

City of Portland, Maine - Building or Use Permit Application

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

Permit No: 03-1423	PERMIT ISSUED FEB 18 2004	CBL: 029 K003001
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Location of Construction: 280 Fore St	Owner Name: Olympia Equity Investors V Llc	Owner Address: 50 Monument St 2nd Floor	Phone: 874-9990
Business Name:	Contractor Name: Ledgewood Inc.	Contractor Address: 27 Main Street South Portland	Phone: 2077671866
Lessee/Buyer's Name	Phone:	Permit Type: Foundation Only/Commercial	Zone: B-3

Past Use: Vacant Land	Proposed Use: 112,000 Sq.Ft. Office Building (4 Stories) with 2 levels of parking below	Permit Fee:	Cost of Work: \$0.00	CEO District: 1
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FIRE DEPT: <input type="checkbox"/> Approved <input checked="" type="checkbox"/> Denied BY W/LE MAC. 11/13/03	INSPECTION: Use Group: NA Type: FOUNDATION Signature: [Signature] Date: 11/14/03
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Proposed Project Description:
Foundation/Pilings ONLY

PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)
Action: Approved Approved w/Conditions Denied
Signature: _____ Date: _____

Permit Taken By: mjn	Date Applied For: 11/14/2003	Zoning Approval	
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<p>1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.</p> <p>2. Building permits do not include plumbing, septic or electrical work.</p> <p>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..</p>	<p>Special Zone or Reviews</p> <p><input type="checkbox"/> Shoreland</p> <p><input checked="" type="checkbox"/> Wetland <i>Foundation only</i></p> <p><input type="checkbox"/> Flood Zone</p> <p><input type="checkbox"/> Subdivision</p> <p><input type="checkbox"/> Site Plan</p> <p>Maj <input type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/></p> <p>OK Date: 11/14/03</p>	<p>Zoning Appeal</p> <p><input type="checkbox"/> Variance</p> <p><input type="checkbox"/> Miscellaneous</p> <p><input type="checkbox"/> Conditional Use</p> <p><input type="checkbox"/> Interpretation</p> <p><input type="checkbox"/> Approved</p> <p><input type="checkbox"/> Denied</p> <p>Date: _____</p>	<p>Historic Preservation</p> <p><input type="checkbox"/> Not in District or Landmark</p> <p><input type="checkbox"/> Does Not Require Review</p> <p><input type="checkbox"/> Requires Review</p> <p><input type="checkbox"/> Approved</p> <p><input type="checkbox"/> Approved w/Conditions</p> <p><input type="checkbox"/> Denied</p> <p>Date: _____</p>
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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

Applicant: OLYMPIA INVESTAS Date: 11/14/03

Address: 280 Fore ST C-B-L: 29-K-3

CHECK-LIST AGAINST ZONING ORDINANCE

Date - 11/14/03 H 03-1423

Zone Location - B-3

Foundation only

Interior or corner lot -

Proposed Use/Work - construct New 4 story office Bldg

Sewage Disposal - City with 2 levels of parking

Lot Street Frontage - 15' min - well over 50'

Front Yard - } none required unless along a street line, then
Rear Yard - } may not set back further than 5'

Side Yard - } - ok - City Bought part of corner

Projections - N/A

Width of Lot - N/A

Height - N/A

Lot Area - N/A

Lot Coverage/ Impervious Surface - 100% permitted

Area per Family -

Off-street Parking - over 50,000# which was determined by Planning Board

Loading Bays - " Approved

Site Plan - Major # 2003-0170

Shoreland Zoning/ Stream Protection - N/A

Flood Plains - panel 1A - Zone C

Application: *large commercial*
Address: 280 Forest / 65 Commercial St. ⁴²¹⁰⁴ ^{2/3/04} C.P.L.: 029-K-003

CHECK-LIST AGAINST ZONING ORDINANCE

Date - New

#03-1357

#04-0078

Zone Location - B-3

Interior or corner lot - *not in PAD → in PAD encouragement only*

Proposed Use/Work - Construct 112,000^{sq} office Bldg with parking

Sewage Disposal - city

Lot Street Frontage - 15' min req

Front Yard -

Rear Yard - *none req*

Side Yard - *Street wall built to line = 5' MAX - 0'-5' shown*

Projections -

Width of Lot - *None req*

Height - *35' min height - 35' + shown*
65' MAX height - 65' scaled to structural beam

Lot Area - NO min lot size

Lot Coverage/ Impervious Surface - *100% (based)*

Area per Family - *N/A*

Off-street Parking - *over 50,000^{sq}, parking was determined ok by Planning Bd per the ordinance*

Loading Bays - *shown*

Site Plan - #2003-0170

Shoreland Zoning/ Stream Protection - *N/A*

Flood Plains - *Panel 14 Zone C,*

Attachment A

Limitations

This report has been prepared for the exclusive use of Olympia Equity Investors for specific application to the Proposed Fore Street Office Building on Fore Street and Franklin Street Arterial in Portland, Maine. S. W. COLE ENGINEERING, INC. has endeavored to conduct the work in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made.

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

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

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

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

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



BORING LOG

BORING NO.: **B-301**
 SHEET: **1 OF 1**
 PROJECT NO.: **03-0711 S**
 DATE START: **8/20/2003**
 DATE FINISH: **8/20/2003**
 ELEVATION: **13' +/-**
 SWC REP.: **RPB**

PROJECT / CLIENT: **PROPOSED FORE STREET OFFICE BUILDING / OLYMPIA EQUITY INVESTORS**
 LOCATION: **FORE STREET AND FRANKLIN STREET ARTERIAL / PORTLAND, MAINE**
 DRILLING FIRM: **GREAT WORKS TEST BORING, INC** DRILLER: **DAVID DIONNE**

CASING: TYPE **HSA** SIZE I.D. **4 1/4"** HAMMER WT. **140 LB** HAMMER FALL **30"**
 SAMPLER: **SS** **1 3/8"** **140 LB** **30"**
 CORE BARREL: _____

WATER LEVEL INFORMATION
 NO FREE WATER OBSERVED

CASING BLOWS PER FOOT	SAMPLE				SAMPLER BLOWS PER 6"				DEPTH	STRATA & TEST DATA
	NO.	PEN.	REC.	DEPTH @ BOT	0-6	6-12	12-18	18-24		
	1D	24"	14"	2.0'	2	3	14	14	5"	GRASS AND TOPSOIL
										BROWN FINE TO MEDIUM SAND WITH SOME GRAVEL AND SILT (FILL) ~ MEDIUM DENSE TO DENSE ~
	2D	9"	2"	5.8'	42	50-3"			6.1'	
										PROBABLE BEDROCK' REFUSAL @ 6.1'

SAMPLES: D = SPLIT SPOON C = 3" SHELBY TUBE U = 3.5" SHELBY TUBE	SOIL CLASSIFIED BY: <input type="checkbox"/> <input checked="" type="checkbox"/> DRILLER - VISUALLY <input type="checkbox"/> SOIL TECH. - VISUALLY <input type="checkbox"/> LABORATORY TEST	REMARKS: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.	2
			BORING NO.: B-301



BORING LOG

BORING NO.: **B-302**
 SHEET: **1 OF 1**
 PROJECT NO.: **03-0711 S**
 DATE START: **8/20/2003**
 DATE FINISH: **8/20/2003**
 ELEVATION: **13' +/-**
 SWC REP.: **RPB**

PROJECT / CLIENT: **PROPOSED FORE STREET OFFICE BUILDING / OLYMPIA EQUITY INVESTORS**
 LOCATION: **FORE STREET AND FRANKLIN STREET ARTERIAL / PORTLAND, MAINE**
 DRILLING FIRM: **GREAT WORKS TEST BORING, INC** DRILLER: **DAVID DIONNE**

CASING: TYPE **HSA** SIZE I.D. **4 1/4"** HAMMER WT. **140 LB** HAMMER FALL **30"**
 SAMPLER: TYPE **SS** SIZE I.D. **1 3/8"** HAMMER WT. **140 LB** HAMMER FALL **30"**
 CORE BARREL: _____

WATER LEVEL INFORMATION
 WATER IN AUGERS @ 11 FEET

CASING BLOWS PER FOOT	SAMPLE				SAMPLER BLOWS PER 6"				DEPTH	STRATA & TEST DATA
	NO.	PEN.	REC.	DEPTH @ BOT	0-6	6-12	12-18	18-24		
									3.5'	BITUMINOUS CONCRETE PAVEMENT
	1D	24"	12"	2.0'	9	10	11	9		BROWN GRAVELLY FINE TO MEDIUM SAND WITH SOME SILT (FILL) ~ MEDIUM DENSE ~
									4' +/-	
	2D	24"	20"	7.0'	2	2	2	1		BLACK SILTY SAND WITH GRAVEL, COAL, DECOMPOSING WOOD (FILL) ~ LOOSE ~
	3D	24"	18"	12.0'	1	1	1	1		
	4D	24"	20"	17.0'	8	4	3	3		
									21.4'	
	5D	24"	20"	22.0'	2	1	1	2		GRAY FINE SAND AND SILT WITH SOME CLAY ~ MEDIUM DENSE ~
									26.2'	
	6D	24"	20"	27.0'	6	11	9	8		BROWN GRAVELLY SAND WITH SOME SILT MEDIUM DENSE ~
									30.5'	
	7D	5"	3"	30.4'	50-5"					PROBABLE BEDROCK REFUSAL @ 30.5'

SAMPLES: D = SPLIT SPOON
 C = 3" SHELBY TUBE
 U = 3.5" SHELBY TUBE

SOIL CLASSIFIED BY: DRILLER - VISUALLY
 SOIL TECH. - VISUALLY
 LABORATORY TEST

REMARKS: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.

