT PRIOR TO BACKFILLING EXTERIOR SIDE OF WALL. THIS APPLIES TO DETAILS 1, 2, 3, 4, & 5/S1.2

3 / S1.2 RETAINING WALL DETAIL
1/2" = 1'-0"

4 / S1.2 RETAINING WALL DETAIL
1/2" = 1'-0"

NOTE:
1. WHERE NEW FOUNDATION WALL IS CLOSE TO EXISTING FOUNDATION, THE FOOTING CAN BE EXTENDED TO THE FACE OF EXISTING FOUNDATION BUT DO NOT CONNECT TO EXISTING FOUNDATION UNLESS IT CAN BE VERIFIED IN THE FIELD THAT EXISTING FOUNDATION IS NOT CONNECTED TO ANY UTILITY STRUCTURES.
2. IF VERIFIED, CONNECT FOOTING AND WALL WITH DOWELS. CONTACT ENGINEER TO VERIFY REQUIREMENTS OF DOWELING BASED ON EXISTING FIELD CONDITIONS.

5 / S1.2 RETAINING WALL DETAIL
1/2" = 1'-0"

6 / S1.2 FROSTWALL
1/2" = 1'-0"

7 / S1.2 DOORWAY DETAIL
1/2" = 1'-0"

8 / S1.2 FROSTWALL
1/2" = 1'-0"

9 / S1.2 FROSTWALL
1/2" = 1'-0"

10 / S1.2 FROSTWALL
1/2" = 1'-0"

11 / S1.2 FROSTWALL
1/2" = 1'-0"

12 / S1.2 DOORWAY DETAIL AT 4" SLAB
1/2" = 1'-0"

13 / S1.2 STEM REINFORCEMENT (TYPICAL)
1" = 1'-0"

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

OPECHEE
CONSTRUCTION CORPORATION
1 CORPORATE DRIVE, BELMONT, NH 03220
PHONE (603) 527-1800 FAX (603) 527-1551

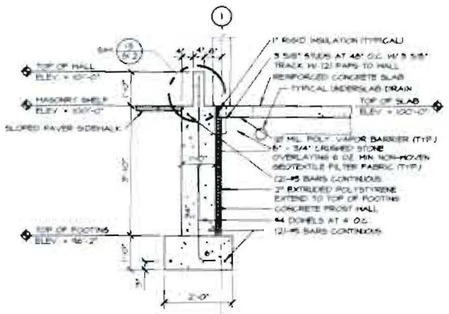
FOUNDATION DETAILS

PROJECT:
Hotel, Restaurant, & Portside Residences
Portland ME

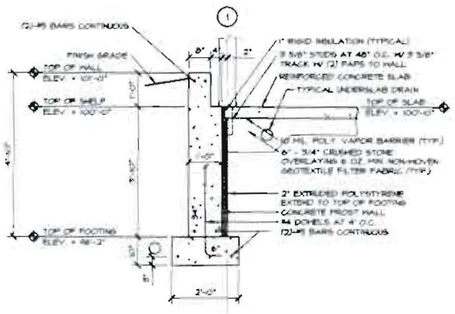
DATE: 04/16/10
SCALE: SEE PLAN
DRAWN BY: CHD

S1.2
SHEET:

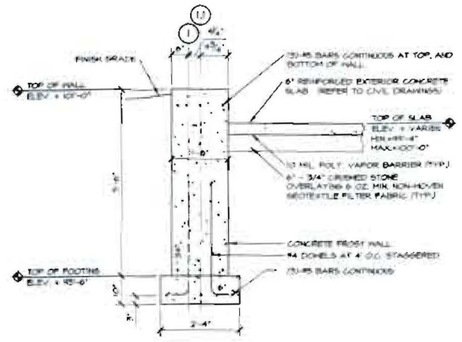
STATE OF MAINE
JEFFREY S. HAMROCK
No. 8044
LICENSED
PROFESSIONAL ENGINEER
4/16/10



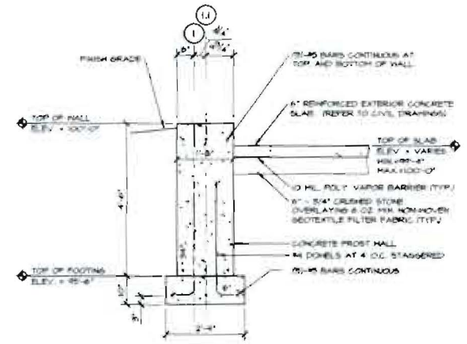
1 / S1.3 MASONRY SHELF DETAIL
1/2" = 1'-0"



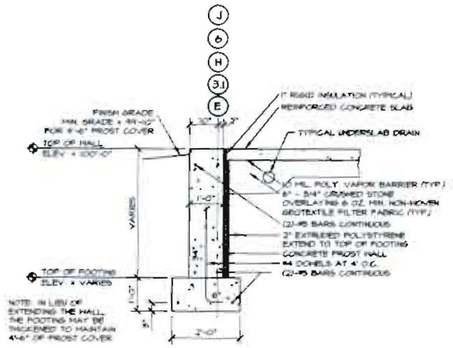
2 / S1.3 MASONRY SHELF DETAIL
1/2" = 1'-0"



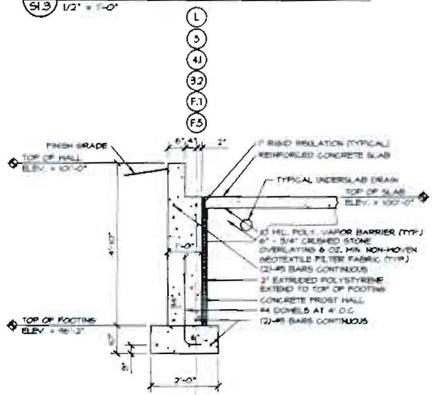
3 / S1.3 FROSTWALL
1/2" = 1'-0"



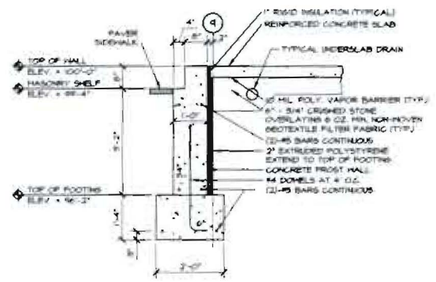
4 / S1.3 FROSTWALL
1/2" = 1'-0"



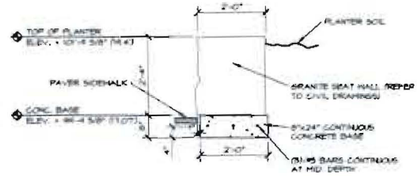
5 / S1.3 FROSTWALL
1/2" = 1'-0"



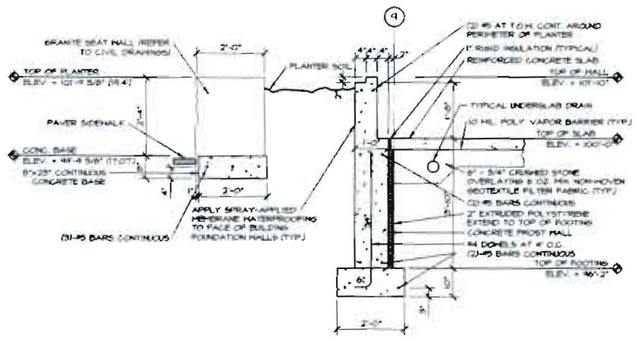
6 / S1.3 MASONRY SHELF DETAIL
1/2" = 1'-0"



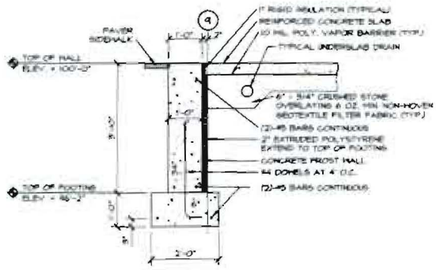
7 / S1.3 FROSTWALL
1/2" = 1'-0"



8 / S1.3 PLANTER WALL
1/2" = 1'-0"



9 / S1.3 PLANTER SECTION
1/2" = 1'-0"



10 / S1.3 FROSTWALL
1/2" = 1'-0"

REVISION SCHEDULE

DATE	REVISION DESCRIPTION	BY

OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT, NH 03220
PHONE (603) 527-1999 FAX (603) 527-9161

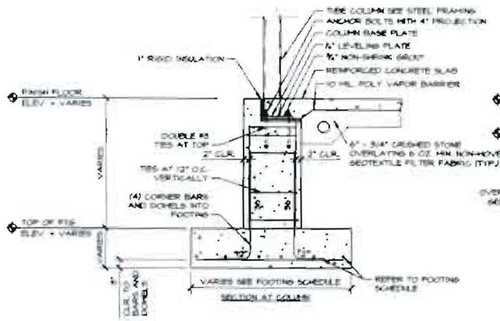
FOUNDATION DETAILS

PROJECT: Hotel, Restaurant, & Portside Residences
Portland ME

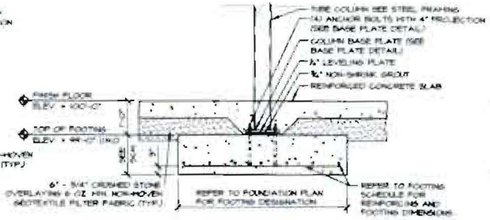
DATE: 04/16/10
SCALE: SEE PLAN
DRAWN BY: GMD

SHEET: S1.3

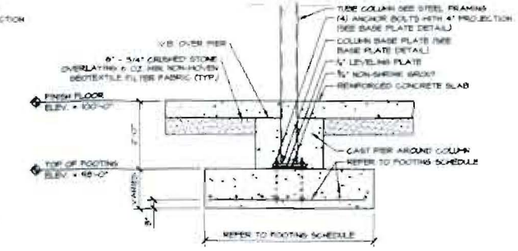
JEFFREY S. HAMROCK No. 8044 REGISTERED PROFESSIONAL ENGINEER STATE OF MAINE
4/16/10



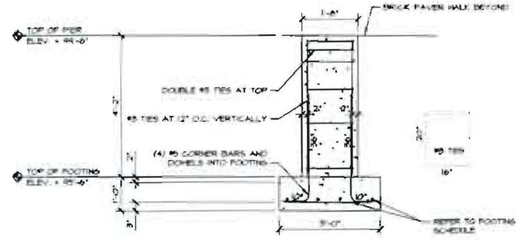
1 / S1.4 PIER SECTION (TYPICAL)
1/2" = 1'-0"



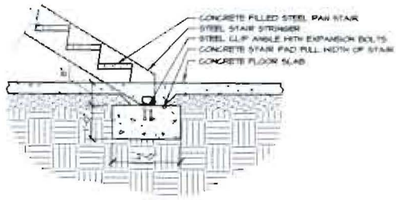
2 / S1.4 INTERIOR FOOTING (TYPICAL)
1/2" = 1'-0"



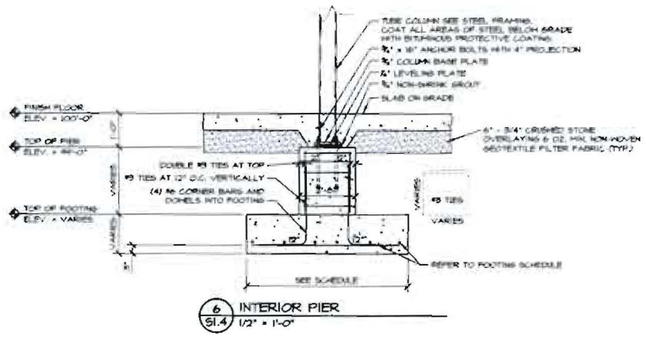
3 / S1.4 INTERIOR DROPPED FOOTING (TYPICAL)
1/2" = 1'-0"



4 / S1.4 EXTERIOR PIER (MASONRY SUPPORT ONLY)
1/2" = 1'-0"



5 / S1.4 STAIR FOOTING (TYPICAL)
1/2" = 1'-0"



6 / S1.4 INTERIOR PIER
1/2" = 1'-0"

REVISION SCHEDULE

OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT, ME 04210
PHONE (603)227-9000 FAX (603)227-9181

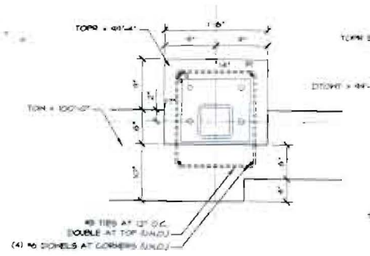
FOUNDATION DETAILS

PROJECT:
Hotel, Restaurant, & Portside Residences
Portland ME

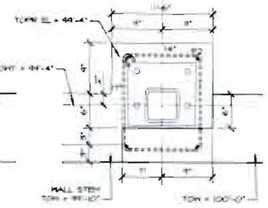
DATE: 04/16/10
SCALE: SEE PLAN
DRAWN BY: DHD

S1.4
SHEET:

STATE OF MAINE
JEFFREY S. NAMROCKI
No. 9044
REGISTERED
PROFESSIONAL ENGINEER
4/16/10



P1 - PIER PLAN
1" = 1'-0"



P2 - PIER PLAN
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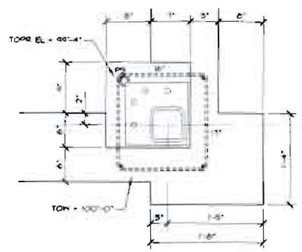
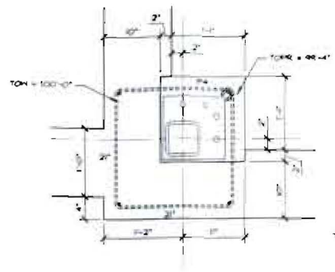
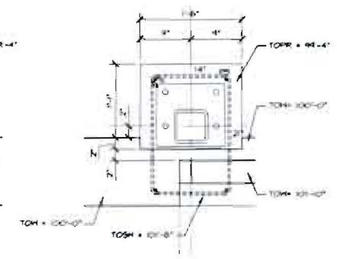


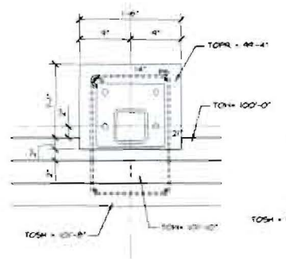
P3 - PIER PLAN
1" = 1'-0"



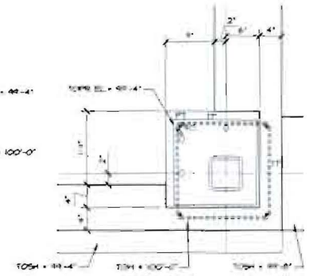
P4 - PIER PLAN
1" = 1'-0"



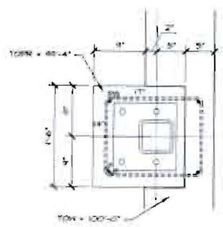
P5 - PIER PLAN
1" = 1'-0"



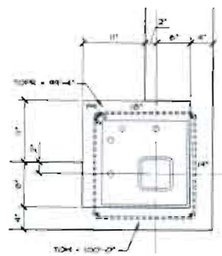
P6 - PIER PLAN
1" = 1'-0"



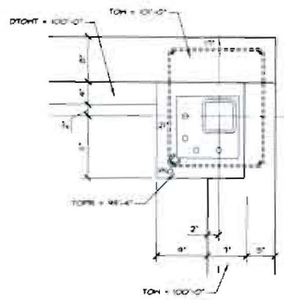
P7 - PIER PLAN
1" = 1'-0"



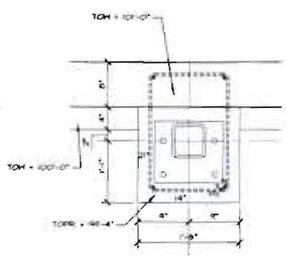
P8 - PIER PLAN
1" = 1'-0"



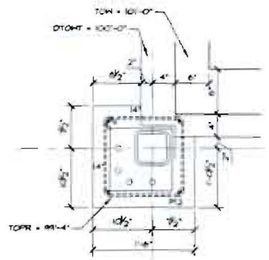
P9 - PIER PLAN
1" = 1'-0"



P10 - PIER PLAN
1" = 1'-0"



P11- PIER PLAN
1" = -0"



P12 - PIER PLAN
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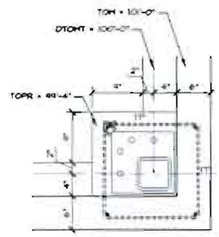
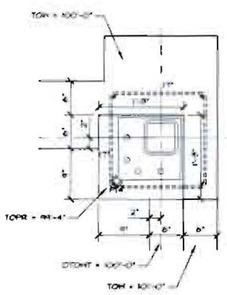


P13 - PIER PLAN
1" = -0"



P14 - PIER PLAN
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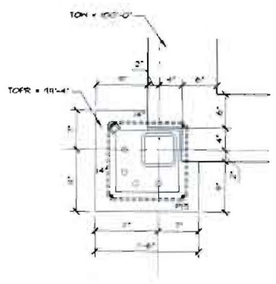
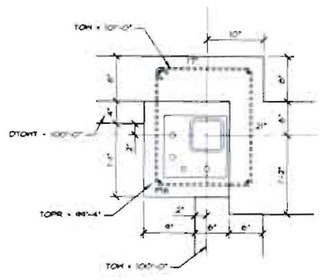


P15 - PIER PLAN
1" = 1'-0"



P16 - PIER PLAN
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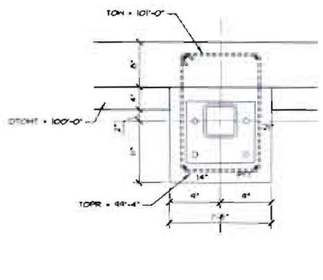

P17 - PIER PLAN
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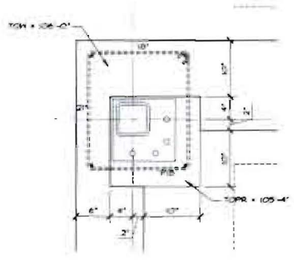

P18- PIER PLAN
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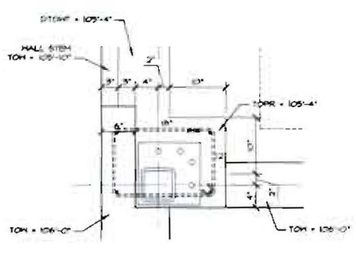
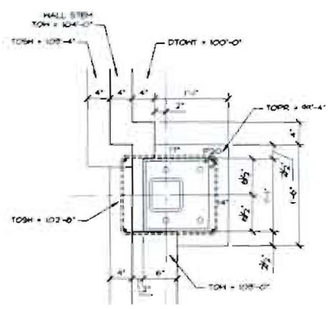


