New York Gaming Facility Location Board Response to Request for Applications to Develop and Operate a Gaming Facility in New York State

TIOGA DOWNS RACETRACK, LLC Exhibit VIII.C.1.f.



ATLANTIC TESTING LABORATORIES

Canton 6431 U.S. Highway 11 P.O. Box 29 Canton, NY 13617 315-386-4578 (T) 315-386-1012 (F)

November 26, 2012

Climans Green Liang Architects, Inc. 160 Pears Avenue, Suite 418 Toronto, Ontario M5R 3P8

Attn: Mr. Bob Green Telephone: 416-925-8100

Re: Subsurface Investigation and Geotechnical Evaluation Proposed Tioga Downs Casino and Hotel Expansion

Nichols, Tioga County, New York ATL No. CD3443E-01-11-12

Ladies and Gentlemen:

Enclosed are three copies of the referenced report. ATL appreciates the opportunity to provide geotechnical services for your project.

Please note that upon completion of the subsurface investigation, the boreholes were backfilled with on-site soil. It is important that the backfilled borings be monitored for settlement or subsidence. This will be the responsibility of Climans Green Liang Architects, Inc. and/or their client. ATL assumes no liability for borehole settlement.

The soil samples obtained during this investigation will be retained for a period of six months and subsequently discarded, unless otherwise instructed.

Please contact our office should you have any questions or comments on this information, or if we may be of further service. We look forward to our continued association to obtain a successful completion of this project.

Sincerely.

ATLANTIC TESTING LABORATORIES, Limited

Adam J. Schneider, PE

Engineer

AJS/BTB/ajs

Enclosures

Exhibit VIII.C.1.f. (cont.)

SUBSURFACE INVESTIGATION AND GEOTECHNICAL EVALUATION

PROPOSED TIOGA DOWNS CASINO
AND HOTEL EXPANSION
NICHOLS, TIOGA COUNTY,
NEW YORK

CLIMANS GREEN LIANG ARCHITECTS, INC.

PREPARED FOR: Climans Green Liang Architects, Inc.

160 Pears Avenue, Suite 418 Toronto, Ontario M5R 3P8

PREPARED BY: Atlantic Testing Laboratories, Limited

6431 U.S. Highway 11

P. O. Box 29

Canton, New York 13617

ATL Report No. CD3443E-01-11-12

November 26, 2012

Exhibit VIII.C.1.f. (cont.)

TABLE OF CONTENTS

SECT NUME		<u>PAGE</u>
1.0	INTRODUCTION	1
2.0	PROJECT DESCRIPTION	1
3.0	SITE SURFACE CONDITIONS	2
4.0	SUBSURFACE INVESTIGATION & SAMPLING METHODOLOGY	2
5.0	SITE SUBSURFACE CONDITIONS 5.1 Soil Borings 5.2 Groundwater	3
6.0	LABORATORY ANALYSES	5
7.0	GEOTECHNICAL ENGINEERING DISCUSSION 7.1 Proposed Buildings, Parking Garage, and Additions 7.2 Frost Protection 7.3 Seismic 7.4 General 7.5 Pavement Design	5
8.0	GEOTECHNICAL RECOMMENDATIONS 8.1 Site Preparation 8.2 Foundations 8.3 Slab-On-Grade Preparation 8.4 Dewatering 8.5 Backfill and Compaction Requirements 8.6 Pavement Design 8.7 Testing and Inspection	8
9.0	SUMMARY	12
APPE A. B. C. D.	NDICES Site Location Plan Boring Location Plan Subsurface Investigation Logs Particle Size Distribution Curves Table of Subsurface Condition	

Exhibit VIII.C.1.f. (cont.)

SUBSURFACE INVESTIGATION AND GEOTECHNICAL EVALUATION

PROPOSED TIOGA DOWNS CASINO
AND HOTEL EXPANSION
NICHOLS, TIOGA COUNTY,
NEW YORK

CLIMANS GREEN LIANG ARCHITECTS, INC.