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BORING NO.: **B-302**



BORING LOG

BORING NO.: **B-303**
 SHEET: **1 OF 1**
 PROJECT NO.: **03-0711 S**
 DATE START: **8/20/2003**
 DATE FINISH: **8/20/2003**
 ELEVATION: **13' +/-**
 SWC REP.: **RPB**

PROJECT / CLIENT: **PROPOSED FORE STREET OFFICE BUILDING / OLYMPIA EQUITY INVESTORS**
 LOCATION: **FORE STREET AND FRANKLIN STREET ARTERIAL / PORTLAND, MAINE**
 DRILLING FIRM: **GREAT WORKS TEST BORING, INC** DRILLER: **DAVID DIONNE**

	TYPE	SIZE I.D.	HAMMER WT.	HAMMER FALL
CASING:	HSA	4 1/4"		
SAMPLER:	SS	1 3/8"	140 LB	30"
CORE BARREL:	NQ	2"		

WATER LEVEL INFORMATION
 WATER @ 8.4 IN OPEN HOLE 24 HRS
 FOLLOWING DRILLING (8/21/03)

CASING BLOWS PER FOOT	SAMPLE				SAMPLER BLOWS PER 8"				DEPTH	STRATA & TEST DATA
	NO.	PEN.	REC.	DEPTH @ BOT	0-6	6-12	12-18	18-24		
									5"	GRASS AND TOPSOIL
	1D	24"	12"	2.0'	1	3	4	5		BROWN FINE TO MEDIUM SAND WITH SOME GRAVEL AND SILT (FILL) ~ LOOSE TO MEDIUM DENSE ~
									5.0'	
	1R	60"	30"	10.0'						BEDROCK (SEE ROCK CORE LOG)
	2R	60"	44"	15.0'					15.0'	
										BOTTOM OF EXPLORATION @ 15.0'

SAMPLES: SOIL CLASSIFIED BY:
 D = SPLIT SPOON DRILLER - VISUALLY
 C = 3" SHELBY TUBE SOIL TECH. - VISUALLY
 U = 3.5" SHELBY TUBE LABORATORY TEST

REMARKS: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.

4

BORING NO.: **B-303**



BORING LOG

BORING NO.: **B-304**
 SHEET: **1 OF 1**
 PROJECT NO.: **03-0711 S**
 DATE START: **8/21/2003**
 DATE FINISH: **8/21/2003**
 ELEVATION: **13' +/-**
 SWC REP.: **RPB**

PROJECT / CLIENT: **PROPOSED FORE STREET OFFICE BUILDING / OLYMPIA EQUITY INVESTORS**
 LOCATION: **FORE STREET AND FRANKLIN STREET ARTERIAL / PORTLAND, MAINE**
 DRILLING FIRM: **GREAT WORKS TEST BORING, INC** DRILLER: **DAVID DIONNE**

CASING: TYPE **HSA** SIZE I.D. **4 1/4"** HAMMER WT. **140 LB** HAMMER FALL **30"**
 SAMPLER: TYPE **SS** SIZE I.D. **1 3/8"** HAMMER WT. **140 LB** HAMMER FALL **30"**
 CORE BARREL: _____

WATER LEVEL INFORMATION

CASING BLOWS PER FOOT	SAMPLE				SAMPLER BLOWS PER FOOT				DEPTH	STRATA & TEST DATA
	NO.	PEN.	REC.	DEPTH @ BOT	0-6	6-12	12-18	18-24		
	1D	24"	18"	2.0'	26	34	22	13	3.5"	BITUMINOUS CONCRETE PAVEMENT
									3.0'	GRAVEL AND SAND WITH SOME SILT (BASE & SUBBASE) ~ DENSE ~
	2D	24"	18"	7.0'	3	3	5	2		BLACK SANDY SILT WITH GRAVEL, COAL, ASH, DECOMPOSING WOOD, METAL, CINDERS (FILL) ~ LOOSE TO MEDIUM DENSE ~
	3D	24"	14"	12.0'	2	1	2	1		
	4D	24"	16"	17.0'	1	2	7	6		
	5D	24"	20"	22.0'	9	6	8	6	21.5'	
	6D	24"	24"	27.0'	3	8	8	11	27.0'	LAYERS OF GRAY SILTY CLAY AND SILTY FINE SAND ~ MEDIUM DENSE ~
	7D	5"	5"	30.4'	60-5"				30.5'	GRAY GRAVELLY SAND WITH SOME SILT ~ DENSE ~
										PROBABLE BEDROCK REFUSAL @ 30.4'

SAMPLES: SOIL CLASSIFIED BY:
 D = SPLIT SPOON
 C = 3" SHELBY TUBE
 U = 3.5" SHELBY TUBE

DRILLER - VISUALLY
 SOIL TECH. - VISUALLY
 LABORATORY TEST

REMARKS:
 STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.



BORING LOG

BORING NO.: **B-306**
 SHEET: **1 OF 1**
 PROJECT NO.: **03-0711 S**
 DATE START: **8/20/2003**
 DATE FINISH: **8/20/2003**
 ELEVATION: **14' +/-**
 SWC REP.: **RPB**

PROJECT / CLIENT: **PROPOSED FORE STREET OFFICE BUILDING / OLYMPIA EQUITY INVESTORS**
 LOCATION: **FORE STREET AND FRANKLIN STREET ARTERIAL / PORTLAND, MAINE**
 DRILLING FIRM: **GREAT WORKS TEST BORING, INC** DRILLER: **DAVID DIONNE**

CASING: TYPE **HSA** SIZE I.D. **4 1/4"** HAMMER WT. **140 LB** HAMMER FALL **30"**
 SAMPLER: **SS** SIZE I.D. **1 3/8"** HAMMER WT. **140 LB** HAMMER FALL **30"**
 CORE BARREL: _____

WATER LEVEL INFORMATION
NO FREE WATER OBSERVED

CASING BLOWS PER FOOT	SAMPLE				SAMPLER BLOWS PER 6"				DEPTH	STRATA & TEST DATA
	NO.	PEN.	REC.	DEPTH @ BOT	0-6	6-12	12-18	18-24		
									3.5'	BITUMINOUS CONCRETE PAVEMENT GRAVEL AND SAND WITH SOME SILT (BASE & SUBBASE)
	1D	24"	14"	2.0'	9	15	19	22	1.8'	
										DARK BROWN SILTY SAND WITH COAL AND BRICK FRAGMENTS (FILL) - MEDIUM DENSE -
	2D	24"	2"	7.0'	6	5	5	5		
										PROBABLE BEDROCK REFUSAL @ 12.6'
	3D	24"	20"	12.0'	2	11	20	28	12.6'	

SAMPLES: D = SPLIT SPOON
 C = 3" SHELBY TUBE
 U = 3.5" SHELBY TUBE

SOIL CLASSIFIED BY: DRILLER - VISUALLY
 SOIL TECH. - VISUALLY
 LABORATORY TEST

REMARKS: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.

(7)

BORING NO.: **B-306**



BORING LOG

BORING NO.: **B-307**
 SHEET: 1 OF 1
 PROJECT NO.: 03-0711 S
 DATE START: 8/20/2003
 DATE FINISH: 8/20/2003
 ELEVATION: 13' +/-
 SWC REP.: RPB

PROJECT / CLIENT: **PROPOSED FORE STREET OFFICE BUILDING / OLYMPIA EQUITY INVESTORS**
 LOCATION: **FORE STREET AND FRANKLIN STREET ARTERIAL / PORTLAND, MAINE**
 DRILLING FIRM: **GREAT WORKS TEST BORING, INC** DRILLER: **DAVID DIONNE**

CASING: TYPE **HSA** SIZE I.D. **4 1/4"** HAMMER WT. **140 LB** HAMMER FALL **30"**
 SAMPLER: **SS** SIZE I.D. **1 3/8"** HAMMER WT. **140 LB** HAMMER FALL **30"**
 CORE BARREL: _____

WATER LEVEL INFORMATION

CASING BLOWS PER FOOT	SAMPLE				SAMPLER BLOWS PER 6"				DEPTH	STRATA & TEST DATA
	NO.	PEN.	REC.	DEPTH @ BOT	0-6	6-12	12-18	18-24		
									3.5'	BITUMINOUS CONCRETE PAVEMENT
	1D	24"	14"	2.0'	12	13	20	14	1.8'	GRAVEL AND SAND WITH SOME SILT (BASE & SUBBASE)
	2D	24"	20"	7.0'	5	6	7	7		BLACK SILT AND SAND WITH GRAVEL, COAL, ASH, DECOMPOSING WOOD, BRICK, CONCRETE (FILL)
										~ LOOSE TO MEDIUM DENSE ~
	3D	24"	14"	12.0'	3	2	3	2		
									16.3'	
	4D	24"	20"	17.0'	3	4	7	8		GRAY SILTY FINE SAND ~ MEDIUM DENSE ~
									21.0'	
	5D	24"	20"	22.0'	12	17	19	17		BROWN GRAVELLY SILTY SAND ~ MEDIUM DENSE ~
									25.5'	
	6D	24"	22"	27.0'	9	8	13	14		GRAY SILTY FINE SAND
									29.0'	
									30.2'	PROBABLE WEATHERED BEDROCK
	7D	2"	2"	30.2'	50-2"					PROBABLE BEDROCK REFUSAL @ 30.2'

SAMPLES: D = SPLIT SPOON
 C = 3" SHELBY TUBE
 U = 3.5" SHELBY TUBE

SOIL CLASSIFIED BY: DRILLER - VISUALLY
 SOIL TECH. - VISUALLY
 LABORATORY TEST

REMARKS: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.



AUGER PROBE LOG

BORING NO.: P-308

SHEET: 1 OF 1

PROJECT NO.: 03-0711 S

PROJECT / CLIENT: PROPOSED FORE STREET OFFICE BUILDING / OLYMPIA EQUITY INVESTORS

DATE START: 8/20/2003

LOCATION: FORE STREET AND FRANKLIN STREET ARTERIAL / PORTLAND, MAINE

DATE FINISH: 8/20/2003

DRILLING FIRM: GREAT WORKS TEST BORING, INC DRILLER: DAVID DIONNE

ELEVATION: 13' +/-

CASING: TYPE SSA SIZE O.D. 4" HAMMER WT. 140 LB HAMMER FALL 30"

SWC REP.: RPB

SAMPLER: SS 1 3/8" 140 LB 30"

WATER LEVEL INFORMATION
NO FREE WATER OBSERVED

CORE BARREL: _____

CASING BLOWS PER FOOT	SAMPLE			DEPTH @ BOT	SAMPLER BLOWS PER 6"				DEPTH	STRATA & TEST DATA
	NO.	PEN.	REC.		0-6	6-12	12-18	18-24		
										<p>PROBABLE MISCELLANEOUS FILL (NO SAMPLING AUGER PROBE)</p> <hr/> <p>18.0'</p> <hr/> <p>PROBABLE GRANULAR SOILS (NO SAMPLING -- AUGER PROBE)</p> <hr/> <p>21.0'</p> <hr/> <p>PROBABLE BEDROCK REFUSAL @ 21.0'</p>

SAMPLES: D = SPLIT SPOON C = 3" SHELBY TUBE U = 3.5" SHELBY TUBE	SOIL CLASSIFIED BY: <input type="checkbox"/> DRILLER - VISUALLY <input checked="" type="checkbox"/> SOIL TECH. - VISUALLY <input type="checkbox"/> LABORATORY TEST	REMARKS: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.	<div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center;">9</div>
			BORING NO.: P-308



KEY TO THE NOTES & SYMBOLS
Test Boring and Test Pit Explorations

All stratification lines represent the approximate boundary between soil types and the transition may be gradual.