P19 - PIER PLAN
1" = 1'-0"



P20 - PIER PLAN
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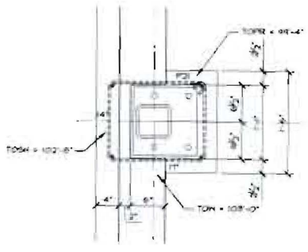

P21 - PIER PLAN
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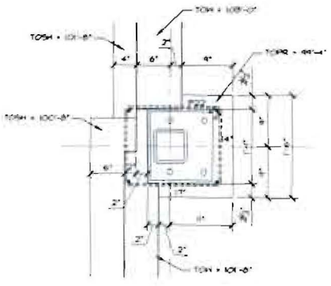
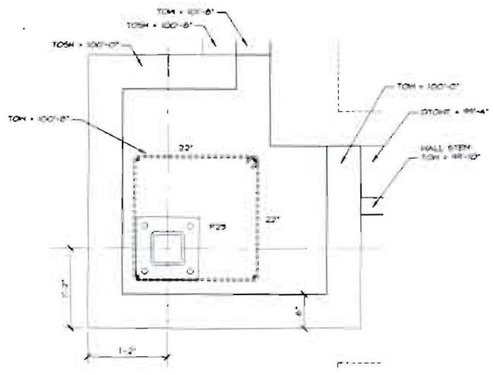
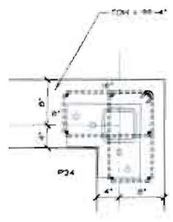


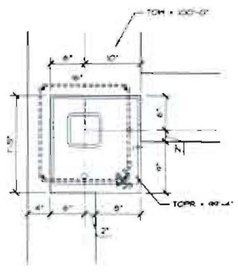
P22 - PIER PLAN
1" = 1'-0"



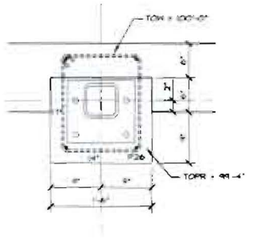
P23 - PIER PLAN
1" = 1'-0"



P24- PIER PLAN
1" = 1'-0"



P25 - PIER PLAN
1" = 1'-0"



P26 - PIER PLAN
1" = 1'-0"

REVISION SCHEDULE

NUMBER	DESCRIPTION	DATE

OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527 9000 FAX (603) 527 9191

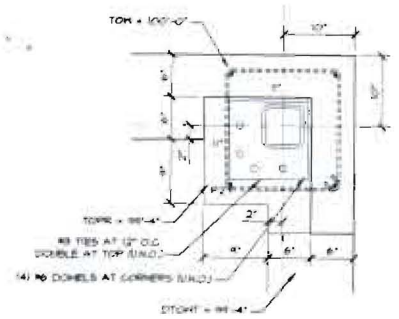
PIER DETAILS

PROJECT:
Hotel, Restaurant,
& Portside Residences
Portland ME

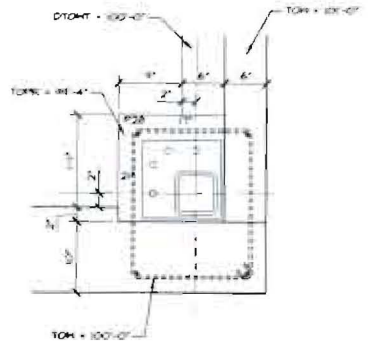
DATE: 04/16/10
SCALE: SEE PLAN
DRAWN BY: GHP

S1.5
SHEET:

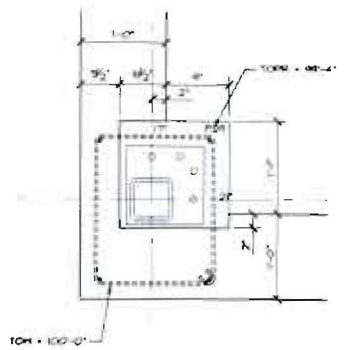
STATE OF MAINE
JEFFREY D. NAWROCKI
No. 8044
LICENSED
PROFESSIONAL ENGINEER
4/16/10



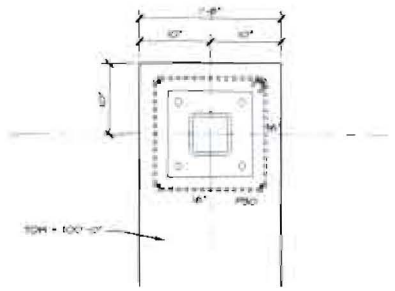
P27 - PIER PLAN
1" = 1'-0"



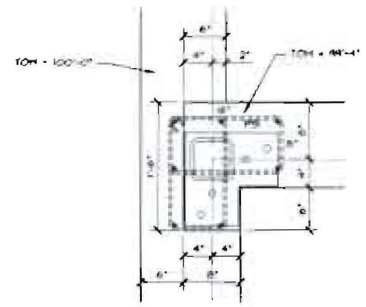
P28 - PIER PLAN
1" = 1'-0"



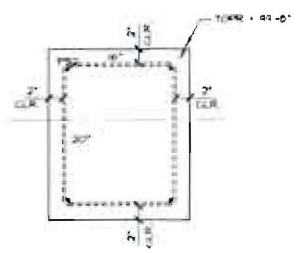
P29 - PIER PLAN
1" = 1'-0"



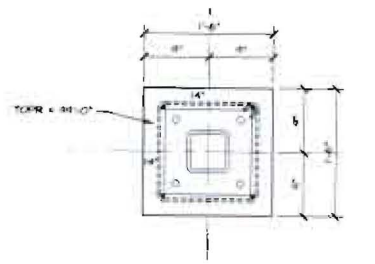
P30 - PIER PLAN
1" = 1'-0"



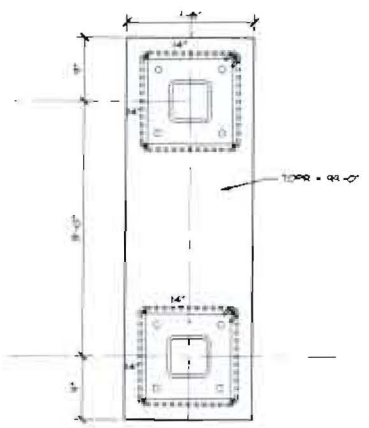
P31 - PIER PLAN
1" = 1'-0"



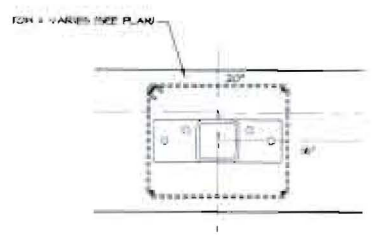
P32 - PIER PLAN
1" = 1'-0"



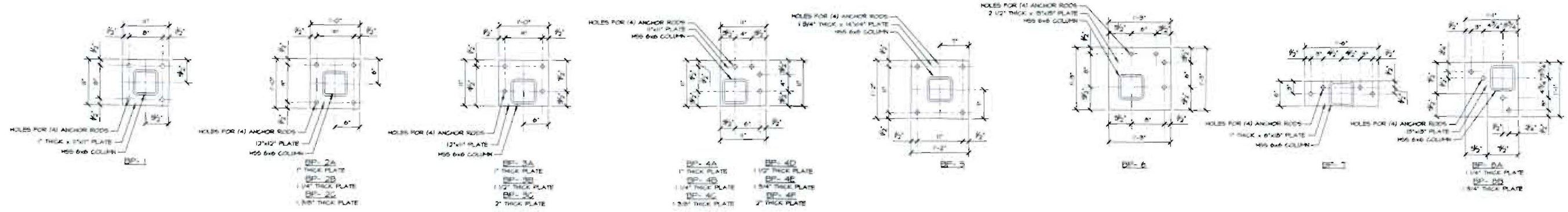
P33 - PIER PLAN
1" = 1'-0"



P34 - PIER PLAN
1" = 1'-0"



P35 - PIER PLAN
1" = 1'-0"



BASE PLATE DETAILS
1" = 1'-0"

NOTES:
1. ANCHOR RODS MUST BE HEADED RODS OR STRAIGHT RODS WITH NUTS - DO NOT USE 'J' RODS.
2. PROVIDE 3/4" DIAMETER x 16" LONG F1554, GR 36, HEADED ANCHOR RODS WITH 4" PROJECTION EXCEPT PROVIDE 1" DIAMETER x 24" LONG BOLTS AT FRAME BASE PLATES - REDUCE BOLT LENGTH WHERE BASE PLATE IS DIRECTLY ON FOOTING AS REQUIRED TO PROVIDE 3" CLEAR COVER TO THE BOTTOM OF THE FOOTING.
3. PROVIDE 1" DIAMETER HOLES FOR 3/4" DIAMETER ANCHOR RODS EXCEPT PROVIDE 1 1/4" DIAMETER HOLES FOR 1" DIAMETER ANCHOR RODS.

REVISION SCHEDULE

NO.	DESCRIPTION	DATE

OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603)527-9000 FAX (603)527-9191

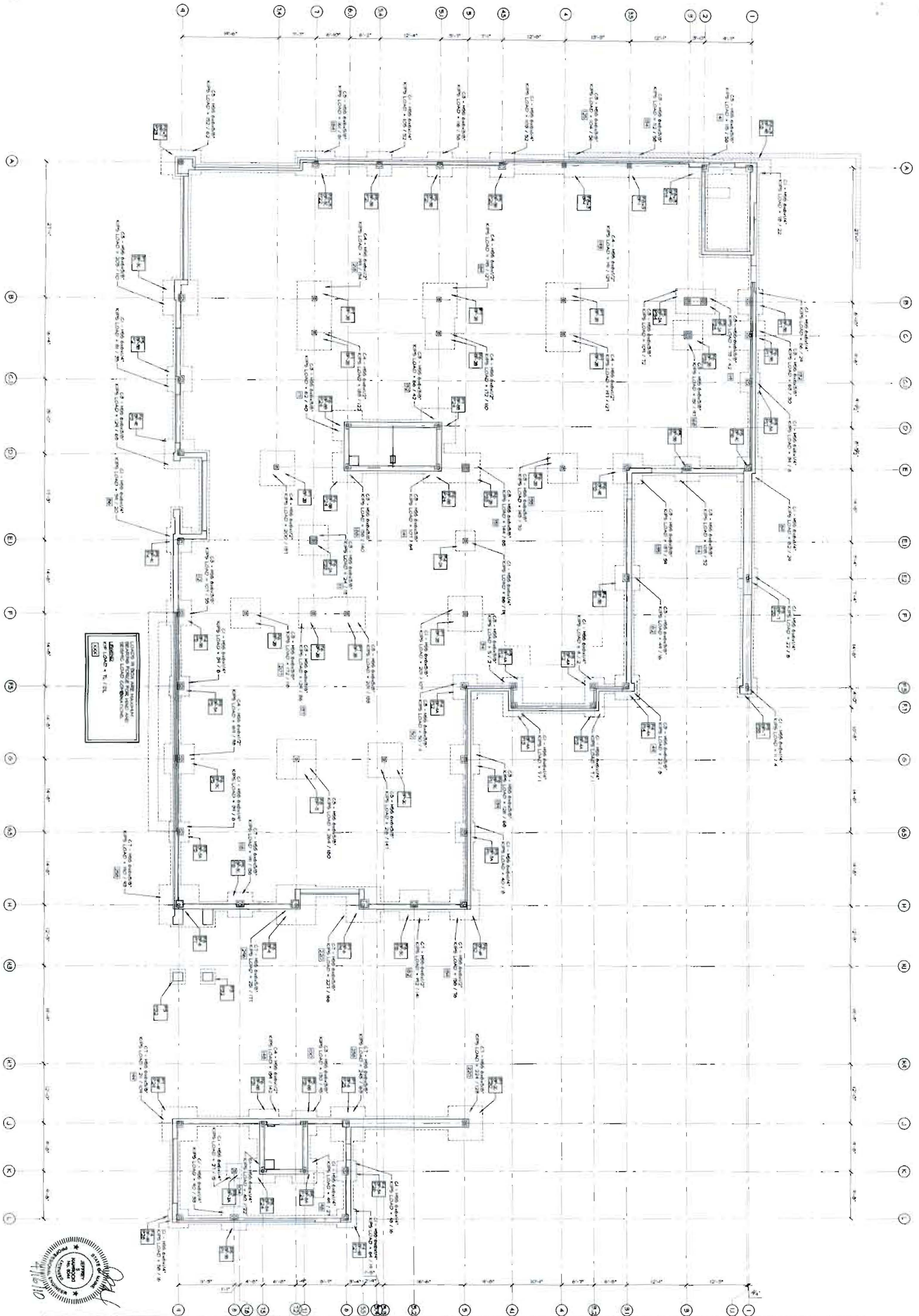
STATE OF MAINE
JEFFREY S. MAYWOOD
No. 8044
LICENSED
PROFESSIONAL ENGINEER
4/16/10

PIER DETAILS & BASE PLATES

PROJECT:
Hotel, Restaurant, & Portside Residences
Portland ME

DATE: 04/16/10
SCALE: SEE PLAN
DRAWN BY: CHD

SHEET: S1.6



S1.7
SHEET:

DATE: 04/16/10
SCALE: 1/8"=1'-0"
DRAWN BY: GMD

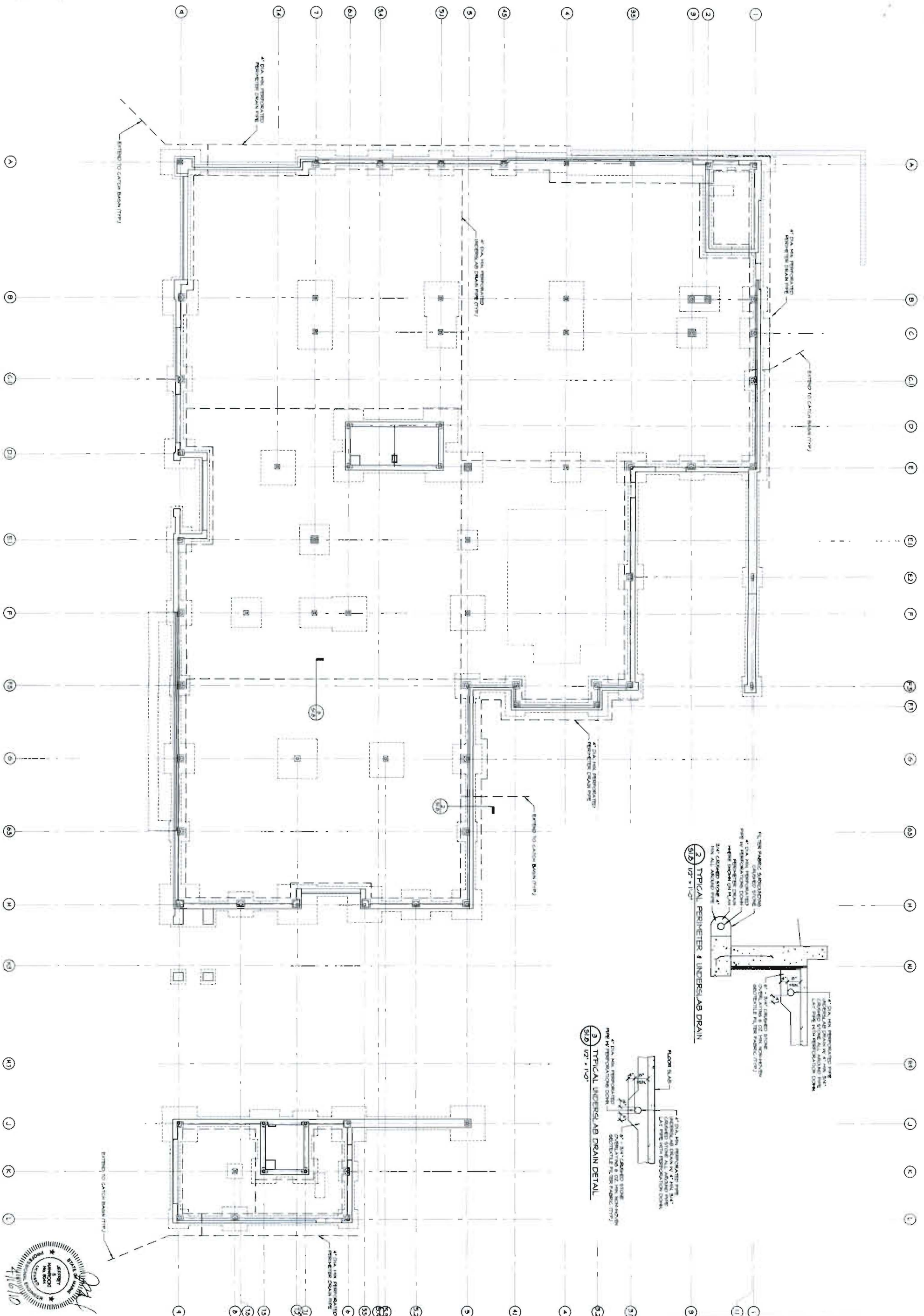
PROJECT:
Hotel, Restaurant,
& Portside Residences
Portland ME

FOOTING LOADING

OPECHEE
CONSTRUCTION CORPORATION
1 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9090 FAX (603) 527-9191