1.0 INTRODUCTION

At the request of Mr. Bob Green, representing Climans Green Liang Architects, Inc. (CGL), and in accordance with our proposal (ATL File No. CD998-326-09-12, dated September 19, 2012) Atlantic Testing Laboratories, Limited (ATL) performed a subsurface investigation and geotechnical evaluation for the referenced project. The subsurface investigation was performed on October 3 through November 1, 2012.

The purpose of the investigation was to ascertain the general subsurface soil and groundwater conditions at the site, to evaluate the engineering significance of these findings, and to provide recommendations related to foundation design and construction.

The proposed project is located at the existing Tioga Downs Casino located on West River Road in Nichols, New York. The project coordinates are N 42°01'25" latitude and W 76°24'43" longitude. A **Site Location Plan** is included in **Appendix A**. All dimensions and elevations referenced in this report are in units of feet, unless otherwise noted.

2.0 PROJECT DESCRIPTION

The proposed project consists of constructing a six-story hotel, two-story hotel amenity space that will include multipurpose rooms, and a three-story parking garage all located to the east of the existing casino. A one-story casino expansion and two-story office expansion will be located on the west side of the existing casino. A new paddock will be constructed to the west of the race track near the horse barns and a new water slide will be constructed to the north of the proposed hotel amenities buildling. The proposed new structures will reportedly have footprints and finish floor elevations in accordance with the following table:

Exhibit VIII.C.1.f. (cont.)

Tioga Downs Expansion ATL No. CD3443E-01-11-12 Page 2 of 12 November 26, 2012

Structure	Footprint (sq ft)	Finish Floor Elevation (ft)
Hotel	14,000	802
Hotel Amenities	29,000	802-804
Parking Garage	35,000	807-812.5
Casino Expansion	17,400	824
Paddock	11,000	796.5

The structures for the proposed hotel, hotel amenities space, casino expansion, and office expansion will be steel framed with precast concrete plank floors. The maximum anticipated exterior column loads are approximately 200 kips and interior column loads are approximately 400 kips. The proposed parking garage will have maximum anticipated interior column loads of approximately 530 kips and exterior column loads of 275 kips.

Based on the structural drawings and geotechnical report provided to ATL by CGL for the existing casino building, it appears that the existing structure is a slab-on-grade, steel framed structure with a finish floor elevation of approximately 824.85. The drawings and geotechnical report were prepared by CGL and Acres International. The structure appears to be supported on shallow, cast-in-place concrete footings founded on the native soils utilizing a safe allowable soil bearing capacity of 3000 psf.

3.0 SITE SURFACE CONDITIONS

The site currently supports a horse race track and casino complex. The areas of the proposed development are generally located to the immediate east and west of the existing casino building. The areas surrounding the existing building are generally covered with pavement, grass and other landscaped areas. The site slopes downward to the east of the existing building from approximately elevation 824 to elevation 799 on the eastern end of the proposed hotel. The area of the proposed paddock is generally level at approximately elevation 796.

4.0 SUBSURFACE INVESTIGATION & SAMPLING METHODOLOGY

The boring locations were selected, staked and ground surface elevations were obtained in the field by representatives of ATL. The elevations were determined utilizing differential GPS techniques and referenced with NAVD 1988. The accuracy of the elevations determined by the GPS is plus or minus 0.5 feet. A Boring Location Plan, depicting the approximate boring locations, is included in Appendix B.

Thirty-six borings were advanced utilizing 3½- and 4½-inch inside diameter hollow stem augers. Soil sampling and standard penetration testing was performed utilizing a 2-inch outside diameter split spoon sampler in accordance with ASTM D 1586. Soil sampling was generally performed continuously to a depth of 12 feet beneath the surface, and at 5-foot intervals thereafter to boring termination at depths ranging from 6 to 52 feet.

Exhibit VIII.C.1.f. (cont.)

Tioga Downs Expansion ATL No. CD3443E-01-11-12 Page 3 of 12 November 26, 2012

The soil samples were visually classified in the laboratory by an engineering technician in general accordance with the Burmister Soil Classification System. The split spoon sampler does not recover material larger than 1%-inch in nominal dimension; therefore, the soil classifications may not be representative of the entire soil matrix. The visual classifications and the standard penetration test results are presented on the Subsurface Investigation Logs included in Appendix C.