Key to Symbols Used:

- w - water content, percent (dry weight basis)
- q_u - unconfined compressive strength, kips/sq. ft. - based on laboratory unconfined compressive test
- S_v - field vane shear strength, kips/sq. ft.
- L_v - lab vane shear strength, kips/sq. ft.
- q_p - unconfined compressive strength, kips/sq. ft. based on pocket penetrometer test
- O - organic content, percent (dry weight basis)
- W_L - liquid limit - Atterberg test
- W_P - plastic limit - Atterberg test
- WOH - advance by weight of hammer
- WOM - advance by weight of man
- WOR - advance by weight of rods
- HYD - advance by force of hydraulic piston on drill
- RQD - Rock Quality Designator - an index of the quality of a rock mass. RQD is computed from recovered core samples.
- γ_T - total soil weight
- γ_B - buoyant soil weight

Description of Proportions:

- 0 to 5% TRACE
- 5 to 12% SOME
- 12 to 35% "Y"
- 35+% AND

REFUSAL: Test Boring Explorations - Refusal depth indicates that depth at which, in the drill foreman's opinion, sufficient resistance to the advance of the casing, auger, probe rod or sampler was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

REFUSAL: Test Pit Explorations - Refusal depth indicates that depth at which sufficient resistance to the advance of the backhoe bucket was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

Although refusal may indicate the encountering of the bedrock surface, it may indicate the striking of large cobbles, boulders, very dense or cemented soil, or other buried natural or man-made objects or it may indicate the encountering of a harder zone after penetrating a considerable depth through a weathered or disintegrated zone of the bedrock.

PROJECT: Proposed Fore Street Office Building

 BORING NO.: B-303

 CLIENT: Olympia Equity Investors

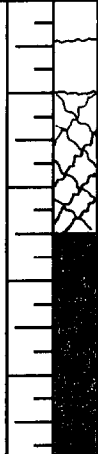

 PROJECT NO.: 03-0711 S

 LOGGED BY: MTT DATE: 8/28/03

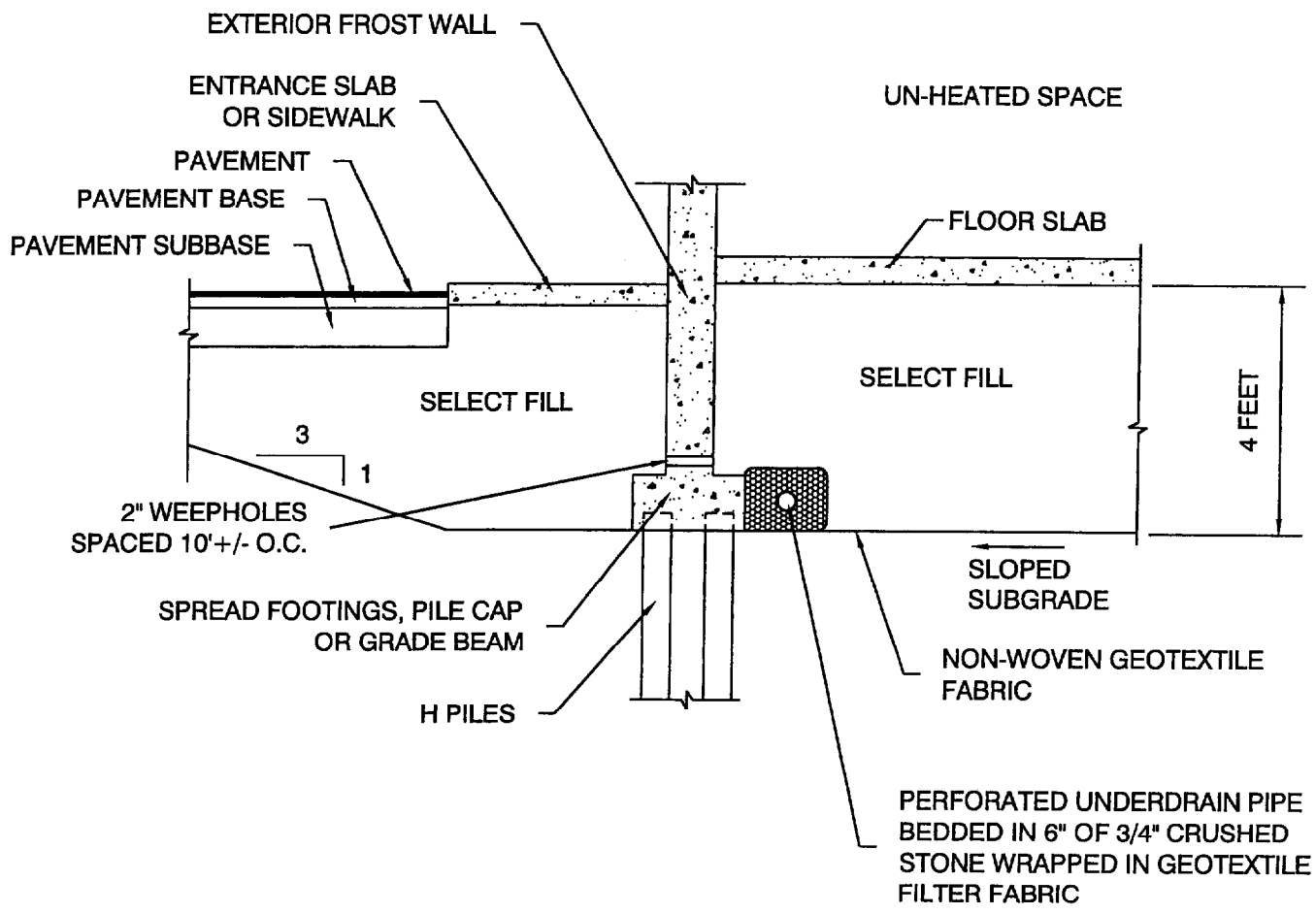
SHEET NO.: _____

CHECKED BY: _____ DATE: _____

 CORE SIZE: NO 2"

DEPTH BELOW SURFACE (FT)	CORE RUN	CORE INTERVAL (FT)	CORE RECOVERY (FT)	RQD (%)	ROCK QUALITY	GRAPHIC LOG	ROCK DESCRIPTION AND IDENTIFICATION
5.0'	1R	60"	30"	10/60			Gray to greenish quartzite - Very Fractured, with quartz veins, Fracture angles at 30 to 70 degrees from horizontal, moderately hard and slightly weathered.
10.0'				17%			
10.0'	2R	60"	44"	12/60			~ same as 1R ~
15.0'				22%			
							Bottom of Exploration @ 15.0'

3-07 3-07 3-07d.d.wg, model, 03/26 10:31.00 AM, DA . . . W. Cole Engineering, Inc., 1:1



NOTE:
 1. UNDERDRAIN INSTALLATION AND MATERIAL GRADATION REQUIREMENTS ARE CONTAINED WITHIN THIS REPORT.

OLYMPIA EQUITY INVESTORS
UNDERDRAIN DETAIL
 Proposed Fore Street Office Building
 Fore Street and Franklin Street Arterial
 Portland, Maine

Job No. 03-0711 S	Scale Not to Scale
Date : 09/03/03	Sheet 13

APPENDIX A
2000 EXPLORATIONS

S.W. COLE

ENGINEERING, INC.
GEOTECHNICAL CONSULTANTS

BORING LOG

PROJECT / CLIENT: PROPOSED HOTEL / XXXXXXXXXX
 LOCATION: COMMERCIAL STREET / PORTLAND, MAINE
 DRILLING FIRM: GREAT WORKS TEST BORINGS, INC. DRILLER: JEFF LEE

BORING NO.: B-101
 SHEET: 1 OF 1
 PROJECT NO.: 00-0066
 DATE START: 2/10/00
 DATE FINISH: 2/10/00
 ELEVATION: 13 7/8 ft
 SWC REP.: MTT

CASING: TYPE CASED SIZE I.D. 4" HAMMER WT. HAMMER FALL
 SAMPLER: S.S. 1 3/8" 140 lb 30"
 CORE BARREL:

WATER LEVEL INFORMATION

CASING ELEVATION RET. ELEV.	SAMPLE				SAMPLER BLOWS PER 6"				DEPTH (ft)	STRATA & TEST DATA
	NO.	PEN.	REC.	DEPTH @ BOT	0-6	6-12	12-18	18-24		
	S1	18"	12"	3.5'	4	4	4	25/0	5.5'	BLACK SAND AND SILT WITH WOOD, ASH AND BRICK (FILL) -LOOSE-
	S2	24"	18"	7.0'	2	3	1	2	9.0'	BROWN SILTY SAND WITH BRICK (FILL) -LOOSE-
	S3	24"	16"	12.0'	2	2	3	5	16.0'	BLACK SAND AND SILT WITH WOOD, ASH AND BRICK (FILL) -LOOSE-
	S4	3"	0"	15.2'	50/3				16.0'	
	R1	59"		21.9'					21.9'	QUARTZITE - BEDROCK (SEE ATTACHED CORE LOG) RQD = 39%
										BOTTOM OF EXPLORATION @ 21.9'

NOTES:
 ○ = SPLIT SPOON
 △ = SHELBY TUBE
 ▽ = 1.5" SHELBY TUBE

SOIL CLASSIFIED BY:
 DRILLER - VISUALLY
 SOIL TECH.-VISUALLY
 LABORATORY TEST

REMARKS:
 STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.