REVISION SCHEDULE

DATE	REVISION DESCRIPTION	BY



JEFFREY HARWOOD No. 6041 STATE OF MAINE REGISTERED PROFESSIONAL ENGINEER

SHEET:	S1.8
DATE:	04/09/10
SCALE:	1/8"=1'-0"
DRAWN BY:	GHD

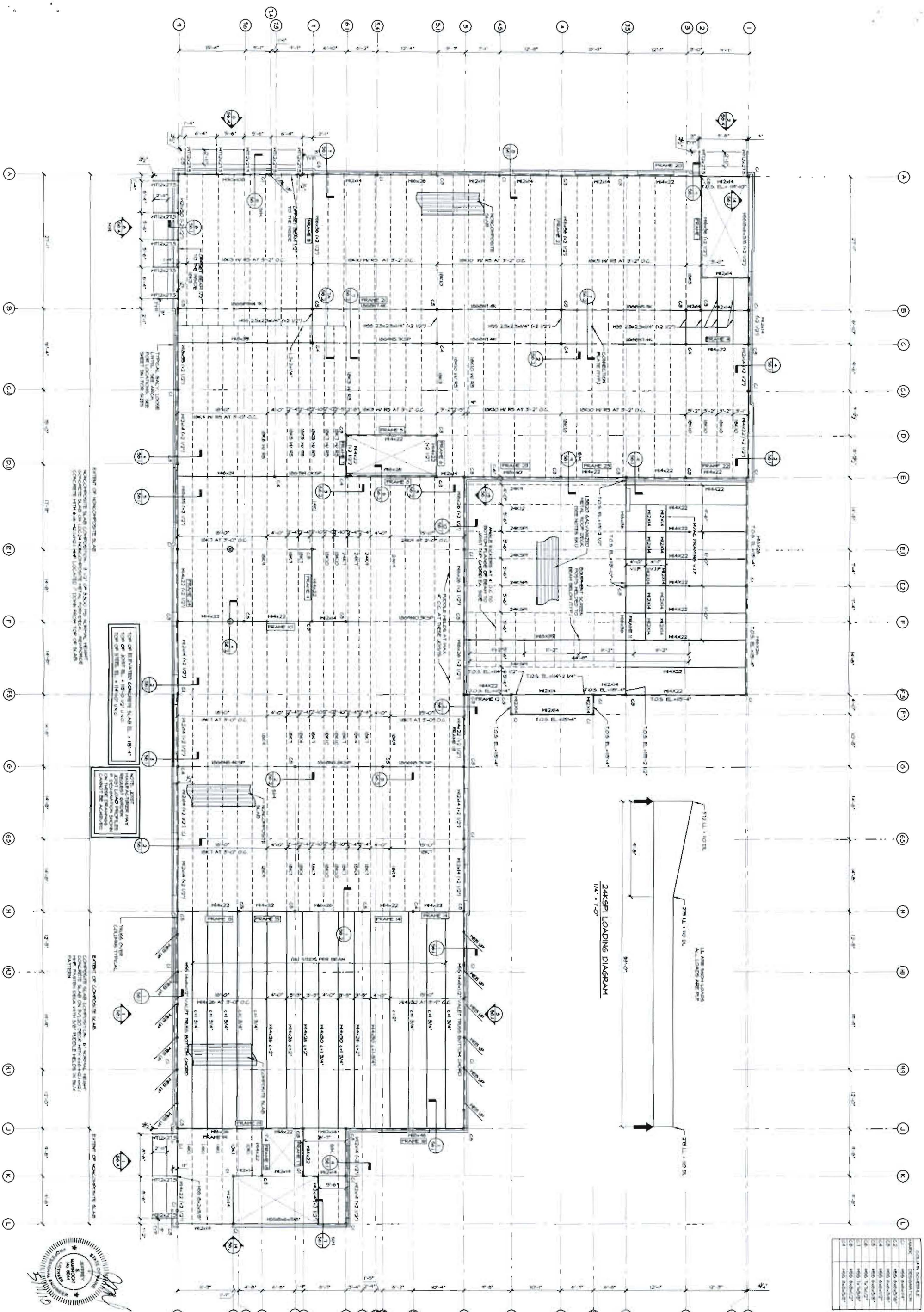
PROJECT:
Hotel, Restaurant,
& Portside Residences
Portland ME

PERIMETER & UNDERSLAB DRAINAGE PLAN

OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9090 FAX (603) 527-9191

REVISION SCHEDULE

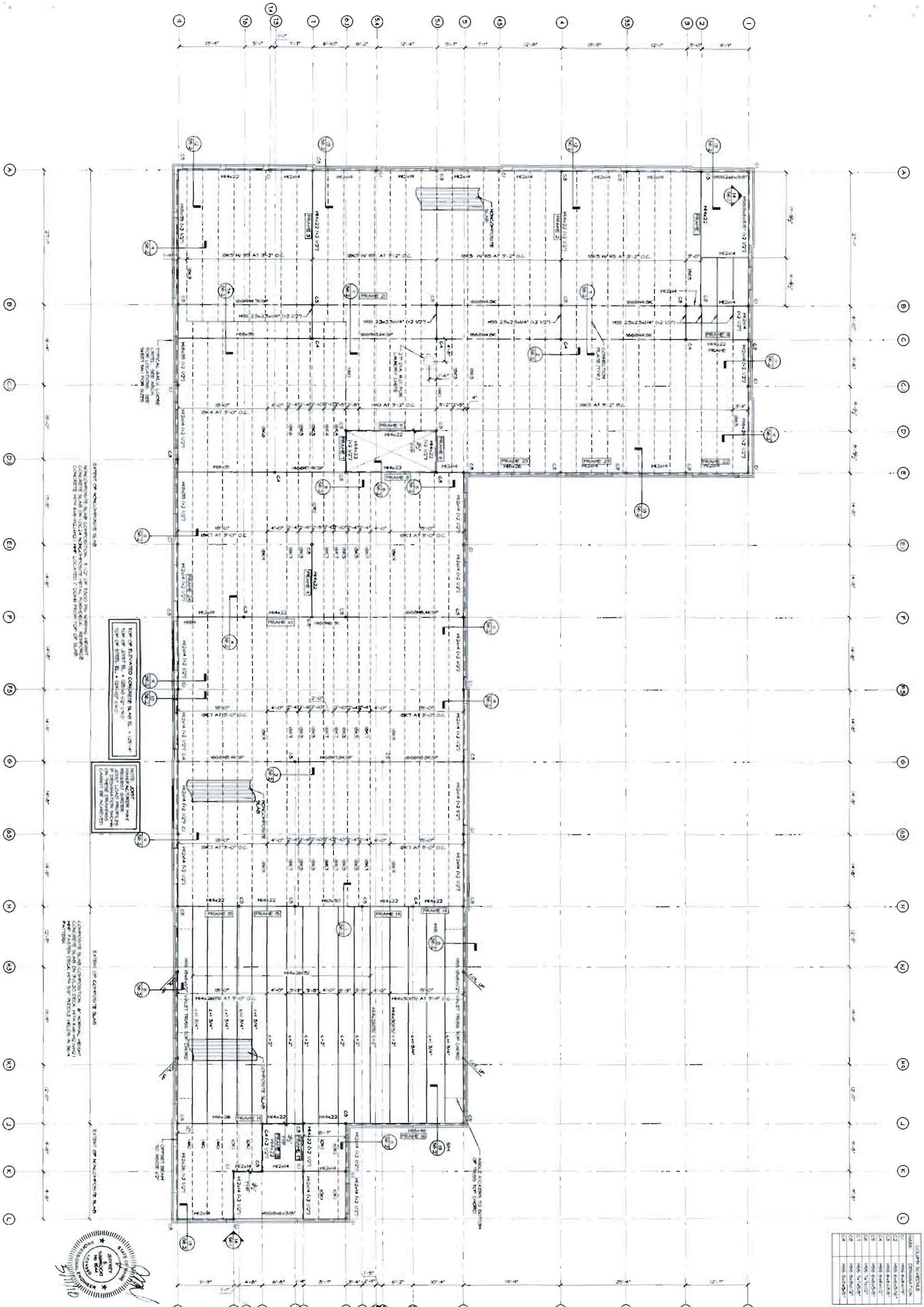
DATE	REVISION DESCRIPTION	BY

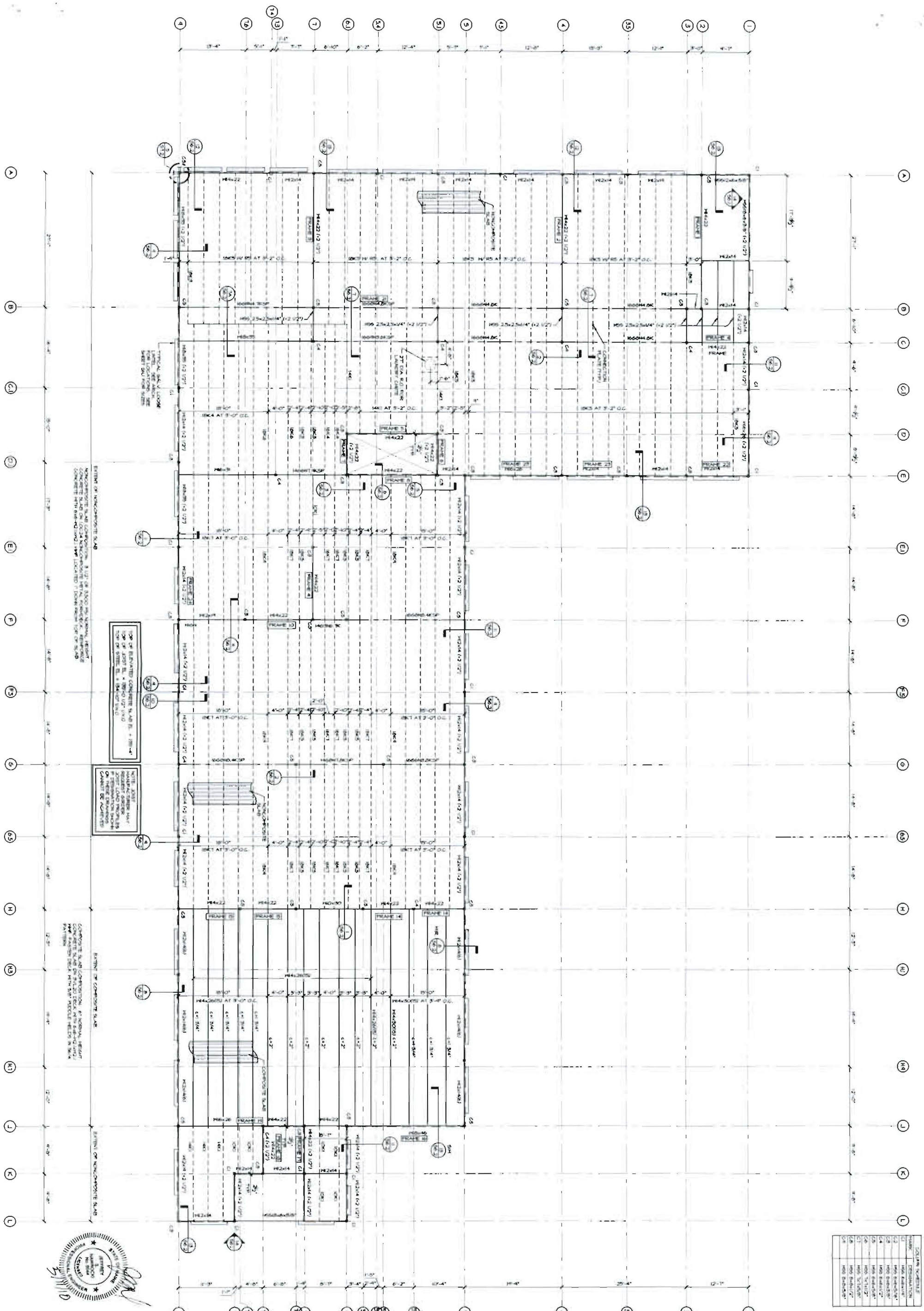


SHEET: S2	DATE: 05-11-10 SCALE: SEE PLAN DRAWN BY: dAD	PROJECT: Hotel, Restaurant, & Portside Residences Portland ME	SECOND FLOOR FRAMING PLAN	OPECHEE CONSTRUCTION CORPORATION 11 CORPORATE DRIVE, BELMONT NH 03220 PHONE (603) 527-9090 FAX (603) 527-9191

REVISION SCHEDULE

DATE	REVISION DESCRIPTION	BY


TOP OF ELEVATED CONCRETE SLAB EL. = 120'-4"
TOP OF JOIST EL. = 120'-0" U.N.O.
TOP OF STEEL EL. = 120'-0" U.N.O.
NOTE: JOIST MANUFACTURER MAY ADJUST JOIST DEPTHS AT PENETRATIONS TO ACCOMMODATE MEP PENETRATION SHOWN ON THESE DRAWINGS. ADJUSTMENTS CANNOT BE ACHIEVED
EXTENT OF CONCRETE SLAB
EXTENT OF NONCOMPOSITE SLAB
CONCRETE SLAB CONSTRUCTION: 5" OF 3000 PSI NORMAL WEIGHT CONCRETE SLAB ON 3" LOK DECK WITH EMBOSSMENTS. REF. PLAN DECK WITH 5/8" PUDDLE WELDS IN 36/4 PATTERN
NONCOMPOSITE SLAB CONSTRUCTION: 3" OF 3000 PSI NORMAL WEIGHT CONCRETE SLAB ON 1 1/2" 20GA NONCOMPOSITE METAL FORM DECK. REFERENCE REF. PLAN DECK WITH 5/8" PUDDLE WELDS IN 36/4 PATTERN
TYPICAL BALK LOCATION. LINTEL SEE ARCH FOR LOCATIONS AND SIZES
SEE S5.1 FOR JOIST SEATS
FRAME 1
FRAME 2
FRAME 3
FRAME 4
FRAME 5
FRAME 6
FRAME 7
FRAME 8
FRAME 9
FRAME 10
FRAME 11
FRAME 12
FRAME 13
FRAME 14
FRAME 15
FRAME 16
FRAME 17
FRAME 18
FRAME 19
FRAME 20
FRAME



SHEET	DESIGNATION
C1	W36x150
C2	W36x135
C3	W36x194
C4	W36x160
C5	W36x182
C6	W36x170
C7	W36x150
C8	W36x135
C9	W36x194
C10	W36x160
C11	W36x182
C12	W36x170
C13	W36x150
C14	W36x135
C15	W36x194
C16	W36x160
C17	W36x182
C18	W36x170

COLUMN SCHEDULE

SHEET:	S4
DATE:	05-10
SCALE:	SEE PLAN
DRAWN BY:	GHD

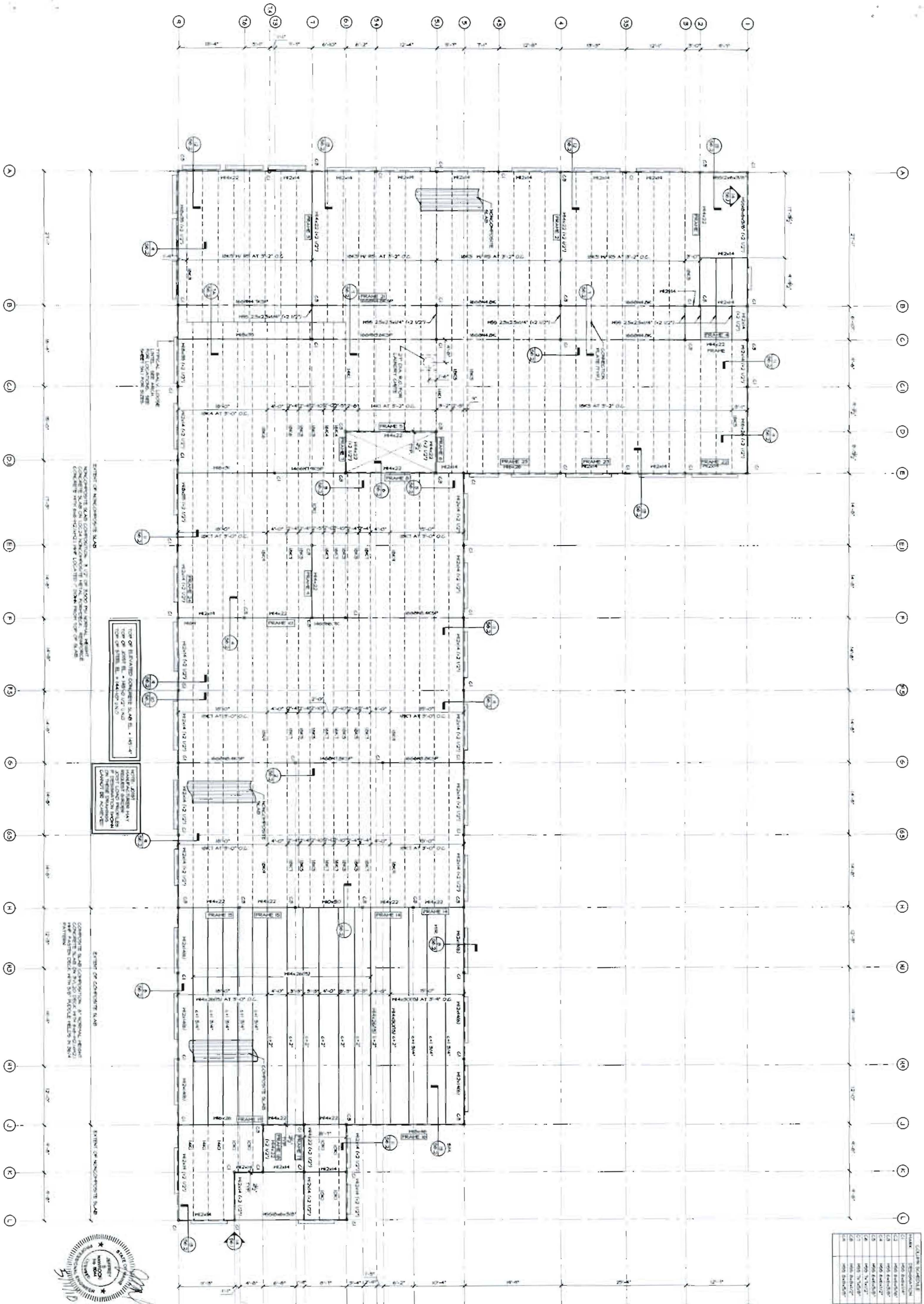
PROJECT:
Hotel, Restaurant,
& Portside Residences
Portland ME