Temporary observation wells were installed in borings B-2, B-7, B-24, and B-29 to depths ranging from 22 to 27 feet utilizing 1-inch PVC machine slot screen and riser pipe to facilitate future water readings.

Infiltration test pipes consisting of 4-inch PVC Pipe were installed in 6 locations. Infiltration tests were performed in accordance NYSDEC guidelines. The infiltration test results are tabulated below:

Test	Infiltration Rate (in/hr)
I-1	360
I - 2	7.2
I-3	22
I-4	5
I-5	14
I <u>-</u> 6	19

Infiltration Test Results

The boreholes were backfilled with on-site soils upon completion. The borings located within the existing parking lots were patched with asphalt cold patch. It is important that the backfilled borings be monitored for settlement or subsidence. This will be the responsibility of CGL and/or their client. ATL assumes no liability for loss or damage resulting from borehole settlement.

5.0 SITE SUBSURFACE CONDITIONS

The following description of subsurface conditions is based on the soil and groundwater conditions encountered during this subsurface investigation. Actual subsurface conditions may vary across the site in both the horizontal and vertical dimensions. Detailed subsurface descriptions are provided on the Subsurface Investigation Logs. The thickness of the topsoil and organic material and asphalt pavement presented on the subsurface investigation logs should not be utilized to determine material quantities.

5.1 Soil Borings

5.1.1 Hotel Borings (Boring B-1 through B-5)

Borings B-1 through B-5 generally encountered a layer of stiff (N values 8 to 15) to hard (N values greater than 30) sandy silt at the surface that extended to a depth of approximately 4 feet (approximate elevation 796 to 799). The sandy silt was underlain by medium compact (N values 10 to 30) to compact (N values 30 to 50) silty, gravelly sand and sandy gravel that

Exhibit VIII.C.1.f. (cont.)

Tioga Downs Expansion ATL No. CD3443E-01-11-12 Page 4 of 12 November 26, 2012

extended to boring termination at depths ranging from 27 to 52 feet (approximate elevation 747.9 to 776.1). The exception was a very loose (N values less than 4) silty sand that was encountered from approximately 38 to 43 feet in boring B-2.

5.1.2 Amenities (Borings B-5 through B-12)

Borings B-7 and B-10 encountered 2 to 3 inches of topsoil and organic material at the surface. At the surface in the remaining borings and underlying the topsoil and organic material in borings B-7 and B-10 was generally medium compact (N values 4 to 10) to compact (N values 30 to 50) silty, gravelly sand and sandy gravel that extended to boring termination at a depth of approximately 27 feet (approximate elevation 775 to 796.5). The exception was a layer of very stiff (N values 15 to 30) to hard (N values greater than 30) sandy silt that was encountered from the surface to a depth of 4 feet (approximate elevation 799) in boring B-5. Occasional cobbles were noted throughout the depths of the borings.

5.1.3 Parking Garage (Borings B-13 through B-18)

Borings B-13, B-14, and B-17 encountered stiff (N values 8 to 15) to hard (N values greater than 30) sandy silt at the surface that extended to depths ranging from 2 to 4 feet (approximate elevation 812.5 to 804.5). At the surface of borings B-15, B-16, and B-18 and underlying the sandy silt in borings B-13, B-14, and B-17 was medium compact (N values 10 to 30) to very compact (N values greater than 50) silty, gravelly sand and sandy gravel that extended to boring termination at depths ranging from 27 to 37 feet (approximate elevation 776.5 to 797).

Cobbles were noted throughout the depths of the borings.

5.1.4 Water Slide (Boring B-19)

Boring B-19 encountered very stiff (N values 15 to 30) sandy silt at the surface that extended to a depth of approximately 2 feet (elevation 799.5) and was underlain by medium compact (N values 4 to 10) silty gravelly sand and sandy gravel that extended boring termination at a depth of 27 feet (elevation 774.5). Cobbles were noted throughout the depths of the boring.