S.W. COLE

ENGINEERING, INC.
GEOTECHNICAL CONSULTANTS

BORING LOG

BORING NO.: B-102
 SHEET: 1 OF 1
 PROJECT NO.: 00-0066
 DATE START: 2/10/00
 DATE FINISH: 2/10/00
 ELEVATION: 12.5 7. ft
 SWC REP.: MTT

PROJECT / CLIENT: PROPOSED HOTEL / [REDACTED]
 LOCATION: COMMERCIAL STREET / PORTLAND, MAINE
 DRILLING FIRM: GREAT WORKS TEST BORINGS, INC. DRILLER: JEFF LEE

CASING: TYPE S.S.A. SIZE I.D. HAMMER WT. HAMMER FALL
 SAMPLER: TYPE S.S. SIZE I.D. 1 3/8" HAMMER WT. 140 lb HAMMER FALL 30"
 CORE BARREL:

WATER LEVEL INFORMATION
WATER @ 7.2' ON 2/15/00

CASING BLW / PER FOOT	SAMPLE				SAMPLER BLOWS PER FOOT				DEPTH	STRATA & TEST DATA
	NO.	PEN.	REC.	DEPTH @ BOT	0-6	6-12	12-18	18-24		
	S1	24"	12"	4.0'	5	3	6	11		BLACK SAND AND SILT WITH WOOD, ASH AND BRICK (FILL) ~LOOSE TO MEDIUM DENSE~
	S2	24"	12"	7.0'	3	7	4	3		
	S3	24"	18"	12.0'	8	4	4	19		
	S4	0"	0"	15.0'	50/0				15.0'	
										REFUSAL @ 15.0' (PROBABLE BEDROCK)
										NOTE: MONITORING WELL INSTALLED @ 15.0' 5' SCREEN, SAND BACK FILL CASED STAND PIPE

SAMPLES: SOIL CLASSIFIED BY: DRILLER - VISUALLY
 SOIL TECH.-VISUALLY
 LABORATORY TEST

REMARKS: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.

BORING NO.: **B-102**

S.W.COLE

ENGINEERING, INC.
GEOTECHNICAL CONSULTANTS

BORING LOG

BORING NO.: B-103
 SHEET: 1 OF 2
 PROJECT NO.: 00-0066
 DATE START: 2/10/00
 DATE FINISH: 2/10/00
 ELEVATION: 13.5 +/- ft
 SWC REP.: MTT

PROJECT / CLIENT: PROPOSED HOTEL / [REDACTED]
 LOCATION: COMMERCIAL STREET / PORTLAND, MAINE
 DRILLING FIRM: GREAT WORKS TEST BORINGS, INC. DRILLER: JEFF LEE

CASING: S.S.A.
 SAMPLER: S.S. 1 3/8" 140 lb 30"
 CORE BARREL: _____

WATER LEVEL INFORMATION
 SOILS SATURATED BELOW 7+/- FT

CASING FLOWS PER FOOT	SAMPLE			SAMPLER BLOWS PER FOOT				DEPTH	STRATA & TEST DATA
	NO.	PEN.	REC.	DEPTH @ BOT	0-6	6-12	12-18		
	S1	24"	20"	4.0'	12	17	14	12	BLACK SAND AND SILT WITH WOOD, ASH AND BRICK (FILL) -MEDIUM DENSE TO LOOSE-
	S2	24"	18"	7.0'	4	4	2	3	
	S3	24"	12"	12.0'	2	3	4	2	
								14.0'	
	S4	24"	24"	17.0'	5	5	10	10	GRAY SAND WITH SOME GRAVEL (FILL) -MEDIUM DENSE-
								19.0'	
	S5	24"	24"	22.0'	5	8	11	10	DARK GRAY SAND WITH FRAGMENTS OF WOOD -MEDIUM DENSE-
								24.0'	
	S6	24"	10"	27.0'	4	2	2	3	GRAY SILTY CLAY $q_p = 0.0-0.5$ ksf -SOFT-
								29.0'	
	S7	24"	8"	32.0'	WOR	2	6	5	GRAY SILTY SAND -LOOSE-
								34.0'	
	S8	24"	12"	37.0'	3	11	19	17	BROWN SILTY SAND (GLACIAL TILL) -DENSE-
									(CONTINUED)

SAMPLES: _____
 SOIL CLASSIFIED BY: _____
 _____ DRILLER - VISUALLY
 _____ X SOIL TECH. VISUALLY
 _____ LABORATORY TEST

REMARKS: STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.

(4)

BORING NO.: **B-103**

PROJECT NAME / LOCATION: **PROPOSED HOTEL / PORTLAND, MAINE**

LOGGED BY **MTT** DATE **2/15/00**

CHECKED BY **GWB** DATE **2/18/00**

DEPTH BELOW SURFACE (ft)	CORE RUN	CORE INTERVAL (in)	CORE RECOVERY (in)	RQD%	ROCK QUALITY	GRAPHIC LOG	ROCK DESCRIPTION AND IDENTIFICATION
17.0'	R1	59"	59"	39%	POOR		<p>GRAY TO GREENISH QUARTZITE - VERY FRACTURED, FRACTURE ANGLES AT 30 TO 70 DEGREES FROM HORIZONTAL, MODERATELY HARD AND SLIGHTLY WEATHERED</p> <p>HIGHLY FRACTURED ZONE</p>
21.9'							<p>BOTTOM OF EXPLORATION @ 21.9'</p>

H.B. FLEMING

89 PLEASANT AVE
SOUTH PORTLAND, MAINE 04106
Phone: 207-799-8514 Fax: 207-799-8538
www.HBFLEMING.com

**RECEIVED**

SUBMITTAL**Submitted To:**

Client: Ledgewood Inc.
Attention: Kevin French
PETER BERNARD

Date: 10/27/03
Project: Fore St. Office Build.
Location: Portland, Maine

LEDGEWOOD, INC**Subject: Pile Driving Criteria**

H.B. Fleming Proposes to use the following driving criteria for the piles to be installed at the above location.

Hammer

- An MKT DE-42 open ended diesel pile hammer will be used to drive the piles. The DE-42 has a ram weight of 4,200 lbs, a maximum stroke of 10'6", and a rated energy of 42,000 ft-lbs.
- The hammer cushioning material consists of 2.5 inches of Hamortex material.

Pile

- HP12x53 ASTM A572 Gr. 50 steel piles.
- The design capacity is 90 tons.
- The Ultimate Capacity which we based our analysis on is 202.5 tons
- Piles will be fitted with cast steel driving points.

Results

- Test piles will be driven until a blow count of 7 blows per inch for three consecutive inches is obtained.
- These criteria are based upon the output generated from the WEAP analysis that follows. Testing of driven piles will determine whether the above criteria are used throughout the project or if any adjustments need to be made.

Signed: _____

"SCOTTY"

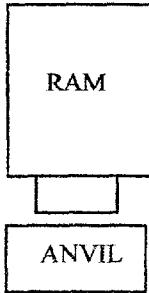
John Linscott IV "Scotty"

H.B. FLEMING PILE EQUIPMENT DATA SHEET

Project: Fore St. Office Build.
 Location: Portland, ME

Date: 10/27/03
 Client: Ledgeswood Inc.

HAMMER



Manufacturer:	MKT
Model:	DE-42
Type:	Single Acting Diesel
Length of Stroke:	10' - 6"
Rated Energy at Given Stroke:	42,000 ft-lb
Modifications:	None

HAMMER CUSHION



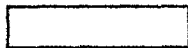
Material:	Hamortex
Thickness:	2.5"
Area:	285 in ²
Modulus of Elasticity:	29,000 psi
Coefficient of Restitution:	0.8

DRIVE HEAD



Weight:	1600 lb
---------	---------

PILE CUSHION



Cushion Material:	N/A
Thickness:	N/A
Modulus of Elasticity:	N/A
Coefficient of Restitution:	N/A

PILE

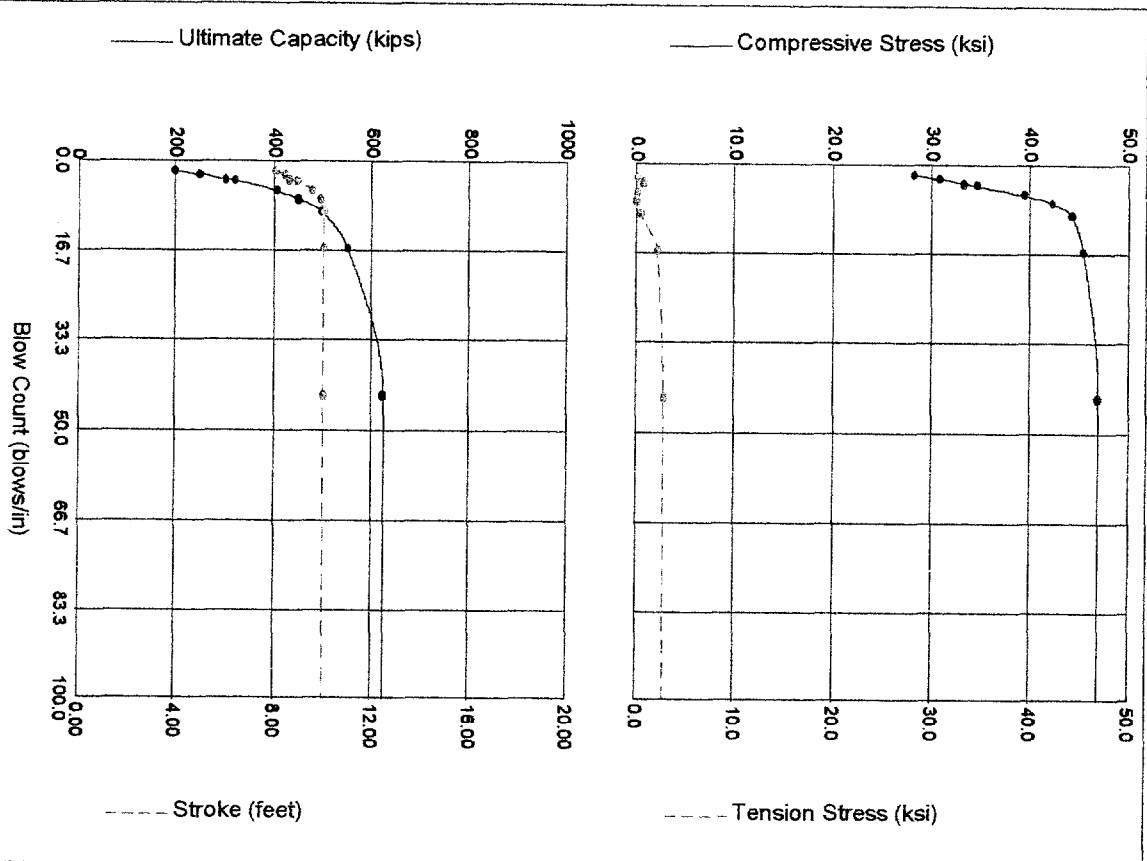


Pile Type:	HP12x53
Length in Leads:	Up to 30'
Weight/LF:	53 lb
Wall Thickness:	.435"
Taper:	N/A
Cross Sectional Area:	15.5 in ²
Design Capacity of Pile:	90 tons
Splice Description:	Full Penetration Butt Weld
Tip Treatment Description:	Cast Steel Point