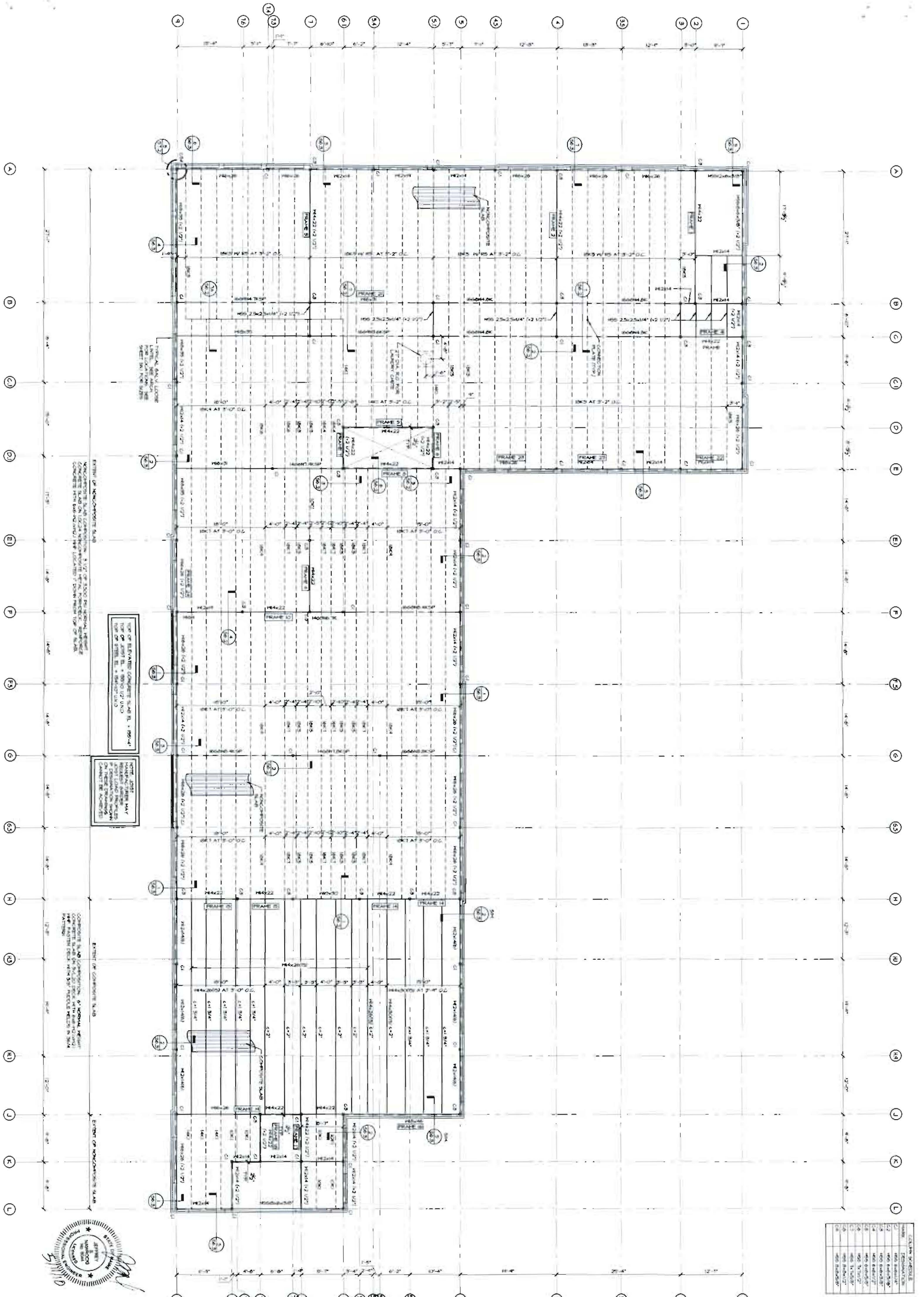
FOURTH FLOOR FRAMING PLAN

OPECHEE
CONSTRUCTION CORPORATION
10 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9990 FAX (603) 527-9191

REVISION SCHEDULE

DATE	REVISION DESCRIPTION	BY


TOP OF ELEVATED CONCRETE SLAB EL. = 161'-4"
TOP OF JOIST EL. = 160'-10" U.N.O.
TOP OF STEEL EL. = 144'-10" U.N.O.
NOTE: JOIST MANUFACTURER MAY REQUEST GIRDER JOIST LOAD PROFILES IN THESE LOCATIONS
EXTENT OF NONCOMPOSITE SLAB
EXTENT OF COMPOSITE SLAB
NONCOMPOSITE SLAB CONSTRUCTION: 2" NORMAL WEIGHT CONCRETE SLAB ON 2" DECK WITH #4@12" O.C. TEMP. REINF. REF. FASTENER DECK AND SUPPORT PATTERN
COMPOSITE SLAB CONSTRUCTION: 2" NORMAL WEIGHT CONCRETE SLAB ON 2" DECK WITH #4@12" O.C. TEMP. REINF. REF. FASTENER DECK AND SUPPORT PATTERN
TYPICAL BAY LAYOUT LINTEL SEE ARCH FOR LOCATIONS, SEE S4.2 FOR SIZES
FRAME 1
FRAME 2
FRAME 3
FRAME 4
FRAME 5
FRAME 6
FRAME 7
FRAME 8
FRAME 9
FRAME 10
FRAME 11
FRAME 12
FRAME 13
FRAME 14
FRAME 15
FRAME 16
FRAME 17
FRAME 18
FRAME 19
FRAME 20
FRAME



PROJECT:
Hotel, Restaurant,
& Portside Residences
Portland ME

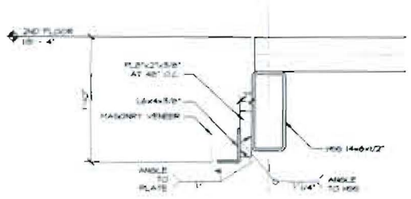
SIXTH FLOOR
FRAMING PLAN

SHEET: S6
DATE:
SCALE: SEE PLAN
DRAWN BY: GHD

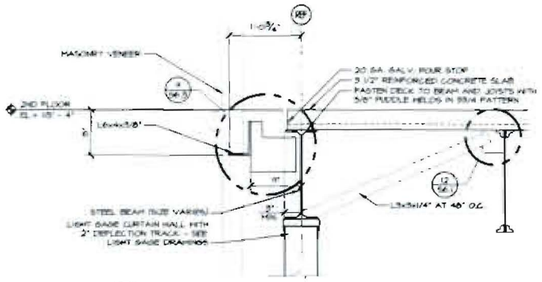
OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9090 FAX (603) 527-9191

REVISION SCHEDULE

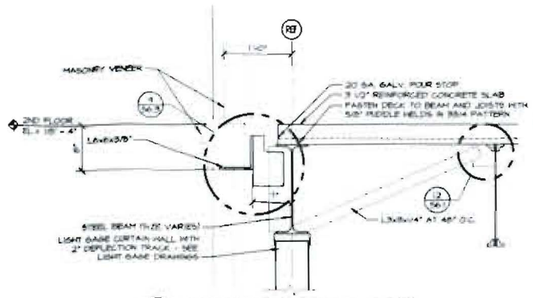
DATE	REVISION DESCRIPTION	BY



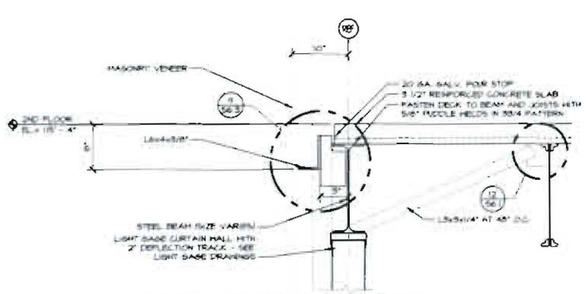
1 / 56.1 MASONRY LINTEL BEAM AT VALET
1" = 1'-0"



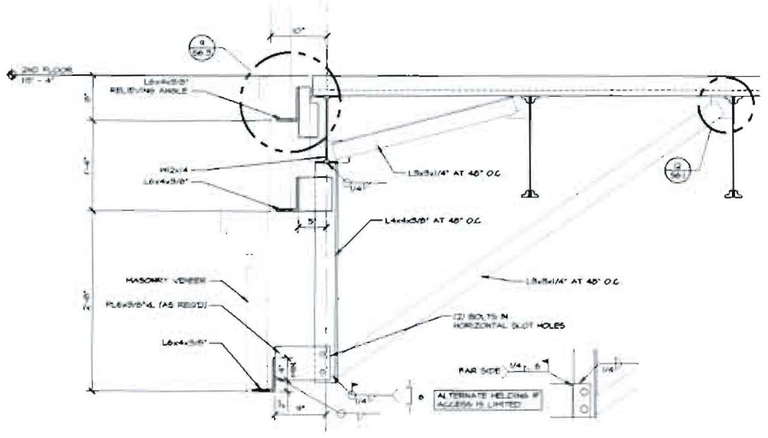
2 / 56.1 RELIEVING ANGLE AT 2ND FLOOR
1" = 1'-0"



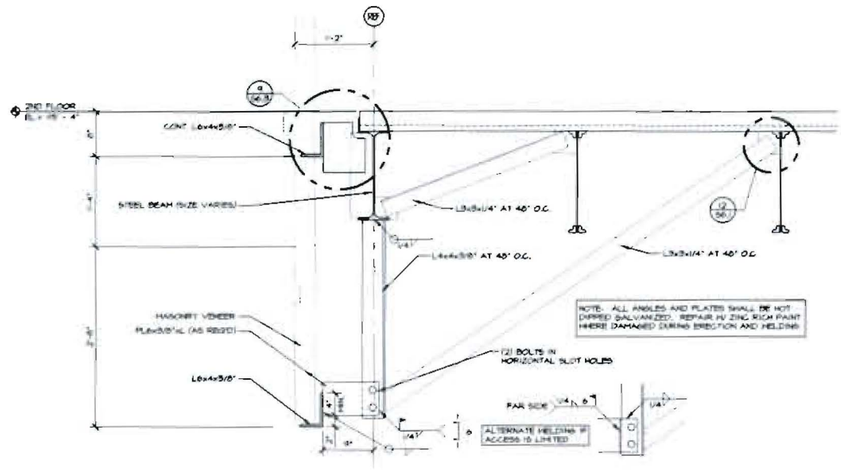
3 / 56.1 RELIEVING ANGLE AT 2ND FLOOR
1" = 1'-0"



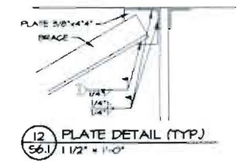
4 / 56.1 RELIEVING ANGLE AT 2ND FLOOR
1" = 1'-0"



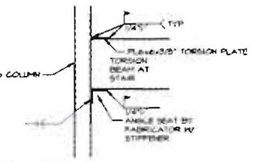
5 / 56.1 RELIEVING ANGLE & LOWER SUPPORT DETAIL
1" = 1'-0"



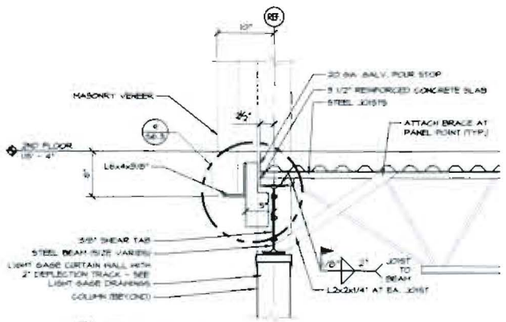
6 / 56.1 RELIEVING ANGLE & LOWER LINTEL BEAM DETAIL
1" = 1'-0"



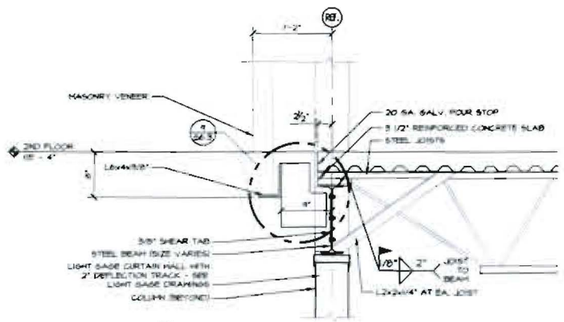
12 / 56.1 PLATE DETAIL (TYP.)
1 1/2" = 1'-0"



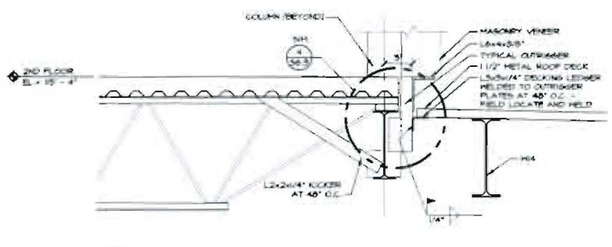
14 / 56.1 TYP. CONN. AT END OF TORSION BEAMS
1/2" = 1'-0"



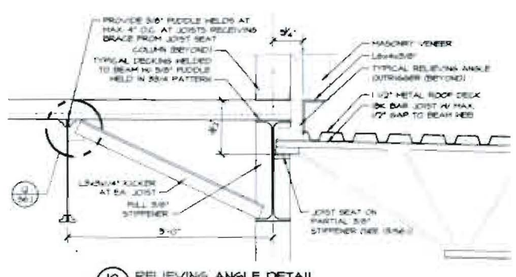
7 / 56.1 RELIEVING ANGLE DETAIL
1" = 1'-0"



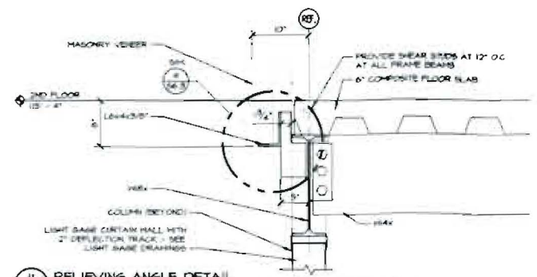
8 / 56.1 RELIEVING ANGLE DETAIL
1" = 1'-0"



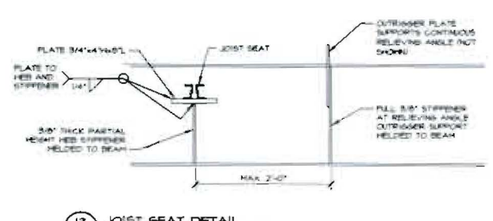
9 / 56.1 RELIEVING ANGLE DETAIL
1" = 1'-0"



10 / 56.1 RELIEVING ANGLE DETAIL
1" = 1'-0"



11 / 56.1 RELIEVING ANGLE DETAIL
1" = 1'-0"



13 / 56.1 JOIST SEAT DETAIL
1" = 1'-0"

NOTE: AT ALL LOCATIONS WHERE THE CAVITY WIDTH EXCEEDS 4 1/2" A DETAILED WALL TIE ANALYSIS IN ACCORDANCE WITH ACI 530 SHALL BE PROVIDED BY THE TIE MANUFACTURER FOR REVIEW.

REVISION SCHEDULE

DATE	REVISION DESCRIPTION

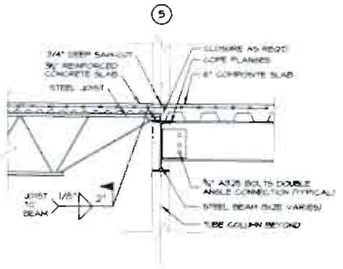
OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 267-9000 FAX (603) 267-9191

FLOOR FRAMING DETAILS

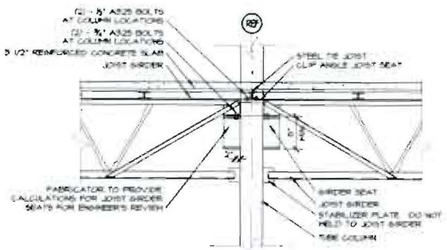
PROJECT:
Hotel, Restaurant, & Portside Residences
Portland ME

DATE: 05-11-10
SCALE: SEE PLAN
DRAWN BY: SHD

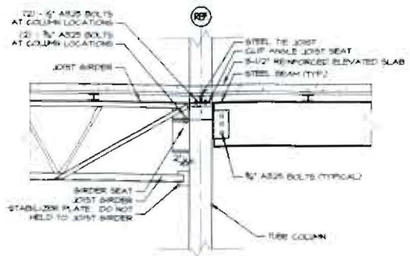
SHEET: S6.1



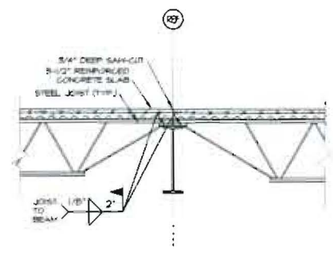
1 / 56.2 SECTION AT TRANSITION
1/2" = 1'-0"



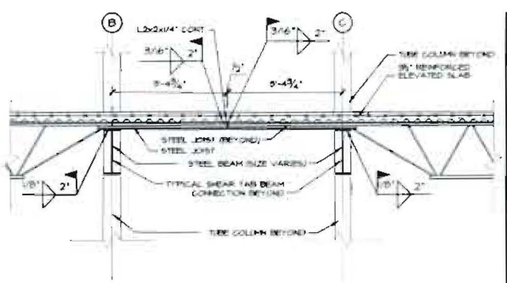
2 / 56.2 FLOOR JOIST/GIRDER CONNECTION AT COLUMN
1/2" = 1'-0"



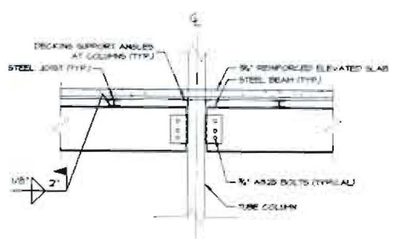
3 / 56.2 JOIST GIRDER/BEAM CONNECTION AT COLUMN
1/2" = 1'-0"



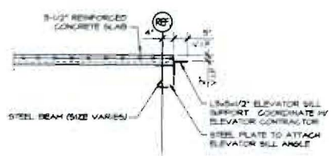
4 / 56.2 JOIST CONNECTION AT BEAM (TYPICAL)
1/2" = 1'-0"



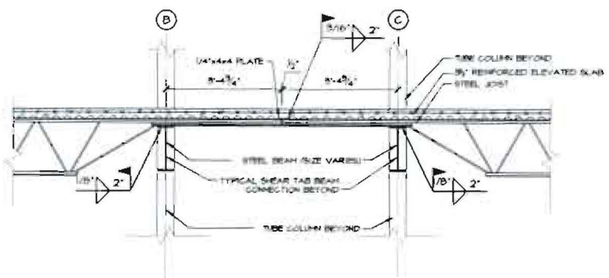
7A / 56.2 CORRIDOR OFFSET JOIST EXTENSION
1/2" = 1'-0"



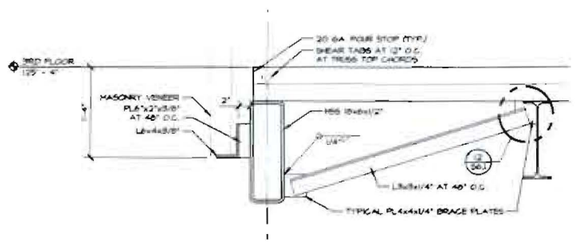
5 / 56.2 BEAM CONNECTION AT COLUMN (TYPICAL)
1/2" = 1'-0"



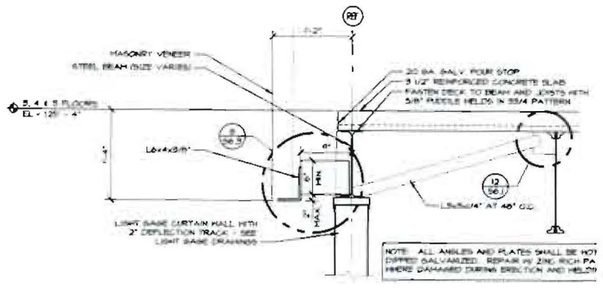
6 / 56.2 EDGE OF DECK AT ELEVATOR SILL
1/2" = 1'-0"



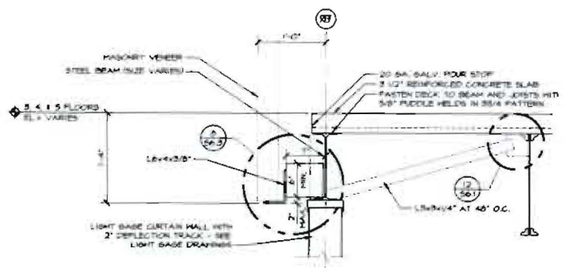
7 / 56.2 CORRIDOR JOIST EXTENSION (TYPICAL)
1/2" = 1'-0"



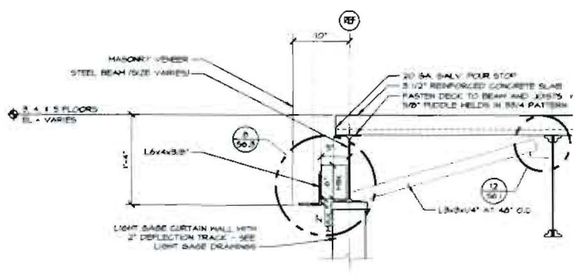
8 / 56.2 RELIEVING ANGLE DETAIL
1" = 1'-0"



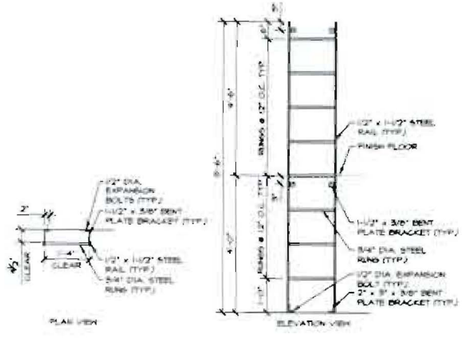
9 / 56.2 RELIEVING ANGLE DETAIL
1" = 1'-0"



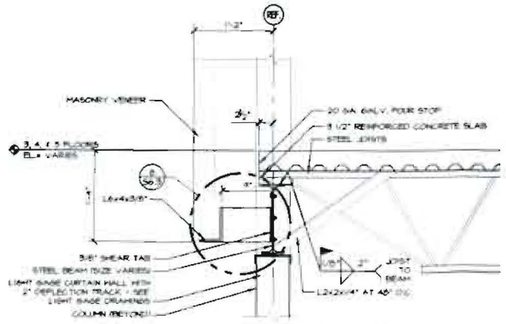
10 / 56.2 RELIEVING ANGLE DETAIL
1" = 1'-0"



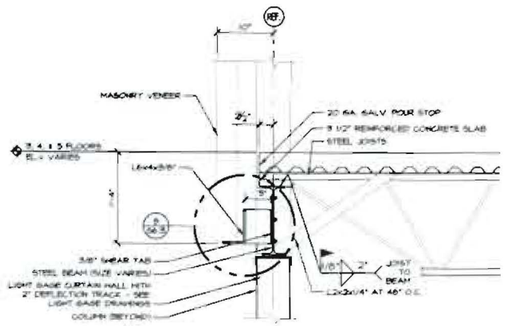
11 / 56.2 RELIEVING ANGLE DETAIL
1" = 1'-0"



ELEVATOR PIT LADDER
1/2" = 1'-0"



12 / 56.2 RELIEVING ANGLE DETAIL
1" = 1'-0"



13 / 56.2 RELIEVING ANGLE DETAIL
1" = 1'-0"

NOTE: AT ALL LOCATIONS WHERE THE CAVITY WIDTH EXCEEDS 4 1/2" A DETAILED WALL TIE ANALYSIS IN ACCORDANCE WITH ACI 530.1 SHALL BE PROVIDED BY THE TIE MANUFACTURER FOR REVIEW.

REVISION SCHEDULE		
	REVISION DESCRIPTION	DATE

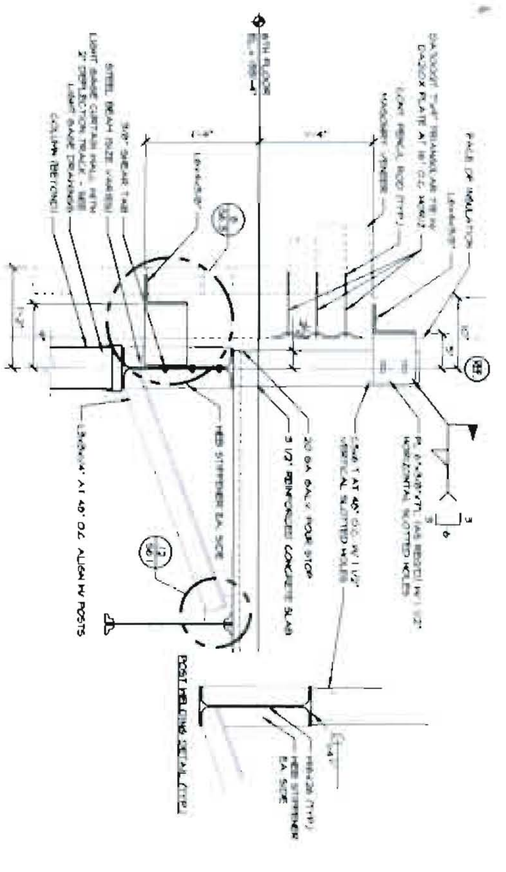
OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-4090 FAX (603) 527-4791

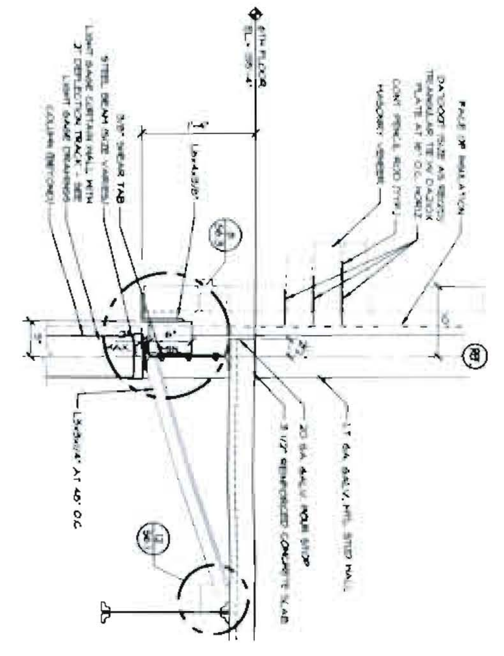
FLOOR FRAMING DETAILS

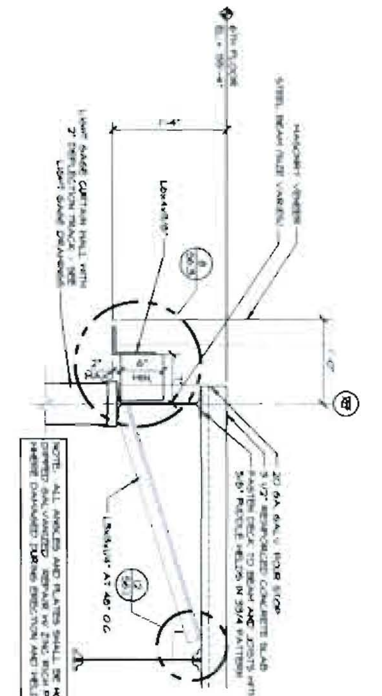
PROJECT:
Hotel, Restaurant, & Portside Residences
Portland ME

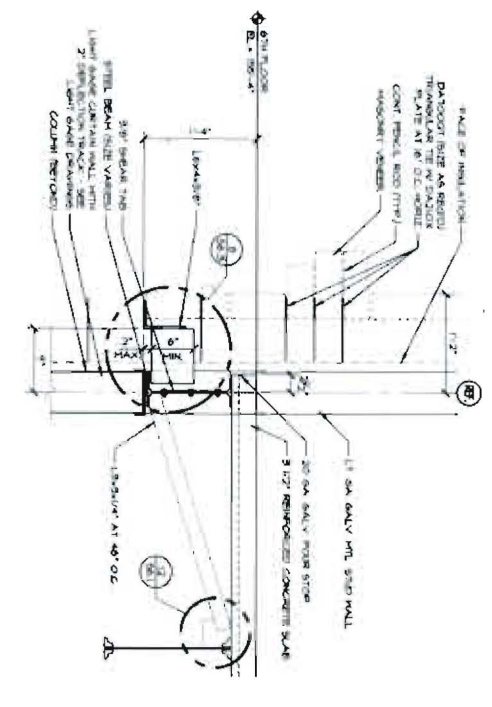
DATE: 05-11-10
SCALE: SEE PLAN
DRAWN BY: GMD

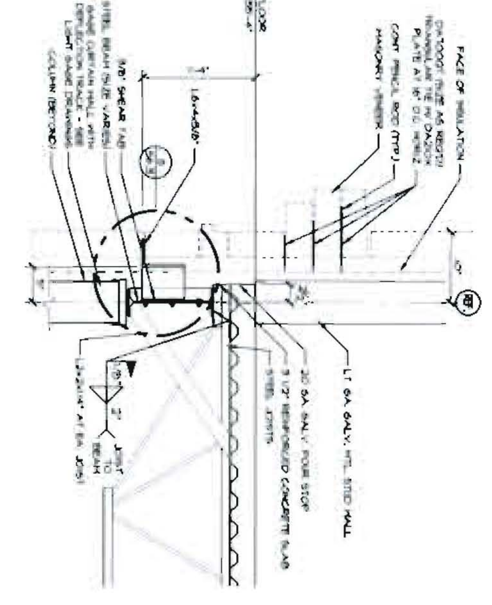
SHEET: S6.2

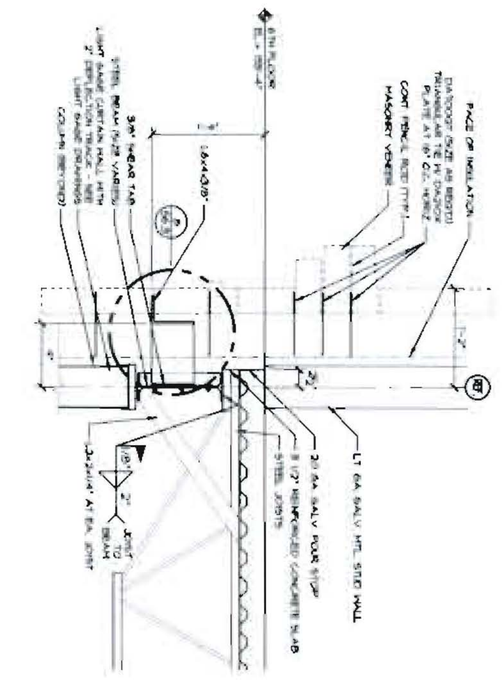

1 S6.3 RELIEVING ANGLE DETAIL
1" = 1'-0"

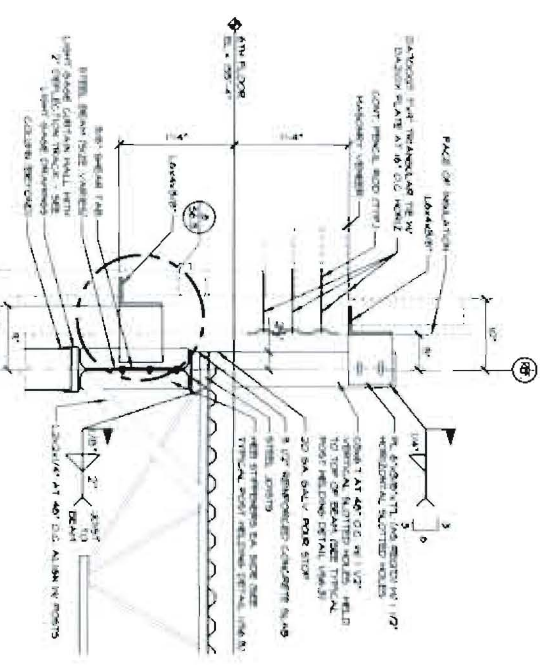

2 S6.3 RELIEVING ANGLE DETAIL
1" = 1'-0"

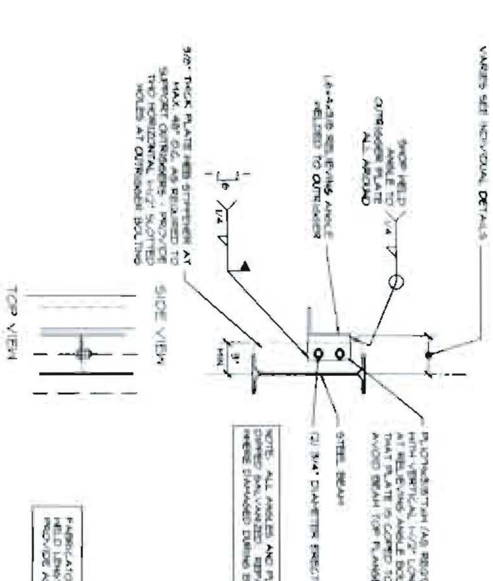

3 S6.3 RELIEVING ANGLE DETAIL
1" = 1'-0"


4 S6.3 RELIEVING ANGLE DETAIL
1" = 1'-0"

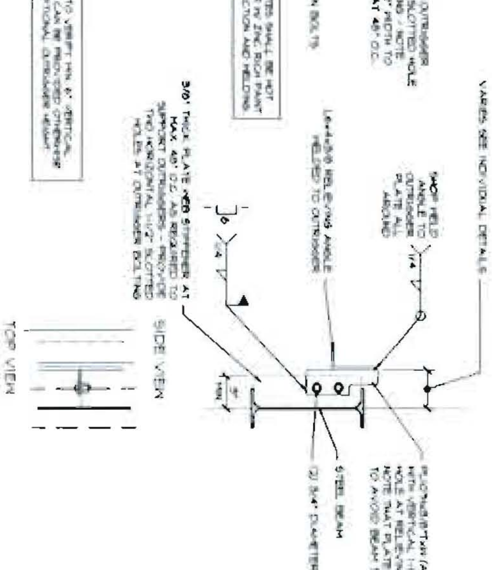

5 S6.3 RELIEVING ANGLE DETAIL
1" = 1'-0"


6 S6.3 RELIEVING ANGLE DETAIL
1" = 1'-0"


7 S6.3 RELIEVING ANGLE DETAIL
1" = 1'-0"


8 S6.3 OUTRIGGER DETAIL (TYPICAL)
1" = 1'-0"

FABRICATOR TO VERIFY MIN 6" VERTICAL WELD LENGTH CAN BE PROVIDED OTHERWISE PROVIDE ADDITIONAL OUTRIGGER HEIGHT


9 S6.3 OUTRIGGER DETAIL (TYPICAL)
1" = 1'-0"

NOTE: AT ALL LOCATIONS WHERE THE CAVITY WIDTH EXCEEDS 4 1/2" A DETAILED WALL TIE ANALYSIS IN ACCORDANCE WITH ACI 530 SHALL BE PROVIDED BY THE TIE MANUFACTURER FOR REVIEW.

SHEET: S6.3
DATE: 05-11-10
SCALE: SEE PLAN
DRAWN BY: JHD

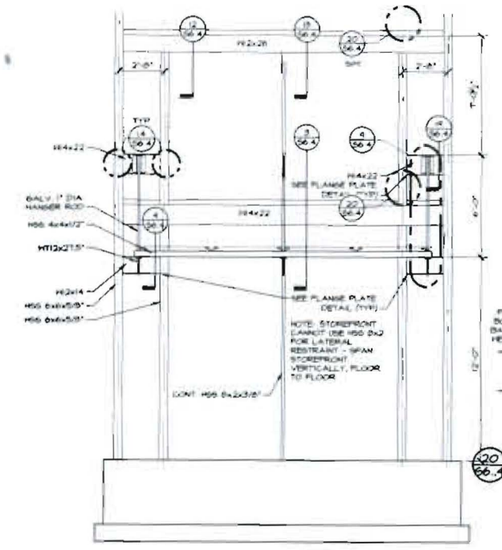
PROJECT:
Hotel, Restaurant,
& Portside Residences
Portland ME

FLOOR
FRAMING DETAILS

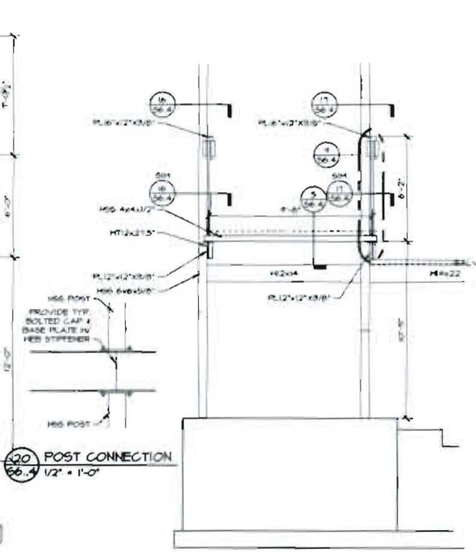
OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9090 FAX (603) 527-9191

REVISION SCHEDULE

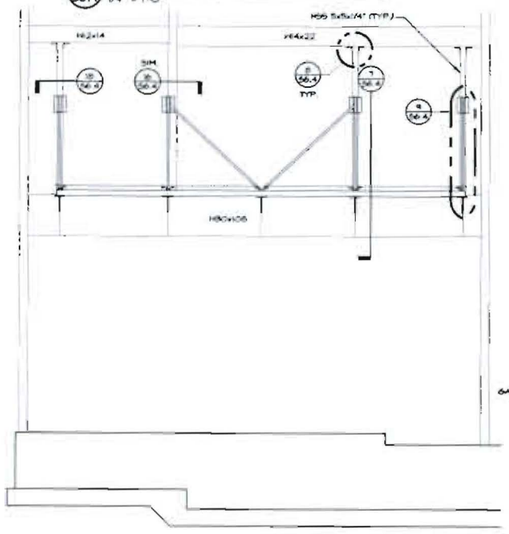
DATE	REVISION DESCRIPTION	BY



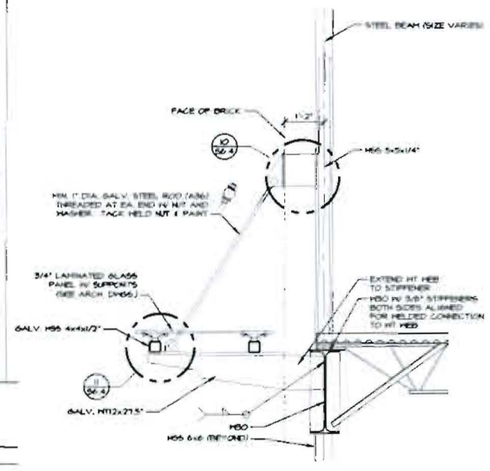
1 / 56.4 STAIR 1 CANOPY FRAMING ELEVATION
1/4" = 1'-0"