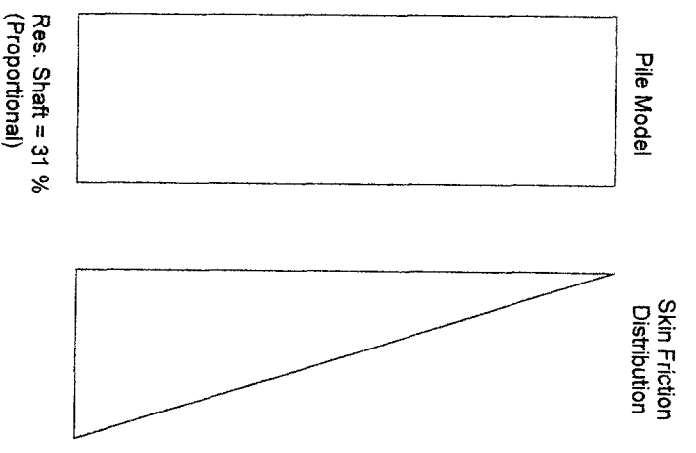
H.B. Fleming
: 10/27/2003 :

27-Oct-2003
GRLWEAP(TM) Version 1998-2

Ultimate Capacity kips	Maximum Compression Stress ksi	Maximum Tension Stress ksi	Blow Count blows/in	Stroke feet	Energy kips-ft
200.0	28.145	0.000	2.1	8.06	16.82
250.0	30.808	0.175	2.8	8.42	16.60
300.0	33.227	0.870	3.6	8.60	16.29
320.0	34.646	0.734	3.8	8.93	16.74
405.0	39.490	0.135	5.6	9.56	17.35
450.0	42.282	0.033	7.1	9.88	17.62
495.0	44.296	0.458	9.5	10.00	17.62
550.0	45.514	2.222	16.3	10.00	16.86
625.0	47.090	2.855	43.5	10.00	16.58
700.0	47.968	2.822	9999.0	10.00	16.55



MKT	DE 42/35
Efficiency	0.720
Helmet	1.60 kips
Hammer Cushion	14175 kips/in
Skin Quake	0.100 in
Toe Quake	0.040 in
Skin Damping	0.050 sec/ft
Toe Damping	0.150 sec/ft
Pile Length	30.98 ft
Pile Top Area	15.50 in ²



CONSTANT CAPACITY

H.B. Fleming
: 10/27/2003 :

27-Oct-2003
GRLWEAP(TM) Version 1998-2

Ultimate Capacity kips	Maximum Compression Stress ksi	Maximum Tension Stress ksi	Blow Count blows/in	Stroke feet	Energy kips-ft
405.0	30.233	1.784	36.2	5.00	7.56
405.0	31.739	1.776	20.4	5.56	8.84
405.0	33.276	1.409	14.4	6.11	10.08
405.0	34.502	1.197	11.3	6.67	11.24
405.0	35.399	0.547	9.3	7.22	12.42
405.0	36.300	1.181	8.0	7.78	13.58
405.0	37.286	0.584	7.1	8.33	14.76
405.0	38.284	0.399	6.3	8.89	15.93
405.0	39.250	0.133	5.8	9.44	17.06
405.0	40.133	0.001	5.3	10.00	18.22

City of Portland, Maine - Building or Use Permit

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

Permit No: 03-1423	Date Applied For: 11/14/2003	CBL: 029 K003001
------------------------------	--	----------------------------

Location of Construction: 280 Fore St	Owner Name: Olympia Equity Investors V Llc	Owner Address: 50 Monument Sq 2nd Floor	Phone: () 874-9990
Business Name:	Contractor Name: Ledgewood Inc.	Contractor Address: 27 Main Street South Portland	Phone: (207) 767-1866
Lessee/Buyer's Name	Phone:	Permit Type: Foundation Only/Commercial	

Proposed Use: 112,000 Sq.Ft. Office Building (4 Stories) with 2 levels of parking below	Proposed Project Description: Foundation/Pilings ONLY
---	---

Dept: Zoning **Status:** Approved **Reviewer:** Marge Schmuckal **Approval Date:** 11/14/2003
Note: FOR FOUNDATION ONLY **Ok to Issue:**

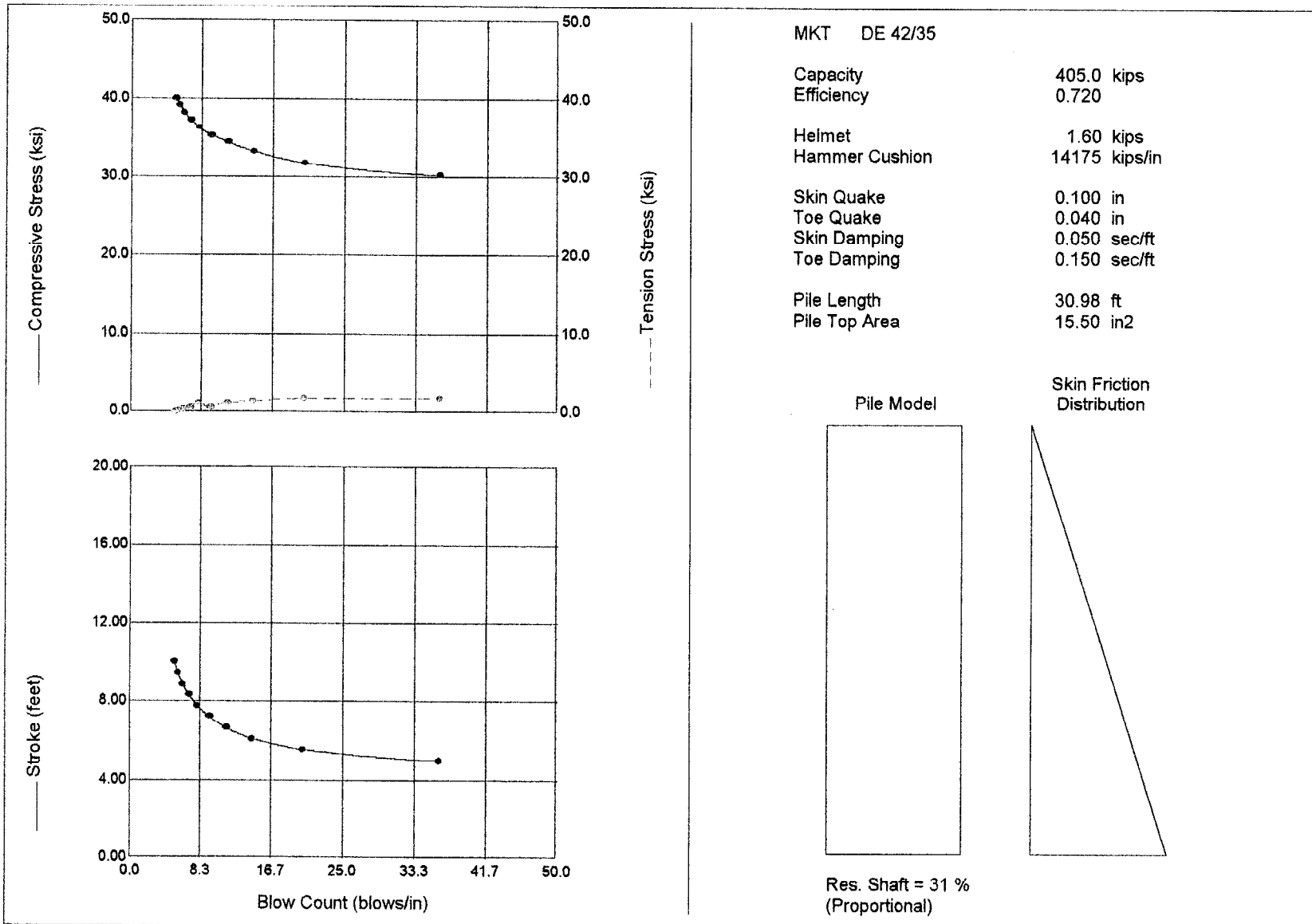
Dept: Building **Status:** Approved with Conditions **Reviewer:** Mike Nugent **Approval Date:** 11/14/2003
Note: **Ok to Issue:**
1) Piling installation must be conducted in complete conformance with Section 1816 of the Code.
Including required Geotechnical field inspections. MJN

Dept: Fire **Status:** Approved **Reviewer:** Lt. MacDougal **Approval Date:** 11/14/2003
Note: **Ok to Issue:**
1) Verbally oked by mac on 11/13/03 FOUNDATION ONLY

CONSTANT CAPACITY

H.B. Fleming
: 10/27/2003 :

27-Oct-2003
GRLWEAP (TM) Version 1998-2



From: William Needelman
To: Marge Schmuckal
Date: Fri, Jan 30, 2004 10:20 AM
Subject: Re: 280 Fore Street - Olympia Equity Investors

Marge,

These plans will come as soon as they are printed. Early next week.

With the foundation plan issued, there have been a couple of lingering issues that needed to be resolved for the final ok: mostly around site lighting.

The issues have been resolved and you are absolutely in the right that I should have given you the plans before now. I apologize.

Bill

>>> Marge Schmuckal 01/29 4:59 PM >>>

Bill,

Is there an stamped approved site plan for this yet? The last I spoke with you, last year, they were revising the street corner on Fore and the Arterial. I need the stamped approved site plan now for the final building permit. The foundation permit was issued only on you word that it was coming. We need the real thing now.

Thanks,

Marge

Received stamped
plans 2/3/04

From: Marge Schmuckal
To: William Needleman
Date: Thu, Jan 29, 2004 4:59 PM
Subject: 280 Fore Street - Olympia Equity Investors

Bill,

Is there an stamped approved site plan for this yet? The last I spoke with you, last year, they were revising the street corner on Fore and the Arterial. I need the stamped approved site plan now for the final building permit. The foundation permit was issued only on your word that it was coming. We need the real thing now.