20 / 56.4 POST CONNECTION
1/2" = 1'-0"



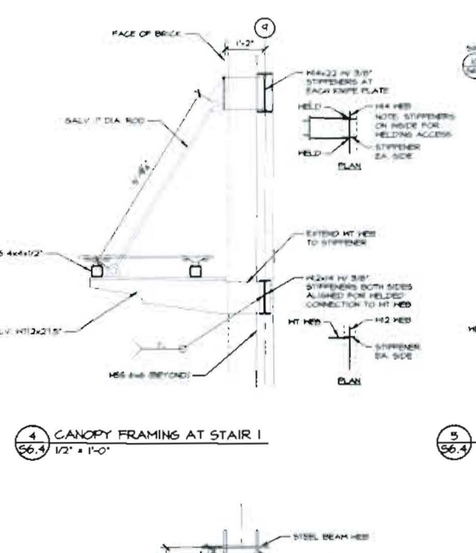
6 / 56.4 MAIN CANOPY FRAMING ELEVATION
1/4" = 1'-0"



7 / 56.4 CANOPY FRAMING AT FRONT ENTRANCE
1/2" = 1'-0"

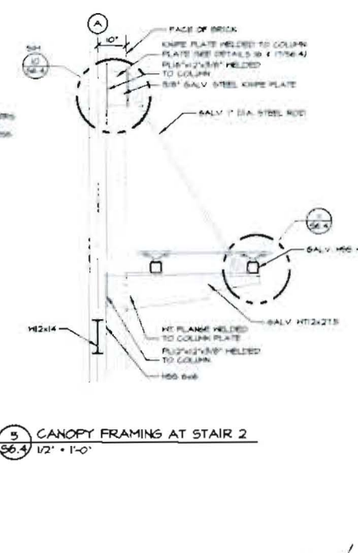
12 / 56.4 LINTEL BEAM RESIDENCE ENTRANCE
1" = 1'-0"

13 / 56.4 HSS AT LINTEL BEAM RESIDENCE ENTRANCE
1" = 1'-0"

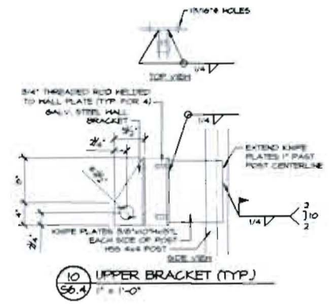


3 / 56.4 CANOPY FRAMING AT STAIR 1 STOREFRONT
1/2" = 1'-0"

4 / 56.4 CANOPY FRAMING AT STAIR 1
1/2" = 1'-0"



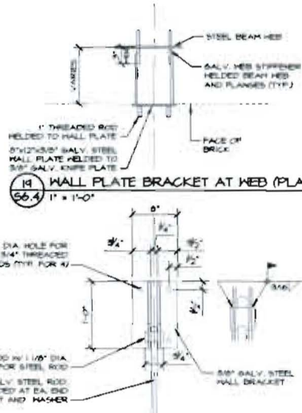
5 / 56.4 CANOPY FRAMING AT STAIR 2
1/2" = 1'-0"



10 / 56.4 UPPER BRACKET (TYP.)
1" = 1'-0"

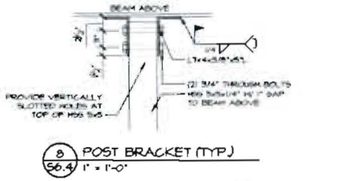
14 / 56.4 FLANGE PLATE DETAIL
1" = 1'-0"

11 / 56.4 LOWER BRACKET (TYP.)
1" = 1'-0"



19 / 56.4 WALL PLATE BRACKET AT MEB (PLAN VIEW)
1" = 1'-0"

9 / 56.4 HANGER ROD (TYP.)
1" = 1'-0"



8 / 56.4 POST BRACKET (TYP.)
1" = 1'-0"

15 / 56.4 KNIFE PLATE DETAIL
1" = 1'-0"

16 / 56.4 WALL PLATE BRACKET (PLAN VIEW)
1" = 1'-0"

17 / 56.4 WALL PLATE BRACKET (PLAN VIEW)
1" = 1'-0"

18 / 56.4 WALL PLATE BRACKET (PLAN VIEW)
1" = 1'-0"

REVISION SCHEDULE

NO.	REVISION DESCRIPTION	DATE

OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-3699 FAX (603) 527-3191

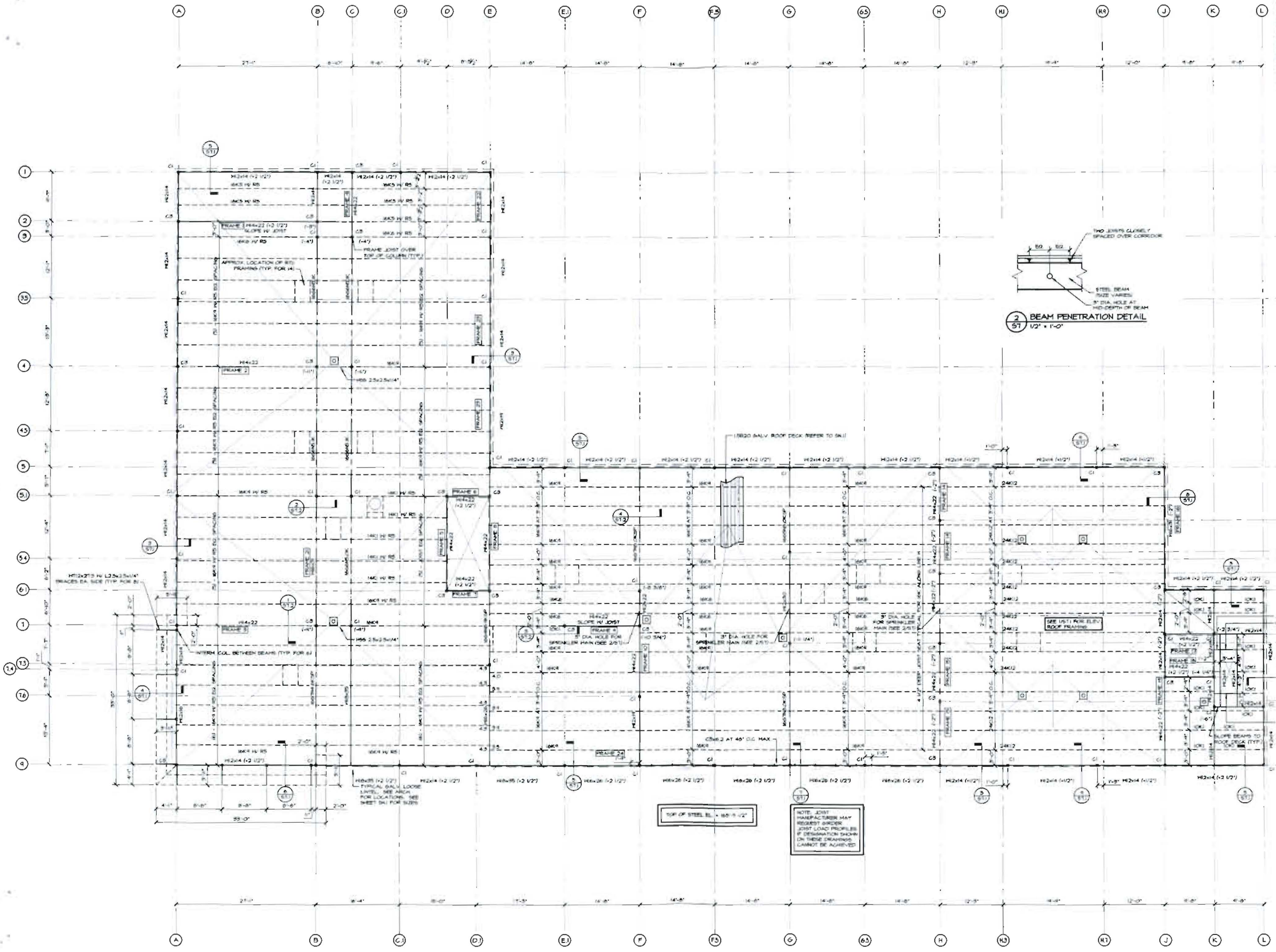
STATE OF MAINE
JEFFREY J. MARCOUX
No. 8044
LICENSED
PROFESSIONAL ENGINEER
3/11/10

CANOPY FRAMING DETAILS

PROJECT:
Hotel, Restaurant, & Portside Residences
Portland ME

DATE: 03-11-10
SCALE: SEE PLAN
DRAWN BY: SMD

SHEET: S6.4



2 / S7 BEAM PENETRATION DETAIL
1/2" = 1'-0"

COLUMN SCHEDULE	
MARK	DESIGNATION
C1	HSS 6x6x1/4"
C2	HSS 6x6x5/16"
C3	HSS 6x6x3/8"
C4	HSS 6x6x1/2"
C5	HSS 6x6x5/8"
C6	HSS 7x7x1/2"
C7	HSS 7x7x5/8"
C8	HSS 8x8x1/2"
C4	HSS 8x8x5/8"

REVISION SCHEDULE		
DATE	REVISION DESCRIPTION	BY

JEFFREY B. NAWROCKI No. 8044

5/11/10

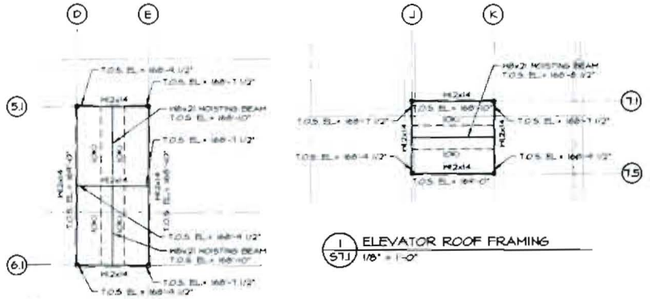
OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9090 FAX (603) 527-9191

ROOF FRAMING PLAN

PROJECT:
Hotel, Restaurant,
& Portside Residences
Portland ME

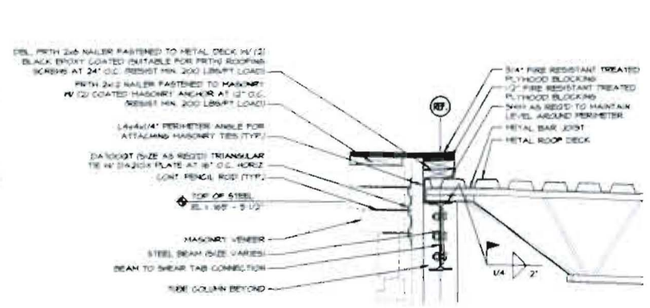
DATE: 05-11-10
SCALE: SEE PLAN
DRAWN BY: OHO

SHEET: S7

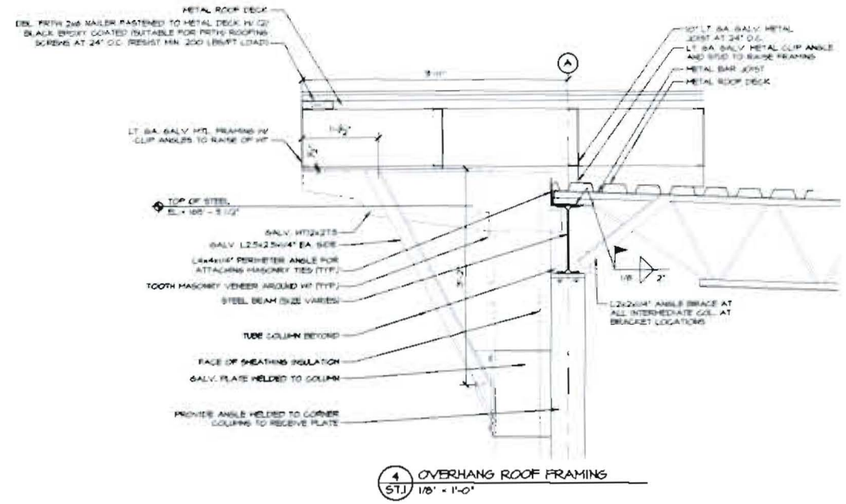


2 / S7.1 ELEVATOR ROOF FRAMING
1/8" = 1'-0"

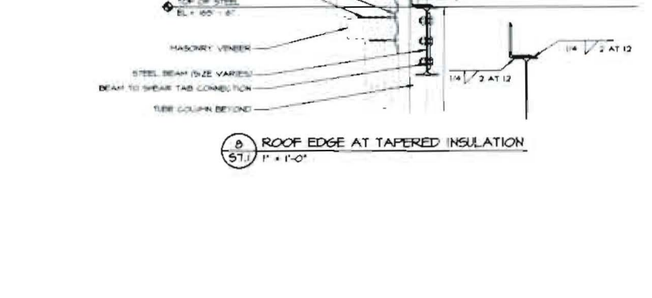
1 / S7.1 ELEVATOR ROOF FRAMING
1/8" = 1'-0"



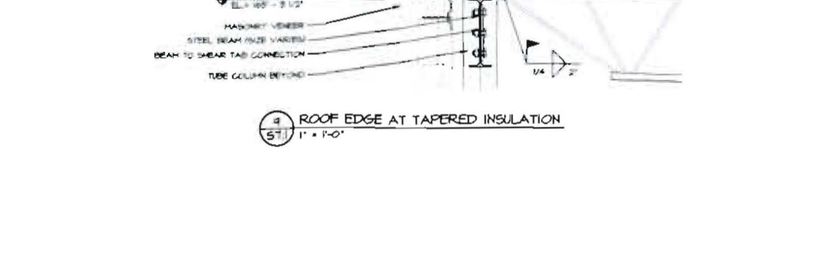
3 / S7.1 ROOF EDGE FRAMING (TYPICAL)
1" = 1'-0"



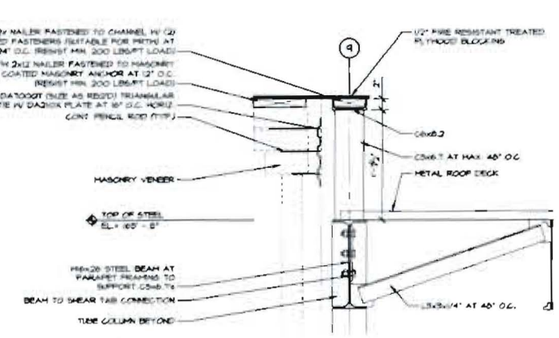
4 / S7.1 OVERHANG ROOF FRAMING
1/8" = 1'-0"



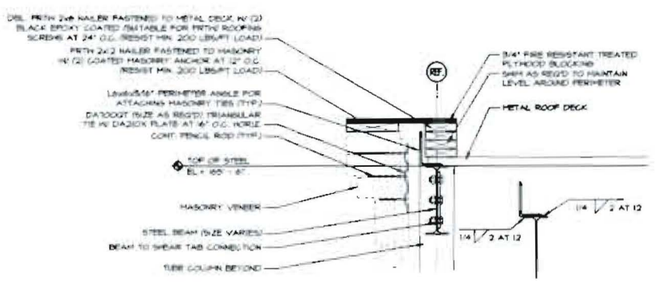
5 / S7.1 ROOF EDGE FRAMING (TYPICAL)
1" = 1'-0"



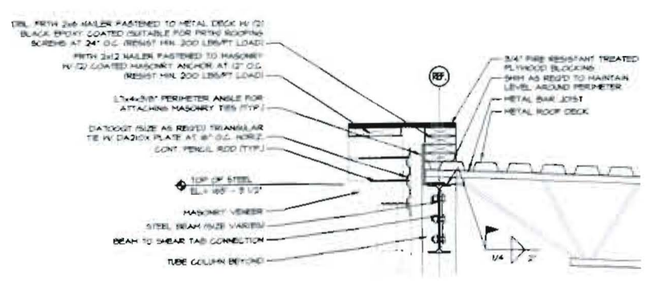
6 / S7.1 OVERHANG ROOF FRAMING
1/8" = 1'-0"



7 / S7.1 PARAPET FRAMING DETAIL
1" = 1'-0"



8 / S7.1 ROOF EDGE AT TAPERED INSULATION
1" = 1'-0"



9 / S7.1 ROOF EDGE AT TAPERED INSULATION
1" = 1'-0"

STATE OF MAINE
JEFFREY S. HAWBROOK
No. 10144
LICENSED
PROFESSIONAL ENGINEER
5/11/10

NOTE: AT ALL LOCATIONS WHERE THE CAVITY WIDTH EXCEEDS A 1/2" A DETAILED WALL TIE ANALYSIS IN ACCORDANCE WITH ACI 530 SHALL BE PROVIDED BY THE TIE MANUFACTURER FOR REVIEW.

REVISION SCHEDULE

NO.	DATE	REVISION DESCRIPTION

OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527-9900 FAX (603) 527-9191

ROOF FRAMING DETAILS

PROJECT:
Hotel, Restaurant, & Portside Residences
Portland ME

DATE: 05-11-10
SCALE: SEE PLAN
DRAWN BY: SMD

SHEET: S7.1

1 / S7.2 GIRDER CONNECTION AT COLUMN
1/2" = 1'-0"

2 / S7.2 JOIST CONNECTION AT COLUMN (TYPICAL)
1/2" = 1'-0"
NOTE: JOIST GIRDER OMITTED FOR CLARITY

3 / S7.2 BEAM CONNECTION AT COLUMN (TYPICAL)
1/2" = 1'-0"
NOTE: JOIST GIRDER OMITTED FOR CLARITY

4 / S7.2 JOIST CONNECTION ALONG GIRDER/BEAM
1/2" = 1'-0"

5 / S12 EXTERIOR SIGN SUPPORT
1" = 1'-0"

6 / S12 SIGN SUPPORT ELEVATION
1/8" = 1'-0"

REVISION SCHEDULE

DATE	BY

OPECHEE
CONSTRUCTION CORPORATION
11 CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 527 9898 FAX (603) 527 9191

ROOF FRAMING DETAILS

PROJECT:
Hotel, Restaurant, & Portside Residences
Portland ME

DATE: 05-11-12
SCALE: SEE PLAN
DRAWN BY: GHD

SHEET: S7.20

SCHEMATIC BRACE DETAILS
3/4" = 1'-0"

NOTE:
3/4" SLOT ALONG CENTERLINE OF BRACE TO FIT OVER CONNECTOR PLATE

SCHEMATIC MID-BRACE FRAMING DETAIL
3/4" = 1'-0"

EXAMPLE

* MINIMUM DIMENSIONS - ADJUST AS INSTRUCTED BY CONNECTION ENGINEER.

TYPICAL BRACE CONNECTION NOTES:

1. DESIGN AND DETAILING OF ALL CONNECTIONS IS THE RESPONSIBILITY OF THE FABRICATOR'S ENGINEER.
2. ALL GUSSET PLATES SHALL BE MIN 1/2" OR LARGER AS SPECIFIED BY FABRICATOR'S ENGINEER.
3. SLOTS IN TUBES SHALL BE OVERSIZED BY 5/8" (MAX). SLOTS SHALL BE SHOP CUT AND NOT ALTERED IN THE FIELD WITHOUT PRIOR APPROVAL BY BOTH THE FABRICATOR'S ENGINEER AND ARCHITENG.
4. BRACE CONNECTIONS SHALL BE DESIGNED TO ACCOMMODATE TYPICAL GAP BETWEEN TUBE AND GUSSET PLATES. ADD SIZE OF GAP WIDTH TO SIZE OF REQUIRED FILLET WELD.
5. TUBES SHALL LAP ONTO GUSSET PLATES A MINIMUM OF THE BRACE SIZE + 1". ADDITIONAL LAP MAY BE REQUIRED BY CONNECTION DESIGNER.
6. IN ALL CASES GUSSET PLATE SHALL BE CENTERED IN THE GAP - SHIM AS REQUIRED.

GAP DETAIL

FRAME 1
LINE 2

FRAME 2
LINE 4

FRAME 3
LINE 7

FRAME 4
LINE 1A

FRAME 5
LINE D

FRAME 6
LINE 5.2

FRAME 7
LINE 6.2

FRAME 8
LINE F

FRAME 9
LINE 7

FRAME 10
LINE E

FRAME 11
LINE 5.5

FRAME 12
LINE F.5

FRAME 13
LINE 6

REVISION SCHEDULE			
DATE	REVISION DESCRIPTION		BY

OPECHEE
CONSTRUCTION CORPORATION
LLC
CORPORATE DRIVE, BELMONT NH 03220
PHONE (603) 267-8800 FAX (603) 267-8181

BRACE FRAMES & DETAILS

PROJECT:
Hotel, Restaurant, & Portside Residences
Portland ME

DATE: 05-11-10
SCALE: SEE PLAN
DRAWN BY: SHB

SHEET: S8

SCHEDULE OF SPECIAL INSPECTIONS C.A.S.E. FORM-101

PROJECT: HOTEL, RESTAURANT, & PORTSIDE RESIDENCES
LOCATION: FORE STREET, PORTLAND, ME
OWNER: OLD PORT HOSPITALITY, LLC
OWNER'S ADDRESS: 7 CORPORATE DRIVE, BELMONT, NH 03220
ARCHITECT OF RECORD (AOR): DON H. BUALDA, R.A. (OPECHEE CONSTRUCTION CORPORATION)
STRUCTURAL ENGINEER OF RECORD (SOR): JEFF NAMROCKI, P.E. (JSN ASSOCIATES, INC.)

THIS STATEMENT OF SPECIAL INSPECTIONS IS SUBMITTED AS A CONDITION FOR PERMIT ISSUANCE IN ACCORDANCE WITH THE SPECIAL INSPECTION REQUIREMENTS OF THE 2006 INTERNATIONAL BUILDING CODE. IT INCLUDES A SCHEDULE OF SPECIAL INSPECTION SERVICES APPLICABLE TO THIS PROJECT, AS WELL AS THE NAME OF SPECIAL INSPECTORS AND THE IDENTITY OF OTHER APPROVED AGENCIES INTENDED TO BE RETAINED FOR CONDUCTING THESE SERVICES.

THE SPECIAL INSPECTOR SHALL KEEP RECORDS OF ALL INSPECTIONS AND SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, STRUCTURAL ENGINEER AND ARCHITECT OF RECORD. DISCOVERED DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR.

A FINAL REPORT OF SPECIAL INSPECTIONS BY THE SPECIAL INSPECTORS, DOCUMENTING COMPLETION OF ALL REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS, SHALL BE SUBMITTED PRIOR TO ISSUANCE OF A CERTIFICATE OF USE AND OCCUPANCY.

THE SPECIAL INSPECTOR, WHO IS GENERALLY EMPLOYED BY THE PRIMARY TESTING AGENCY, MAY USE VARIOUS INSPECTORS WHO ARE FAMILIAR WITH EACH CATEGORY OF WORK. IF SPECIAL INSPECTIONS ARE ALSO PERFORMED BY AGENTS WHO ARE NOT EMPLOYED BY PRIMARY TESTING AGENCY, EACH OF THESE ADDITIONAL SPECIAL INSPECTORS SHALL ISSUE A FINAL REPORT FOR THEIR CATEGORY OF INSPECTION, ONLY AFTER THE FINAL REPORT(S) HAS/HAVE BEEN ISSUED BY THE SPECIAL INSPECTOR(S) CAN THE AOR AND EOR ISSUE FINAL AFFIDAVITS FOR THE PROJECT COMPLETION.

JOB SITE SAFETY AND MEANS AND METHODS OF CONSTRUCTION ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.

PREPARED BY:

Jeffrey S. Namrocki

JEFFREY S. NAMROCKI, P.E. — DATE: 5/10/10

STATE OF MAINE — JEFFREY S. NAMROCKI No. 8044 — LICENSED PROFESSIONAL ENGINEER — SEAL

OWNER'S AUTHORIZATION		BUILDING OFFICIAL'S AUTHORIZATION	
SIGNATURE	DATE	SIGNATURE	DATE

SCHEDULE OF SPECIAL INSPECTION SERVICES

THE FOLLOWING TABLES COMPRISE THE REQUIRED SCHEDULE OF SPECIAL INSPECTIONS FOR THIS PROJECT. THE CONSTRUCTION DIVISIONS WHICH REQUIRE SPECIAL INSPECTIONS FOR THIS PROJECT ARE AS FOLLOW:

- SOILS AND FOUNDATIONS
- CAST-IN-PLACE CONCRETE
- STRUCTURAL STEEL

INSPECTION AGENT	FIRM	ADDRESS
1 SPECIAL INSPECTOR	JOHN TURNER CONSULTING	5 HOLLY ST. UNIT 108 SCARBOROUGH, ME 04074
2 TESTING LABORATORY	JOHN TURNER CONSULTING	5 HOLLY ST. UNIT 108 SCARBOROUGH, ME 04074
3 STRUCTURAL ENGINEER	JSN ASSOCIATES, INC.	ONE AUTUMN STREET PORTSMOUTH, NH 03801 (603) 433-2609

NOTE: THE INSPECTION AND TESTING AGENT SHALL BE ENGAGED BY THE OWNER OR THE OWNER'S AGENT, AND NOT BY THE CONTRACTOR OR SUBCONTRACTOR WHOSE WORK IS TO BE INSPECTED OR TESTED. ANY CONFLICT OF INTEREST MUST BE DISCLOSED TO THE BUILDING OFFICIAL PRIOR TO COMMENCING WORK.

SOILS AND FOUNDATIONS

ITEM	AGENT NO. & QUALIFICATIONS	SCOPE & FREQUENCY
1 SHALLOW FOUNDATIONS	1 PE/SE	VERIFY THAT UNSUITABLE BEARING MATERIALS ARE REMOVED VERIFY THE SOIL LOADBEARING CAPACITY CONCIDES WITH THAT IDENTIFIED IN THE CONSTRUCTION DOCUMENTS FREQUENCY - AT EACH AFFECTED FOOTING
2 CONTROLLED STRUCTURAL FILL	1	PERFORM SIEVE TESTS (ASTM D422 & D1140) AND MODIFIED PROCTOR TESTS (ASTM D1557) OF EACH SOURCE OF FILL MATERIAL INSPECT PLACEMENT, LIFT THICKNESS AND COMPACTION OF CONTROLLED FILL TEST DENSITY OF EACH LIFT OF FILL BY NUCLEAR METHODS (ASTM D2922) VERIFY EXTENT AND SLOPE OF FILL PLACEMENT
3 RAMMED AGGREGATE PIERS	1	VERIFY RAMMED AGGREGATE PIERS ARE INSTALLED PER PIER INSTALLATION SPECIFICATIONS AND SHOP DRAWINGS

QUALIFICATIONS OF INSPECTORS / TESTING TECHNICIANS

THE QUALIFICATIONS OF ALL PERSONNEL PERFORMING SPECIAL INSPECTION ACTIVITIES ARE SUBJECT TO THE APPROVAL OF THE BUILDING OFFICIAL. THE CREDENTIALS OF ALL INSPECTORS AND TESTING TECHNICIANS SHALL BE PROVIDED IF REQUESTED.

KEY FOR FORMAT QUALIFICATIONS OF INSPECTION AGENTS:

WHEN THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE DEEMS IT APPROPRIATE THAT THE INDIVIDUAL PERFORMING TEST OR INSPECTION HAVE A SPECIFIC CERTIFICATION OR LICENSE AS INDICATED BELOW, SUCH DESIGNATION SHALL APPEAR BELOW THE AGENCY NUMBER ON THE SCHEDULE.

PE/SE - STRUCTURAL ENGINEER - A LICENSED SE OR PE SPECIALIZING IN THE DESIGN OF BUILDING STRUCTURES
PE/GE - GEOTECHNICAL ENGINEER - A LICENSED PE SPECIALIZING IN SOIL MECHANICS AND FOUNDATIONS.
EIT - ENGINEER IN TRAINING - A GRADUATE ENGINEER WHO HAS PASSED THE FUNDAMENTALS OF ENGINEERING EXAMINATION.

AMERICAN CONCRETE INSTITUTE (ACI) CERTIFICATION
ACI-CFTT - CONCRETE FIELD TESTING TECHNICIAN - GRADE 1
ACI-CCI - CONCRETE CONSTRUCTION INSPECTOR
ACI-LTT - LABORATORY TESTING TECHNICIAN - GRADE 1 & 2
ACI-SFT - STRENGTH TESTING TECHNICIAN

AMERICAN WELDING SOCIETY (AWS) CERTIFICATION
AWS-CWI - CERTIFIED WELDING INSPECTOR
AWS/ASC-SAI CERTIFIED STRUCTURAL STEEL INSPECTOR

AMERICAN SOCIETY OF NON-DESTRUCTIVE TESTING (ASNT) CERTIFICATION
ASNT - NON-DESTRUCTIVE TESTING TECHNICIAN - LEVEL II (OR III)

INTERNATIONAL CODES COUNCIL (ICC) CERTIFICATION
ICC-SPE - STRUCTURAL HANDSET SPECIAL INSPECTOR
ICC-SWI - STRUCTURAL STEEL AND WELDING SPECIAL INSPECTOR
ICC-SFP - SPRAY APPLIED FIREPROOFING SPECIAL INSPECTOR
ICC-PCSI - PRESTRESSED CONCRETE SPECIAL INSPECTOR
ICC-RCSI - REINFORCED CONCRETE SPECIAL INSPECTOR

NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES (NICET)
NICET-CT - CONCRETE TECHNICIAN - LEVELS I, II, III & IV
NICET-ST - SOIL TECHNICIAN - LEVELS I, II, III & IV
NICET-SPT - GEOTECHNICAL ENGINEERING TECHNICIAN - LEVELS I, II, III & IV

EXTERIOR DESIGN INSTITUTE (EDI) CERTIFICATION
EDI-EIFS - EIFS THIRD PARTY INSPECTOR

CAST-IN-PLACE CONCRETE

ITEM	AGENT NO. & QUALIFICATIONS	SCOPE & FREQUENCY
1 MIX DESIGN	2 ACI-CCI ICC-RCSI	REVIEW CONCRETE BATCH TICKETS AND VERIFY COMPLIANCE WITH APPROVED MIX DESIGN. VERIFY THAT WATER ADDED AT THE SITE DOES NOT EXCEED THAT ALLOWED BY THE MIX DESIGN. FREQUENCY - EACH MIX DESIGN
2 MATERIAL CERTIFICATION	3 PE	REVIEW FOR COMPLIANCE WITH CONSTRUCTION DOCUMENTS
3 REINFORCEMENT INSTALLATION	2 ACI-CCI ICC-RCSI	INSPECT SIZE, SPACING, COVER, POSITIONING AND GRADE OF REINFORCING STEEL. VERIFY THAT REINFORCING BARS ARE FREE OF FORM OIL OR OTHER DELETERIOUS MATERIALS. INSPECT BAR LAPS AND MECHANICAL SPLICES. VERIFY THAT BARS ARE ADEQUATELY TIED AND SUPPORTED ON CHAIRS OR BOLSTERS. FREQUENCY - 25% OF STRIP FOOTINGS AND FROST WALLS, 100% OF ISOLATED FOOTINGS, 100% OF PIERS AND COLUMNS, 100% OF RETAINING WALLS AND 50% OF ALL OTHERS.
4 ANCHOR RODS & FORMWORK GEOMETRY	2 ACI-CCI ICC-RCSI	INSPECT SIZE, POSITIONING AND EMBEDMENT OF ANCHOR RODS. INSPECT CONCRETE PLACEMENT AND CONSOLIDATION AROUND ANCHORS. REVIEW FORMWORK GEOMETRY FOR CONFORMANCE WITH THE STRUCTURAL CONSTRUCTION DOCUMENTS. FREQUENCY - 100% OF ALL ANCHOR RODS, 25% OF FORMWORK
5 CONCRETE PLACEMENT	2 ACI-CCI ICC-RCSI	INSPECT PLACEMENT OF CONCRETE. VERIFY THAT CONCRETE CONVEYANCE AND DEPOSITING AVOIDS SEGREGATION OR CONTAMINATION. VERIFY THAT CONCRETE IS PROPERLY CONSOLIDATED. FREQUENCY - 100% OF ALL PLACEMENTS EXCEEDING 5 CUBIC YARDS. FOR CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS. TEST SLUMP AND TEMPERATURE OF EACH BATCH (5%), AIR CONTENT WHEN COMPRESSIVE STRENGTH TEST SPECIMENS ARE MOLDED.
6 SAMPLING AND TESTING OF CONCRETE	2 ACI-CCFT ACI-STT	TEST CONCRETE COMPRESSIVE STRENGTH (ASTM C39 & C94), SLUMP (ASTM C143), AIR-CONTENT (ASTM C231 OR C173) AND TEMPERATURE (ASTM C1064). OBTAIN ONE SET OF (4) STANDARD CYLINDERS FOR EACH COMPRESSIVE STRENGTH TEST. TEST TWO (2) CYLINDERS AT 7 DAYS AND TWO (2) AT 28 DAYS. TESTING FREQUENCY - (1) COMPRESSIVE STRENGTH TEST SHOULD BE PERFORMED FOR EACH DAY'S POUR EXCEEDING 5 CUBIC YARDS AND (1) ADDITIONAL SET FOR EACH 50 CUBIC YARDS MORE THAN THE FIRST 25 CUBIC YARDS. FIELD CURED CYLINDERS - DURING COLD WEATHER CONCRETE OPERATIONS, PREPARE TWO (2) ADDITIONAL SETS OF TWO (2) STANDARD CYLINDERS TO BE CURED AT THE SITE, MAINTAINING CYLINDERS IN CONDITIONS AND AT TEMPERATURES OF THE IN-PLACE CONCRETE. PROTECT CYLINDERS FROM BEING HIT, DAMAGED AND FROM VIBRATION DURING INITIAL SET. PERFORM COMPRESSIVE STRENGTH TEST ON TWO (2) OF THE CYLINDERS AT 7 DAYS AND ON THE REMAINING TWO (2) CYLINDERS AT 28 DAYS.
7 CURING AND PROTECTION	2 ACI-CCI ICC-RCSI	INSPECT CURING, COLD WEATHER PROTECTION AND HOT WEATHER PROTECTION PROCEDURES.