Thanks,
Marge

Applicant: Ledge wood INC

Date: 2/3/04

Address: 280 Forest / 65 Commercial St. C.B.L.: 029-K-003

CHECK-LIST AGAINST ZONING ORDINANCE

03-1357

Date - New

04-0078

Zone Location - B-3

Interior or corner lot - Not in PAD → in PAD encouragement only

Proposed Use/Work - Construct 112,000^{sq} office Bldg with parking

Sewage Disposal - City

Lot Street Frontage - 15' min req

Front Yard -

Rear Yard - none req

Side Yard - Street wall built-to-line = 5' max - 0'-5' shown

Projections -

Width of Lot - none req

Height - 35' min height - 35' + shown
65' max height - 65' scaled to structural beam

Lot Area - no min lot size

Lot Coverage/ Impervious Surface - 100% (as shown)

Area per Family - N/A

Off-street Parking - over 50,000^{sq}, parking was determined ok by Planning Bd per the ordinance

Loading Bays - none

Site Plan - # 2003-0170

Shoreland Zoning/ Stream Protection - N/A

Flood Plains - Panel 14 Zone C,

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

2003-0170
Application I. D. Number

Olympia Equity Investors V Lic
Applicant

08/12/2003
Application Date

50 Monument Sq 2nd Floor , Portland , ME 04101
Applicant's Mailing Address

Office Building
Project Name/Description

Consultant/Agent
Agent Ph: _____ **Agent Fax:** _____
Applicant or Agent Daytime Telephone, Fax

280 - 280 Fore Street, Portland, Maine
Address of Proposed Site
029 K003001
Assessor's Reference: Chart-Block-Lot

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

90,975 s.f. _____ **B3** _____
Proposed Building square Feet or # of Units Acreage of Site Zoning

Check Review Required:

- | | | | |
|--|---|--|--|
| <input checked="" type="checkbox"/> Site Plan
(major/minor) | <input type="checkbox"/> Subdivision
of lots _____ | <input type="checkbox"/> PAD Review | <input type="checkbox"/> 14-403 Streets Review |
| <input type="checkbox"/> Flood Hazard | <input type="checkbox"/> Shoreland | <input type="checkbox"/> Historic Preservation | <input type="checkbox"/> DEP Local Certification |
| <input type="checkbox"/> Zoning Conditional
Use (ZBA/PB) | <input type="checkbox"/> Zoning Variance | | <input type="checkbox"/> Other _____ |

Fees Paid: Site Plan **\$1,000.00** Subdivision _____ Engineer Review **\$1,555.64** Date **11/20/2003**

Planning Comments

As of 2-3-04, the final plan set has been provided and the only outstanding condition of approval is regarding exterior lighting and signage as stated in conditions below. Note: The electrical contractor should be aware that the sidewalk lights that have been speced as Halophale "washington" should include the extras that are consistent with the "Old Port" fixture as presented for Planning and HP review. See Jay Reynolds for cut details. bn

As of 11-13-03, the PG has been accepted and the license for construction in the public right of way has been provided.

Planning is OK with an issuance of a foundation permit at this time. WBN 11-14-03

Performance Guarantee	<input checked="" type="checkbox"/> Required*	<input type="checkbox"/> Not Required
* No building permit may be issued until a performance guarantee has been submitted as indicated below		
<input checked="" type="checkbox"/> Performance Guarantee Accepted	<u>11/13/2003</u> date	<u>\$174,072.00</u> amount
		<u>10/28/2005</u> expiration date
<input checked="" type="checkbox"/> Inspection Fee Paid	<u>11/18/2003</u> date	<u>\$3,481.44</u> amount
<input type="checkbox"/> Building Permit Issue	_____ date	
<input type="checkbox"/> Performance Guarantee Reduced	_____ date	_____ remaining balance
<input type="checkbox"/> Temporary Certificate of Occupancy	_____ date	<input type="checkbox"/> Conditions (See Attached) _____ signature
<input type="checkbox"/> Final Inspection	_____ date	_____ signature
<input type="checkbox"/> Certificate Of Occupancy	_____ date	

Application ID Number: 2003-0170

Delete Save C

Department: Planning Status: Approved with Conditions Reviewer: William B. Needelman

Comments: As of 2-3-04, the final plan set has been provided and the only outstanding condition of approval is regarding exterior lighting and signage as stated in conditions below. Note: The electrical contractor should be aware that the sidewalk lights that have been specified as Halophale "Washington"
Approval Date: 10/28/2003
Expiration Date: 10/28/2004
Extension Date:

OK to Issue Permit Name: William B. Needelman Date: 02/03/2004 Date 2:

Conditions Section: Add New Condition From Default List Add New Condition Delete Condition

1. That any additional lighting and signage be provided for Planning, Zoning and Historic Preservation staff review and approval.

Create Date: 10/31/2003 By: jmy Update Date: 02/03/2004 By: jmy

**GEOTECHNICAL ENGINEERING SERVICES
PROPOSED FORE STREET OFFICE BUILDING
FORE STREET & FRANKLIN STREET ARTERIAL
PORTLAND, MAINE**

03-0711 S SEPTEMBER 18, 2003



• *Geotechnical Engineering* • *Field & Laboratory Testing* • *Scientific & Environmental Consulting*

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03-0711 S
September 18, 2003

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Sheets 2 through 9 – Boring Logs

Sheet 10 – Key to Notes and Symbols used on Logs

Sheet 11 – B-303 Rock Core Log

Sheet 12 – Interpretive Bedrock Contour Plan

Sheet 13 – Underdrain Detail

Appendix A – 2000 Boring Logs and Rock Core Logs



S.W. COLE
ENGINEERING, INC.

• Geotechnical Engineering • Field & Lab Testing • Scientific & Environmental Consulting

03-0711 S

September 18, 2003

Olympia Equity Investors
Attn: Mr. James Brady
50 Monument Square - 2nd Floor
Portland, ME 04101

Subject: Geotechnical Engineering Services
Proposed Fore Street Office Building
Fore Street & Franklin Street Arterial
Portland, Maine

Dear Mr. Brady:

In accordance with our Proposal dated August 11, 2003, we have made a subsurface investigation at the site of the proposed Fore Street Office Building on the corner of Fore Street and Franklin Arterial in Portland, Maine. This report summarizes our findings and recommendations relative to geotechnical aspects of the proposed construction. It should be noted that S. W. COLE ENGINEERING, INC. completed two previous studies of this site in February 2000 and March 2002 for a similar proposed project and the existing Hilton Garden Inn, respectively. The contents of this report are subject to the limitations set forth in Attachment A.

1.0 INTRODUCTION

1.1 Scope of Work

The purpose of our work was to review and obtain subsurface information in order to develop geotechnical recommendations for design of the proposed building foundations, and on-grade floor slabs. The investigation has included review of three test borings made within the proposed construction footprint in February 2000, the making of eight additional subsurface explorations in August 2003, and a geotechnical evaluation of the findings as they relate to the proposed construction. We have also reviewed pile records from the Hilton Garden Inn to assess depth to bedrock.

1.2 Proposed Construction

Based on the information provided by SMRT, we understand that the footprint of the proposed office building will cover the majority of the remaining property (about 19,000 square feet). The building is to be a total of 6 levels with the bottom two levels utilized as parking. The structure will likely be steel-framed with brick veneer. The first floor parking level will be constructed at about elevation 10 feet (project datum) accessed from the Hilton Inn Garden drive-thru plaza. The second parking level will be constructed at about elevation 21 feet accessed from Fore Street in the northwest portion of the proposed building. We understand the design team anticipates the structure will be pile-supported and the first floor parking will be an on-grade concrete slab. The structure includes an elevator and associated elevator pit. The elevator pit will be installed within the first parking level above elevation 10 feet.

We anticipate that temporary braced excavation will be required along Fore Street and the Fore Street Restaurant Building. We understand that following construction, cast-in-place foundation walls will act as retaining wall in these locations.

Based on information provided by SMRT, we understand that maximum column loads will generally be 500 kips for interior columns and 235 for exterior columns.

2.0 EXPLORATION AND TESTING

2.1 Exploration

Seven test borings (B-301 through B-307) and one auger test probe (P-308) were made at the site for the current study on August 20 and 21, 2003. Three test borings (B-101 through B-103) were made on the site in February 2000 for a previous study for a similarly proposed project. The test borings were made by Great Works Test Boring, Inc. of Rollinsford, New Hampshire. Several explorations were performed as part of the March 2002 exploration program on the Hilton Garden Inn portion of the property. One groundwater-monitoring well was installed in boring B-102 during February 2000, but has since been destroyed during the construction of the Hilton Garden Inn. The locations of the test borings, shown on the "Exploration Location Plan" attached as Sheet 1, were selected by S. W. COLE ENGINEERING, INC. based on information for

the respective studies and site constraints including underground utilities.

Logs of test borings B-301 through B-307 and test probe P-308 are attached at Sheets 2 through 9. A key to the notes and symbols used on the logs is attached as Sheet 10. Logs of test borings B-101 through B-103 are attached as Appendix A. The ground surface elevations shown on the logs were estimated based on topographic information shown on Sheet 1.

2.2 Testing

The test borings were drilled using a combination of hollow-stem auger, solid-stem auger and cased wash-boring drilling techniques. Standard Penetration Testing (SPT) with a split spoon soil sampler was used to obtain soil samples at 2.5 to 5-foot intervals to classify the soil profile. SPT results are shown on the logs.

Rock core samples were obtained at borings B-303 and B-101. The rock core samples were returned to our laboratory for further visual classification and Rock Quality Designation (RQD) measurements and compressive strength testing. The rock core log for B-303 is attached as Sheet 11 and the rock core log for B-101 is included with the previous boring logs in Appendix A. RQD and compressive strengths results are noted on the boring and rock core logs.

3.0 SITE AND SUBSURFACE CONDITIONS

3.1 Site Conditions

The site is bounded by Fore Street to the north, Franklin Street Arterial to the east, Commercial Street to the south and the Fore Street Restaurant and a paved parking lot to the west. The existing Hilton Garden Inn is situated in the southerly portion of the site at the intersection of Franklin Street Arterial and Commercial Street.

The area proposed for the new office building is currently paved parking. The existing topography at the site is generally level at elevation 13 feet within the existing parking area. The ground surface slopes upward to the north (toward Fore Street and the intersection of Fore Street and Franklin Street Arterial) from about elevation 13 to 20 feet.

The overall site is underlain by loose miscellaneous fill soils over a deposit of granular soils underlain by bedrock. The fill soils contained varying amounts of gravel, brick, wood and organics. The Hilton Garden Inn is constructed on pile caps and grade beams supported on steel H-piles driven to bedrock. Portions of the hotel include a structural slab supported on the grade beams and the remaining portions of the slab are constructed on-grade.

3.2 Soil and Bedrock Profile

Below a surficial layer of bituminous concrete pavement or topsoil, the explorations generally encountered miscellaneous fill soils over native deposits of glaciomarine sediments and glacial till underlain by quartzite bedrock. The bedrock surface slopes downward steeply from Fore Street to the southeast adjacent to the Hilton Garden Inn. Not all the strata were encountered at each of the explorations. The principal strata encountered are summarized below; refer to the attached logs for more detailed descriptions of the subsurface conditions encountered at the exploration locations.

Fill: The fills were generally found to be loose to medium-dense consisting of layers of black-brown sand and silt, gray silty clay, gray sandy silt and gray silty sand, containing varying amounts of gravel, brick, wood and organics. The fills range from about 5 to 21.5 feet in overall thickness and directly overlie bedrock in the northerly-northwesterly portion of the site (see B-101, B-102, B-301, B-303, B-305 and B-306).

Glaciomarine Sediments: Below the fill, exist a strata of very loose to medium-dense sand and sandy silt layered with very soft gray silty clay ranging from about 5 to 10 feet in thickness where encountered and sampled. The upper layer of glaciomarine sediments contains organics indicative of bottom deposits of marine origin.

Glacial Till: The glacial till soils were found to be medium-dense to dense consisting of gray to brown silty sand with varying amounts of gravel. Where encountered, the till stratum ranged from about 3 to 10 feet in thickness.

Bedrock: Refusal surfaces (probable bedrock) were encountered at depths varying

from 5.0 to 44.0 feet at the explorations. Bedrock was cored in boring B-101 between a depth interval of 17.0 to 21.9 feet and in boring B-303 between a depth interval of 5.0 to 10.0 feet. The bedrock core recovered consisted of slightly weathered, fractured, gray-green quartzite with an RQD of about 20 percent and a laboratory unconfined compressive strength of 7000 psi.

An Interpretive Contour Plan of the bedrock surface has been prepared based on the exploration findings and the taped locations of the explorations. The bedrock contours were developed by linearly interpolating between refusal surfaces and driven pile lengths from the Hilton Garden Inn (SWCE Project 01-0769). The contours represent the findings at the explorations and existing pile locations and will likely vary between locations. This plan is provided as a planning tool and should not be used for construction payment quantities. The plan reflects our interpretation of the surface of bedrock, however, the rock quality is variable and some explorations may have penetrated into bedrock. The plan is attached as Sheet 12.

3.3 Groundwater

Based on moisture conditions of the test boring samples and observations made during drilling, groundwater appeared to be at a depth of about 7 feet or greater below the ground surface during the August 2003 and February 2000 test boring work and about 10 feet during the March 2002 test boring work. Groundwater level readings taken in the monitoring well at B-102 indicate the groundwater was 7.2 feet below the ground surface on February 15, 2000. Groundwater was 8.4 feet below the ground surface in the open hole at B-303 on August 21, 2003. Actual long-term groundwater levels have not been determined but are anticipated to fluctuate in response to nearby tidal influence.

3.4 Seismic and Frost Conditions

According to International Building Code (IBC) 2000, we interpret the subsurface conditions to correspond to a site class E utilizing the standard penetration resistance, N-value method. The design freezing index for the Portland, Maine area is approximately 1250 Fahrenheit-Degree-Days, which corresponds to a frost penetration on the order of 4.5 feet.

4.0 EVALUATION AND RECOMMENDATIONS

4.1 General Findings

Based on the findings at the exploration locations, it is our opinion the proposed construction appears feasible from a geotechnical standpoint; however, due to the presence of deep uncontrolled fills beneath the site, the proposed structure will require pile-supported foundations. The bedrock surface is on the order of 5 feet below the existing parking surface (elevation 8 feet) along Fore Street, thus we recommend that the structure derive support from shallow spread footing foundation cast on bedrock in this area. The ground level parking floor slab may be soil-supported, but not without risk of post-construction settlement and slab cracking. The use of a woven geotextile fabric and thicker than usual compacted granular base beneath the on-grade floor slab will help attenuate slab settlement.

Excavations for pile caps, grade beams and foundation footings and walls will likely encounter groundwater seepage within the fills, which will require the use of a crushed stone mat to form a working pad from which to sump and pump. Deeper excavations for utilities and foundation construction adjacent to Fore Street and the Fore Street Restaurant Building will require braced shoring for the excavation sidewalls. Excavations may also encounter wood, debris, relic foundations and other deleterious materials. Excavations should not undermine existing foundations or adjacent rights-of-way. Given the depth and lateral extent of excavations, it will be necessary to underpin adjacent foundations and to provide braced shoring for adjacent right-of-ways (see section 4.7 for braced excavation considerations).

These and other considerations will need to be considered in the design and construction of the proposed building and site improvements.

4.2 Foundation Design

4.2.1 Spread Footings and Basement Walls

Given the relatively shallow depth to bedrock within the northerly-northwesterly portions of the site (along Fore Street), we recommend that the proposed structure be supported by shallow spread footings bearing on bedrock. The bedrock surface slopes downward steeply toward the Hilton Garden Inn, thus the foundation will transition from spread footing placed on bedrock to driven piles. In order to avoid driving short piles in this transition zone, we recommend the spread footing and wall foundation follow the bedrock downward. Given a high tide groundwater level at about elevation 5 feet and a low tide groundwater elevation of about -4 feet, it is likely impracticable to excavate for foundations below about elevation 0 feet. This results in a minimum pile length on the order of 5 feet. For spread footing foundations, we recommend the following geotechnical parameters for design:

GEOTECHNICAL PARAMETERS FOR SPREAD FOOTINGS	
Design Frost Depth for Portland, ME	4.5 feet
Net Allowable Bearing Capacity (Bedrock)	6 ksf or less
Estimated Post-Construction Settlement	½ inch or less
Base Friction Factor (Concrete to Crushed Stone)	0.40

SOIL PARAMETERS FOR COMPACTED SELECT FILL	
Internal Friction Angle	32°
Soil Backfill Unit Weight	130 pcf
Active Soil Pressure Coefficient	0.3
Active Lateral Earth Pressure	40 pcf (equivalent fluid)
At Rest Soil Pressure Coefficient	0.45
At Rest Lateral Earth Pressure	60 pcf (equivalent fluid)
Passive Soil Pressure Coefficient	3.25
Passive Lateral Earth Pressure	415 pcf (equivalent fluid)

We recommend that foundations exposed to freezing be cast at least 2.0 feet below exterior finish grade in sound bedrock subgrade areas. We recommend a minimum of 6 inches of ¾-inch crushed stone be provided above the bedrock to provide a level working pad in which to construct the footings. In lieu of crushed stone, slurry grout or lean concrete can be used as a leveling pad below footing above bedrock.

The foundations should be sufficiently sized to withstand the proposed lateral and uplift loads. Applied lateral loading may be resisted by passive earth pressures acting on the concrete foundations. Retaining walls that are restrained from rotation (such as cast-in-place 1st level parking structure walls) should be designed considering the at-rest pressure coefficient. The above lateral earth pressures consider a drained soil condition.

4.2.2 Pile Foundation Design

Considering the subsurface conditions encountered and the proposed construction, we recommend steel H-Piles with cast driving tips driven to end-bearing on bedrock for foundation support of the proposed southerly-southeasterly portion of the building. Grade beams, pile caps and pile-supported foundations exposed to freezing temperatures should extend at least 4.5 feet below exterior finished grade.

Piles should be spaced a minimum of two pile diameters, center-to-center, but not less than 24 inches. We recommend design consider a 6-inch horizontal mislocation of the pile and an out-of-plumb tolerance of 1-inch in 4-feet (2 percent). An appropriate reduction in pile capacity due to these eccentricities should be considered during design; establishment of more stringent horizontal and vertical tolerances for pile installation may not be achievable during construction due to the presence of debris and fill beneath the site as well as a sloping bedrock surface that may cause the pile to 'walk' when seating into the bedrock.

We recommend the piles be driven vertically within the out-of-plumb tolerances given above (i.e. without intended batter). The purpose for this is to reduce potential for the pile to glance across the sloping bedrock surface and not achieve set.

4.2.2.1 Compressive Capacity

Considering the proposed interior and exterior column loads of 550 and 235 kips, respectively, and a minimum three pile pile cap for interior column locations and a minimum two pile pile cap for exterior columns along the building perimeter, which are tied together with grade beams, we recommend the following pile sections and allowable compressive capacities for design consideration.

H-PILE SECTION ASTM A572 Grade 50	ALLOWABLE COMPRESSIVE PILE CAPACITY
HP12 x 63	225 kips
HP12 x 53	180 kips
NOTE: Capacity based on working stress not exceeding one-third the yield stress for piles driven to practical refusal on bedrock with cast driving tips and a 1/16-inch reduction in steel cross sectional area due to corrosion.	

Post-construction settlement of piles driven into rock should not exceed a 1/2- inch; elastic shortening of the pile should be evaluated on a pile cap by pile cap basis, as deemed necessary by the structural engineer. Considering the depth to bedrock, we anticipate pile lengths will likely vary from 5 to 40 feet below a typical bottom of pile cap elevation of 5.5 feet (4.5 feet below FFE).

4.2.2.2 Lateral Capacity

Lateral loads can be resisted by a combination of lateral pile capacity and passive earth pressures acting on the sides of pile caps and grade beams. We have made an estimate of lateral pile capacity considering a 1-inch lateral deflection at the pile cap. For lateral loads applied to a HP12x53 pile considering a reduction for pile spacing of 3 to 4 diameters between piles, we recommend a lateral load capacity of 6 kips for the strong axis and 4 kips for the weak axis of the piles. Additional lateral load resistance can be achieved by a passive earth pressure of 415 pcf along the pile caps and grade beams provided the pile caps and grade beams are backfilled with compacted Select Fill.

4.2.2.3 Uplift Capacity

Given the variable depth to bedrock and anticipated differing number of piles per pile

group, we recommend the uplift capacity of the piles be calculated on a pile by pile and pile group by pile group basis once additional information is produced. We will evaluate the uplift capacity for each pile group based on number of and depth of piles, as deemed necessary by the structural engineer.

4.2.3 Pile Submittals and Load Testing

The pile-driving contractor should submit information on the pile driving equipment and proposed 'set' or stop driving criteria to S. W. COLE ENGINEERING, INC. prior to the start of pile driving activities. The piles should be driven to practical refusal on bedrock. S. W. COLE ENGINEERING, INC. should be on-site during the driving of piles to maintain pile-driving records and to monitor vibrations due to driving.

Vibrations from pile driving activities can adversely affect adjacent structures. We recommend that a pre-driving survey be done on structures adjacent to the proposed project. The pre-driving survey should include photographs and the installation of crack monitors as appropriate to establish a baseline prior to the start of pile driving activities.