STRUCTURAL STEEL

ITEM	AGENT NO. & QUALIFICATIONS	SCOPE & FREQUENCY
1 FABRICATION CERTIFICATION AND QUALITY CONTROL PROCEDURES	1 AWS/AISC-SSI ICC-SWSI	REVIEW SHOP FABRICATION AND QUALITY CONTROL PROCEDURES. AISC PLANT CERTIFICATE SATISFIES THIS.
2 MATERIAL CERTIFICATION	1 AWS/AISC-SSI ICC-SWSI	REVIEW CERTIFIED MILL TEST REPORTS AND IDENTIFICATION MARKINGS ON WIDE-FLANGE SHAPES, HIGH STRENGTH BOLTS, NUTS AND WELDING ELECTRODES. REQUEST FROM THE GALVANIZING PLANT EXCLUDING GRATING GALVANIZER) AND REVIEW GALVANIZER'S CERTIFICATION THAT SAMPLES REPRESENTING EACH LOT HAVE BEEN EITHER TESTED OR INSPECTED AS DIRECTED BY THE APPLICABLE ASTM SPECIFICATION (A123 OR A153) AND THE REQUIREMENTS HAVE BEEN MET.
3 OPEN WEB STEEL JOISTS	1 AWS/AISC-SSI ICC-SWSI	INSPECT INSTALLATION, FIELD WELDING AND SPREADING OF JOISTS. FREQUENCY - 25% OF ALL JOIST INSTALLATION & BRIDGING
4 BOLTING	1 AWS/AISC-SSI ICC-SWSI	INSPECT INSTALLATION AND TIGHTENING OF HIGH-STRENGTH BOLTS. VERIFY THAT SPLINES HAVE SEPARATED FROM TENSION CONTROL BOLTS. VERIFY PROPER FAYETENING SEQUENCES. FREQUENCY - 25% OF BEARING-TYPE BOLTS, CONTINUOUS INSPECTION OF BOLTS IN SLIP-CRITICAL CONNECTIONS
5 WELDING	1 AWS-CWI ASNT	VISUALLY INSPECT ALL WELDS. INSPECT PRE-HEAT, POST-HEAT AND SURFACE PREPARATION BETWEEN PASSES. VERIFY SIZE AND LENGTH OF FILLET WELDS. REVIEW WELDER QUALIFICATION STATEMENTS BY FABRICATOR AND ERECTOR. FREQUENCY - 100% SHOP & FIELD FILLET WELDS, MULTI-PASS AND PARTIAL PENETRATION GROOVE WELDS MUST BE SPOT TESTED AT A RATE OF ONE (1) TEST PER WELDER USING THE MAGNETIC PARTICLE TEST METHOD. 100% OF ALL SHOP & FIELD COMPLETE PENETRATION GROOVE WELDS MUST BE TESTED USING THE ULTRASONIC METHOD.
6 SHEAR CONNECTORS	1 AWS/AISC-SSI ICC-SWSI	INSPECT SIZE, NUMBER, POSITIONING AND WELDING OF SHEAR CONNECTORS. INSPECT STUDS FOR FULL 360 DEGREE FLASH. FREQUENCY - VISUALLY INSPECT ALL. RING TEST 20% WITH A 3 LB HAMMER. BEND TEST ALL QUESTIONABLE STUDS TO 15 DEGREES IF ANY. VISUALLY INSPECT ALL SHEAR STUD CONNECTIONS. SPOT TEST 10% OF ALL CONNECTIONS USING AN APPROVED TEST METHOD.
7 STRUCTURAL DETAILS	2 PE/SE	VERIFY THAT THE GENERAL GEOMETRY OF THE ERECTED STEEL FRAME CONFORMS TO THE CONSTRUCTION DOCUMENTS AND APPROVED SHOP DRAWINGS. FREQUENCY - TBD
8 METAL DECK	2 AHERCM	INSPECT WELDING AND SIDE-LAP FASTENING OF METAL ROOF AND FLOOR DECKS. VERIFY SIZE AND QUANTITY OF FASTENERS FOR CONFORMANCE WITH CONSTRUCTION DOCUMENTS. FREQUENCY - 25% OF FLOOR DECKS, 100% OF ROOF DECKS

STATE OF MAINE — JEFFREY S. NAMROCKI No. 8044 — LICENSED PROFESSIONAL ENGINEER — 5/10/10

REVISION SCHEDULE			
DATE			BY
05-06-10	ADD SPECIAL INSPECTIONS FOR METAL DECK		

OPECHEE CONSTRUCTION CORPORATION
7 CORPORATE DRIVE, BELMONT, NH 03220
PHONE: (603) 267-6300 FAX: (603) 267-6310

SCHEDULE OF SPECIAL INSPECTIONS

PROJECT: Hotel, Restaurant, & Portside Residences — Portland, ME

DATE: 04-16-10
SCALE: SEE PLAN
DRAWN BY: JBH

SHEET: SN.2

NOTES:
1. Design Rammed Aggregate Pier drawings based on structural drawing S-1 "Foundation Loading" dated April 17, 2020 prepared by JDR Associates Inc.
2. For excavation and erection sequence and additional construction notes see Specification Notes on RAP-2.0.
3. For a typical section of typical excavation see drawing S-1 "Foundation Loading" dated April 17, 2020 prepared by JDR Associates Inc.
4. Footing outlines are for information only. See structural drawing for footing layout, dimensions and details.
5. See sheet RAP-2.0 for investigation notes, specifications and details.
6. See design parameters block on the Rammed Aggregate Pier graph enlarge.
7. All existing and proposed utilities within and adjacent to the proposed building footprint shall be verified by the General Contractor and coordinated with the Geopier foundation installer before Rammed Aggregate Pier installation and proceed.
8. A copy of this drawing is available on request for use in determining coordinate locations of individual piers that can be used with electronic survey equipment to stake out pier locations in the field. Questions that may pertain to discrepancies between coordinate locations of individual piers and the pier locations referenced to the overall building grid must be discussed and clarified with the Architect. However, should a discrepancy of 2 inches or less be found, the pier may be staked out at the coordinate location shown.

(●) Indicates Grouted Impact Rammed Aggregate Pier foundation element location and designation

(●) Indicates Impact Rammed Aggregate Pier element location and designation

Indicates foundation element geometry has been revised to accommodate Geopier layout requirements and design criteria. Refer to Specification Notes on RAP-2.0.

GEOPIER LOCATION PLAN
SCALE: 1/8"=1'-0"

geopier

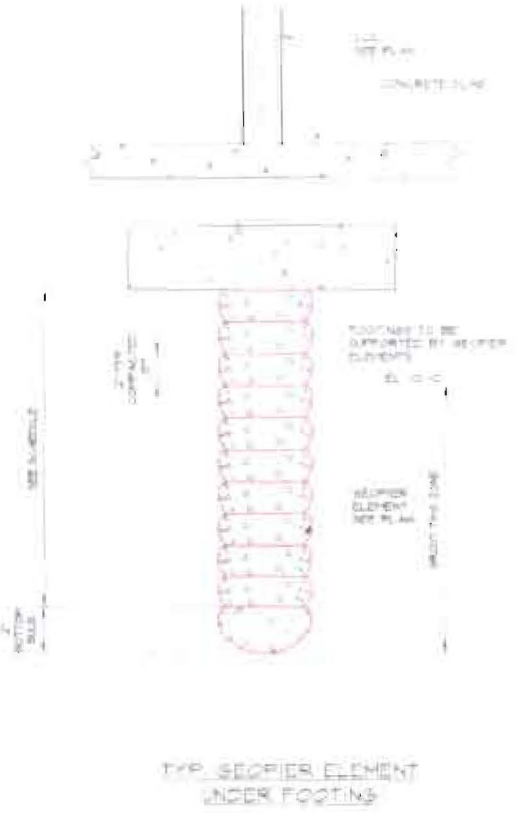
SPECIFICATIONS
Impact Rammed Aggregate Piers
1. Rammed Aggregate Pier Foundation support has been designed by Design Build Geotechnical, LLC and the Geopier Foundation Company, Inc. the Designer, who is responsible for delivering a foundation system capable of supporting the proposed loads while limiting long-term total settlement to the criteria summarized in the design submittal package.
2. Rammed Aggregate Pier layout is the responsibility of the General Contractor. Piers shall be installed in the field within 6" of locations shown on these plans.
3. Rammed Aggregate Pier design shall be confirmed by a full-scale modulus load test performed at the site.
4. A qualified full-time Quality Control (QC) representative provided by the Rammed Aggregate Pier installer (the installer) shall be responsible for installation of the piers in accordance with the design and shall report all Aggregate Pier foundation construction activities to the Designer. The authorized by the Owner, the QC representative shall coordinate QC activities with the Testing Agency hired by the Owner. Under no circumstance shall the Testing Agency direct Rammed Aggregate Pier installation procedures.
5. Rammed Aggregate Piers shall be accepted based on the following criteria unless otherwise approved in writing by the Designer:
a. Rammed Aggregate Piers shall be within 3-inches of deeper than the depths shown on the plans unless approved in writing by the Designer.
b. Average compacted lift thickness of the shaft shall be approximately 12 inches. During the mandrel removal phase of pier construction, the rate of withdrawal shall be less than the rate determined from flow testing to ensure sufficient aggregate flow to fill the resulting mandrel cavity, and shall be no greater than six seconds per foot.
c. Drilling crowd pressure measured during pier construction shall be within 75% of the value achieved in the modulus test.
d. A Bottom Stabilization Performance Test (BSTP) shall be performed on the first 5 installed piers including pre-production piers to establish acceptance criteria for the maximum allowable deflection of the mandrel under the full static crowd pressure. The proof test should be performed in accordance with the following guidelines:
i. A BSTP should be performed by shutting the hammer energy off at the top of the compacted base of the pier.
ii. Once the hammer energy is off and the mandrel is resting on top of the last compacted lift, static crowd pressure should be applied to the pier for a period of three minutes. The corresponding deflection of the mandrel is then noted and recorded on the Quality Control forms.
iii. Results of the initial BSTPs should be provided to the Designer for review and establishment of acceptance criteria and frequency of BST Proof Testing. BSTs. BST Proof testing shall be completed in accordance with the same procedures noted above for performance testing, except that the full mandrel crowd pressure should be maintained for only 10 seconds. The frequency of BSTs may vary depending on the soil conditions however, BSTs shall be performed on no less than 10% of the production piers.
e. Aggregate used to construct Impact Rammed Aggregate Piers shall be Type I, Grade B in accordance with ASTM D-1241-93, except that particles passing the No. 40 sieve shall be eliminated, or shall be other uniform graded aggregate with particle sizes ranging from 0.5" to 3" inches selected by the Installer and successfully used in the modulus test.
f. Grout used to construct Impact Densified Aggregate Piers (IAP) shall consist of a neat Portland Cement grout mix with water-cement ratio of approximately 1 and 1.5% by weight, with or without accelerators that is thick enough to prevent significant grout seepage into the matrix soils yet thin enough to provide for easy penetration of the aggregate into the grout column, or any other mixed successfully used by the installer and/or successfully proven through completion of full-scale modulus testing. A minimum of 0.4 CF of grout per foot of total anticipated pier shaft length should be added to the aggregate during pier construction and pumping of grout may begin prior to constructing the pier base and lower compacted shaft and should continued until the mandrel is removed from the ground. Subsequently, the empty mandrel may be used to construct the upper portion of the compacted shaft at the top of the pier.
6. After construction are encountered that cannot be removed with conventional Rammed Aggregate Pier installation equipment the General Contractor shall be responsible for removing the obstructions. If the General Contractor does not do so in a timely manner that does not interrupt Rammed Aggregate Pier production, the installer may remove the obstructions and shall be reimbursed for costs incurred including labor, equipment and materials.
7. Rammed Aggregate Piers not meeting the requirements defined in the design and modulus test shall be reinstalled to meet project requirements unless otherwise approved in writing by the Designer.
8. Testing and ground surface elevations at footing and floor slab support pier locations are the responsibility of the Contractor and shall be reported in writing to the Installer's QC representative prior to installing piers.

SPECIFICATIONS cont.
9. Utility locations are the responsibility of the Contractor. The Designer should be notified of any conflicts with pier element locations shown on the plans.
10. Rammed Aggregate Piers are located at the intersection of reference grid lines or at the centerline of strip footings unless dimensioned otherwise.
11. All Rammed Aggregate Piers have a minimum nominal compacted shaft diameter of 20 inches. All piers shall be constructed to the depths and termination criteria provided in the Design Submittal unless noted otherwise on these plans or otherwise agreed upon by the Designer and the Owner's representative. Estimated shaft lengths for each pier based on elevation of the available subsurface information are included in the Geopier Schedule included in the Design Submittal Package.
12. These drawings are based on structural drawing S-1 "Foundation Loading" dated April 13, 2020 prepared by JBH Associates, Inc.
13. In the event the structural loads vary, the Designer shall be notified immediately. The Rammed Aggregate Pier Layout Plan and Details are for pier numbering, location, and layout purposes only. Footing locations sizes and orientations shown on these plans are for information only. Please refer to the structural plans for specific foundation dimensions and location. The Designer accepts no responsibility for location of footings shown on these plans. The Designer shall be notified immediately if information on these plans conflicts with structural or architectural drawings.
14. The Rammed Aggregate Pier foundation design is based on the geotechnical information provided by Seboogh Taheriha in their Geotechnical Report dated April 13, 2020 Design Build Geotechnical, LLC and Geopier Foundation Company, Inc. have relied on this information and have no reason to suspect any of the information in the report is in error. Design Build Geotechnical, LLC and Geopier Foundation Company, Inc. are not responsible for errors or omissions in the report that may affect the parameter values in our design. If the subsurface or site conditions differ from those utilized in the design, the Designer shall be notified immediately.
15. The Structural Engineer must review the foundation geometry shown on the Geopier Location Plans for consistency with the structural foundation plans, and make any revisions necessary to accommodate the revised foundation geometry required to accommodate the Geopier design layout as noted. Written confirmation that this review has been completed and that the foundation revisions noted on the Geopier Location Plans have been incorporated into the final foundation plans shall be provided to the Designer prior to the start of Geopier Construction.

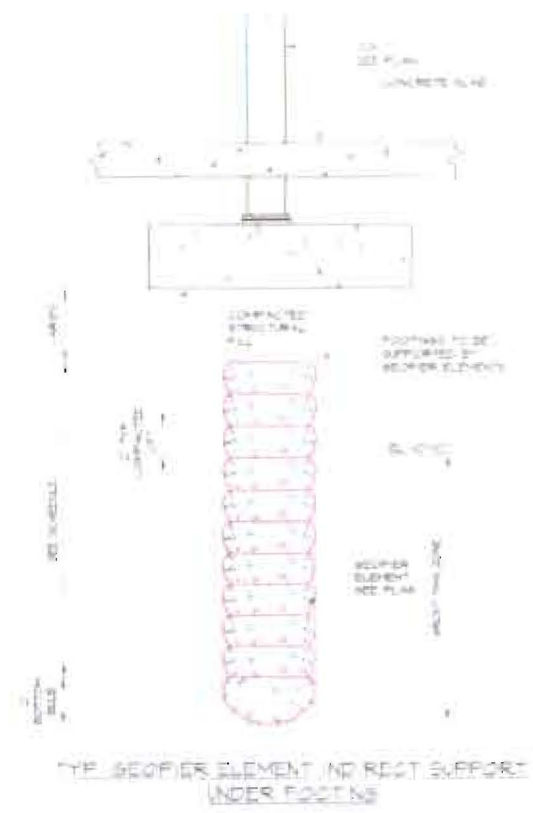
CONSTRUCTION NOTES
Site Preparation
1. Prior to placing structural fill or the Geopier reinforced subgrade, the tops of Geopier elements and subgrade soils shall be exposed and thoroughly compacted with a standard hand-operated impact compactor or two drum vibratory roller. Compaction shall be performed on the same day that structural fill is to be placed and shall extend over the entire subgrade to compact any loose surface soil and loose surface pier aggregate.
2. Excavation adjacent to a completed Geopier element shall not extend below a line or plane extending downward from the nearest edge of the top of the pier without written authorization from the Designer. In the event that excavation is carried beyond these limits, as shown in the Excavation Limits Adjacent to Geopier Elements Detail, the Contractor is responsible for the remedial measures shown in the detail that may include the reconstruction of the impacted portion of the pier or a cement of structural fill to the limits shown in the detail.

Equipment Tolerance Geopier Construction
1. Compacted Structural Fill, to be placed above Rammed Aggregate Pier and support elements as noted herein, shall consist of granular material placed and compacted in controlled lifts with a maximum particle size no larger than 4 to 6" and no greater than 50% at the loose lift thickness compacted to 98% maximum dry density in accordance with the requirements of ASTM D698, and approved for support of spread footings or an allowable bearing pressure of at least the allowable foundation bearing pressure upon which the Geopier Design Submittal has been based.

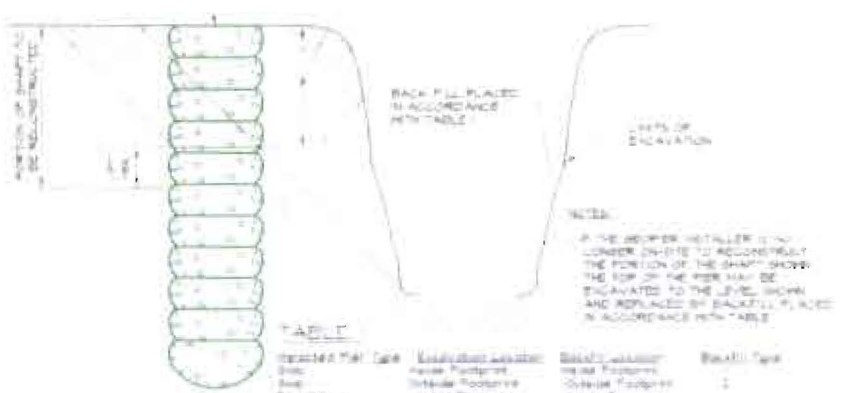
Concrete Footing Construction Supported by Rammed Aggregate Piers
1. All excavations for footings supported by Geopier elements shall be prepared in the following manner by the General Contractor:
Use of a smooth-edge excavator bucket is strongly encouraged for excavation to the final footing bearing level and overexcavation below the bottom of footing shall be limited to three inches unless approved in writing by the Designer. The intrusion limiting the teeth of excavators from over excavation beyond three inches below the footing elevation or bottom of a subgrade protection layer as described below.
2. Whenever possible, footing concrete shall be placed the same day as footing excavations are completed. If immediate placement is not possible, then suitable protection of the prepared subgrade soils shall be provided to prevent disturbance of the subgrade or softening of the soils in response to ponded water. Subgrade protection measures may consist of a three-inch thick lean mix concrete mud mat or not thick layer of thoroughly compacted ¾ in clear crushed stone possibly placed on heavy polyethylene plastic or geotextile material or other protection measures that may determined by the Contractor to be appropriate. Proposed subgrade protection alternatives if required shall be submitted to the Designer for approval.
3. Prior to placing footing concrete subgrade protection layer or structural fill to support footings, the exposed subgrade soils and tops of Geopier elements shall be thoroughly compacted with a standard hand-operated impact compactor or two drum vibratory roller. Compaction shall be performed on the same day that footing concrete subgrade protection or structural fill is to be placed and shall extend over the entire subgrade to compact any loose surface soil and loose surface pier aggregate.
4. Water shall not be allowed to accumulate in the footing excavations prior to concrete placement.
5. Excavation and surface compaction of the subgrade at a footings shall be the responsibility of the General Contractor.
6. The Geotechnical Consultant shall observe subgrade preparation immediately prior to placement of concrete subgrade protection or structural fill on Geopier elements. The Geotechnical Consultant's evaluations shall include assessing whether or not the footing bottoms, including matrix soils and top of Geopier element tops have been overexcavated more than three inches below the bottoms of the footing or subgrade protection layer, and have been kept free of water accumulation, and have been adequately densified with a hand-held mechanical compactor or two drum vibratory roller on the same day that the concrete or subgrade protection layer was placed.
7. In the event that footing bottom preparation as described above is not performed or documented in accordance with this section, any written or implied statement pertaining to the performance of the Rammed Aggregate Foundation Pier Foundation support shall be considered void.



TYP. GEOPIER ELEMENT UNDER FOOTING



TYP. GEOPIER ELEMENT, NO REST SUPPORT UNDER FOOTING



TABLE

Impacted Pier Type	Excavation Location	Backfill Material	Backfill Type
Slab	Inside Footprint	Initial Footprint	1
Slab	Outside Footprint	Outside Footprint	2
Foundation	Inside Footprint	Inside Footprint	1
Foundation	Outside Footprint	Outside Footprint	2

1. Compacted Structural Fill or fill provided and placed with the authorization from the Designer Designer.
2. Backfill material as required by project specifications or in accordance with recommendations provided by the Owner's Geotechnical Representative.

LIMITS OF GEOPIER ELEMENT IMPACTED BY ADJACENT EXCAVATION

DESIGN BUILD GEOTECHNICAL
11 Mount Royal Ave. Ste. 204
Marlborough, MA 01752
Tel: 508-597-3643
Fax: 508-485-1114
DESIGNING THE GEOPIER FOUNDATION SYSTEM