We recommend that pile load tests be performed on the piles to verify working load. In our experience, dynamic load testing by Pile-Driving Analyzer (PDA) is usually the most cost efficient and convenient means of pile load testing. The PDA work should be done as a subcontract to the pile driving contractor and the results submitted to the geotechnical engineer for review and approval. The PDA results should be stamped by a registered Professional Engineer.

4.3 First Level Parking Slab

In our opinion, the ground level floor slab may be soil-supported, but not without risk of post-construction settlement and minor slab cracking. The use of a woven geotextile fabric and the compacted Select Fill base beneath the on-grade slab (see frost considerations below) will help attenuate slab settlement. The on-grade slab could also be thickened and more heavily reinforced.

It should be noted that protection against frost action is particularly critical in situations with limited overhead clearance, such as in parking garages. The on-grade concrete

slab of the parking garage is underlain by frost-susceptible fill soils and will be exposed to freezing temperatures. Given these conditions, we recommend the following options for slab support and mitigation of potential frost heave beneath unheated concrete slab areas:

- Option 1 – Full Depth Non-Frost Susceptible Soils. Assuming a 6-inch thick concrete floor slab, we recommend the slab be underlain with at least 42 inches of compacted Select Fill placed on stable subgrades soils.
- Option 2 – Insulation. Assuming a 6-inch thick concrete floor slab, we recommend the slab be underlain with 6 inches of compacted Select Fill overlying 2 inches of rigid, extruded, closed-cell, polystyrene insulation overlying at least 12 inches of compacted Select Fill placed on stable subgrade soils.

With either option, we recommend gradual transition (3 horizontal to 1 vertical) should be provided from the bottom depth of Select Fill to the gravel subbase thickness at adjacent exterior paved areas. This transition will reduce the potential for abrupt differential movement due to frost action.

Based on proposed grading, these frost protection measures (Option 1 & 2) will require some overexcavation of existing soils. Details regarding entrance slabs are shown on the underdrain detail attached as Sheet 13.

Floor slabs should be wet-cured for a period of at least 7 days after casting to reduce the potential for curling of the concrete and excessive drying/shrinkage. We recommend that control joints be provided in the concrete pavement surface to relieve tensile stresses due to temperature, moisture and friction to control random cracking. Control joint spacing of not more than 12 feet both longitudinally and horizontally should be considered, but should be determined by the structural engineer with consideration to slab thickness. The control joints may consist of construction or sawed joints. The sawed joints should be installed as early as practicable after placement of the concrete to avoid random cracking.

4.4 Foundation Drainage

We recommend that a perimeter foundation drainage system be provided near pile cap subgrade or foundation wall (elevation 5.5 feet) around the perimeter grade beam/frost wall for the building. Considering the lateral constraints of the site, we recommend the underdrain be installed on the interior side of the perimeter grade beam/frost wall. The frost wall should have 2-inch diameter weepholes near the bottom, spaced about 10 feet on center, to permit the flow of water from the exterior to the underdrain system. The underdrain pipe should consist of rigid, 4-inch diameter PVC with perforations of ¼- to ½-inch enveloped with at least 6 inches of crushed stone drainage aggregate that is wrapped in a non-woven geotextile filter fabric having an apparent opening size of at least 70, such as Mirafi 140N. The underdrain must have a positive gravity or pumped outlet. Details of the recommended foundation underdrain system are attached as Sheet 13.

Alternatively, a Type 'B' underdrain can be used. The Type 'B' underdrain system should consist of 4-inch diameter perforated pipe bedded in underdrain sand.

4.5 Excavation Work

An erosion control system should be instituted prior to any construction activity at the site to help protect adjacent drainageways. Excavation work will encounter fills with organics and other deleterious materials. These on-site soils are not suitable for reuse below slabs or as backfill against foundations. The existing fill soils are also sensitive to moisture and may require a crushed stone mat to produce a stable working surface suitable for placement of foundation concrete. Excavations should not undermine existing foundations or adjacent sidewalks/right-of-ways (see Section 4.7 for information relative to braced excavation).

Groundwater and wet soil conditions will likely be encountered in the foundation excavations. In our opinion, ditching with sump and pump dewatering techniques should be adequate to control groundwater in excavations less than about 7 feet deep. We recommend placing a layer of crushed stone at the base of foundation excavations to act as a drainage media from which to sump and pump. Deeper foundation excavations or for utilities, will likely require braced sheeting for groundwater cutoff and

excavation stability. In any case, excavations must be properly shored and/or sloped in accordance with OSHA trenching regulations to prevent sloughing and caving of the sidewalls during construction.

4.6 Braced Excavation

The foundation excavation is expected to extend as deep as elevation 0 feet adjacent to the Fore Street Resturaunt and as deep as about elevation 8 feet (top of bedrock) adjacent to Fore Street. Excavation in these areas must be braced as to not undermine the Fore Street right-of-way and the foundation for the Fore Street Resturaunt. We understand that the braced excavations will be temporary during foundation construction and the new cast-in-place foundation wall will retain the soil in the long-term. The contractor is responsible for providing braced excavation design. We request that the General Contractor/Pile Driving Contractor be required to provide submittals of design to S. W. COLE ENGINEERING, INC. for our review.

4.6.1 Fore Street Right-of-Way

As discussed with the project design team (Allied/Cook Construction, H.B. Fleming and SMRT) at the September 09, 2003 project meeting, shallow bedrock exists along the northerly wall line. Given this, limited to no soil exists along the Fore Street excavation for sheet pile toe-in below proposed foundation level thus conventional driven sheet piling or driven soldier pile and wood lagging would require a combination of lateral soil anchors (tie-backs) beneath Fore Street and/or pinning of the bottom of piling to bedrock to resist lateral movement.

Due to right-of-way access and several buried utilities ^{SMRT} and exist beneath Fore Street, test boring explorations were not performed along Fore Street level (elevation 20 to 21 feet). If specific information relative to subsurface soil conditions is required for braced excavation design, arrangements for right-of-way access and the making of additional test borings should be made.

Permission by the City of Portland and detailed utility location should be obtained if lateral soil anchors (tie-backs) are to be installed beneath Fore Street.

4.6.2 Fore Street Restaurant and Standard Bakery Building

Excavation for the proposed foundation will likely extend as deep as about elevation 0 feet. The bakery is located in the lower level of the Fore Street Restaurant and Standard Bakery Building with a finish floor elevation on the order of 13 feet. Limited information relative to the foundation type or depth is available. We recommend that for planning and design purposes braced excavation below elevation 12 or 13 be considered. We understand that an underground electric utility that supplies the Hilton Garden Inn currently runs parallel to the building and back-hoe excavated test pits are likely not feasible at this time. We recommend that hand excavated test pits (prior to construction) or backhoe test pits (at the start of construction) be performed to further assess the foundation type and depth.

We recommend the building be under-pinned with driven steel H-piles to support the structure during excavation. We understand that the piles would have to be driven at a slight batter to perform under-pinning. We caution that the bedrock slopes steeply downward to the south and the degree of batter should be so final set can be achieved.

We recommend that under-pinning be performed within individual excavated pits to avoid exposing the entire wall line. This will help provide more equal lateral pressure on the foundation wall (if exists) to resist the footing from "kicking" into the excavation. If the entire wall must be exposed during construction lateral support must be provided on the excavation side of the wall to resist "kicking." An existing conditions survey of the existing building should be performed prior to construction. Further, we recommend the installation of crack monitors and PK nails to monitor horizontal and vertical movement of the structure during construction.

4.7 Backfill and Compaction Requirements

We recommend that compacted granular backfill placed against foundations (both inside and out), below floor slabs and against basement/retaining walls meet the gradation requirements for Select Fill. The first parking level will be exposed to freezing temperatures. To reduce potential for lateral frost thrust, if insulation is not used, the Select Fill backfill on the exterior side of the foundation wall should extend outward from the wall laterally 4 feet (horizontal measure).

Select Fill	
Sieve Size	Percent Finer by Weight
4 inch	100
3 inch	90 to 100
¼ inch	25 to 90
No. 40	0 to 30
No. 200	0 to 5

Crushed stone placed around footing drains should be clean, washed ¾-inch minus Crushed Stone Drainage Aggregate generally meeting the gradation requirements for ASTM C33 No. 67 Stone.

Fill should be placed in horizontal lifts and be compacted. Lift thickness should be generally limited to between 6 to 18 inches as appropriate for the compaction equipment being used such that the desired density is achieved throughout the lift thickness with 3 to 5 passes of the compaction equipment. Foundation backfill and fills placed beneath soil-supported slabs should be compacted to at least 95 percent of its maximum dry density as determined by ASTM D-1557 (Modified Proctor). Backfill below pile-supported foundations should be compacted to provide stable access for construction equipment and to provide stable subgrades for concrete placement.

4.8 Weather Considerations

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

4.9 Construction Testing

S. W. COLE ENGINEERING, INC. should be retained to provide testing and observation services during the excavation and foundation phases of construction. This

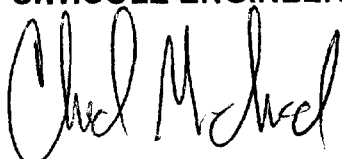
is to observe compliance with the design recommendations, drawings and specifications and to allow design changes in the event that subsurface conditions are found to differ from those anticipated prior to the start of construction. S. W. COLE ENGINEERING, INC. is available to assist in conducting a pre-pile driving survey, provide vibration monitoring, observe pile installation, and to test soil, concrete, asphalt, steel, spray-applied fireproofing and masonry construction materials.

5.0 CLOSURE

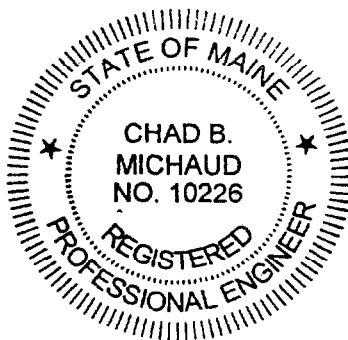
S. W. COLE ENGINEERING, INC. should be engaged to review the sitework and foundation design drawings to confirm that our recommendations have been appropriately interpreted and implemented. It has been a pleasure to be of assistance to you with this phase of your project. We look forward to working with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

Very truly yours,

S.W. COLE ENGINEERING, INC.



Chad B. Michaud, P.E.
Geotechnical Engineer



CC: Peter Pelletier – Allied/Cook Construction
Scott Kibler – SMRT
Tim Boyce – S. W. Cole Engineering, Inc. (Gray Office)

CBM:cbm