5.1.5 Casino Expansion (Borings B-20 through B-24)

Borings B-22 and B-23 encountered 5 to 6 inches of asphalt pavement at the surface. Underlying the asphalt pavement and at the surface in the remaining borings was medium compact (N values 10 to 30) to very compact (N values greater than 50) silty, gravelly sand and sandy gravel that extended to boring termination at depths ranging from 27 to 47 feet (approximate elevation 795 to 774). Cobbles were noted throughout the depths of the borings.

5.1.6 Pylon Sign (Boring B-25)

Boring B-25 generally encountered medium compact (N values 10 to 30) to very compact (N values greater than 50) silty, gravelly sand and sandy gravel that extended to boring termination at a depth of 27 feet (approximate elevation 794.5).

Exhibit VIII.C.1.f. (cont.)

Tioga Downs Expansion ATL No. CD3443E-01-11-12 Page 5 of 12 November 26, 2012

5.1.7 Paddock (Borings B-26 through B-29)

Borings B-26 through B-29 generally encountered medium compact (N values 10 to 30) silty, gravelly sand and sandy gravel that extended to boring termination at a depth of 22 feet (approximately elevation 773.5 to 774.5). Cobbles were noted throughout the depths of the borings.

5.1.8 Road Realignment and Parking Lot Borings (Borings B-30 through B-36)

Borings B-30 through B-36 generally encountered medium compact (N values 10 to 30) to very compact (N values greater than 50) silty, gravelly sand and sandy gravel that extended to boring termination at a depth of 6 feet.

5.2 Groundwater

Groundwater measurements were performed during the subsurface investigation through cased and open boreholes, and in the temporary observation wells. The soil samples were also classified for coloration and relative moisture conditions.

Based on groundwater measurements and soil moisture content, freestanding groundwater was encountered at depths ranging from approximately 17 to 32.5 feet (approximate elevation 771 to 797.5) below the surface of the borings at the time of the subsurface investigation.

Since the borings were backfilled upon completion, freestanding groundwater readings may not have had sufficient time to stabilize. Perched water may be encountered at higher elevations, especially during wetter periods of the year.

Fluctuations in water levels may occur due to seasonal and climatic variations, changes in surface runoff patterns, construction activity, and subsequent development of the site along with other interrelated factors.

6.0 LABORATORY ANALYSES

Select soil samples were submitted to ATL's geotechnical laboratory for physical analyses. Water Content Determination of Soil (ASTM D 2216) was performed on 38 soil samples. The test results are located on the subsurface investigation logs included in Appendix C.

A Particle Size Analysis with and without Hydrometer (ASTM D 422) was performed on ten soil samples. The Particle Size Distribution Curves are included in Appendix D.

7.0 GEOTECHNICAL ENGINEERING DISCUSSION

The Geotechnical Engineering Discussion is based on information provided by Climans Green Liang Architects, Inc., and the subsurface conditions outlined in this report.

Exhibit VIII.C.1.f. (cont.)

Tioga Downs Expansion ATL No. CD3443E-01-11-12 Page 6 of 12 November 26, 2012

7.1 Proposed Buildings, Parking Garage, and Additions

7.1.1 Site Work

Site work will require the removal of surficial asphalt pavement and topsoil and organic material with the footprint of the structures. The building pads should be prepared to the approximate slab subgrade elevation at approximately 1.2 feet below the finished floor elevations (assuming a 6-inch concrete slab-on-grade and 8 inches of Engineered Structural Fill). Based on the boring surface elevations this will require cuts up to approximately 20.5 feet and fills up to approximately 3.5 feet.

Fill utilized within the building footprints should consist of Granular Fill placed and compacted in accordance with Geotechnical Recommendations 8.5.4 and 8.5.5.

After performing the cuts and prior to placing Granular Fill, the subgrade soils should be compacted with a minimum 10-ton roller and proof rolled in accordance with Geotechnical Recommendation 8.3.2. The subgrade compaction and proof rolling must be conducted under the direction of the Geotechnical Engineer. Any areas noted to weave or deflect should be excavated to stable material, at the direction of the Geotechnical Engineer, and replaced with compacted Granular Fill.

It appears that the cuts on the eastern end of the existing casino building could extend to depths of 13 to 20.5 feet. Care must be exercised during the excavation process to prevent undermining of the existing structures. The zone of influence from the existing structure footings should be assumed to extend at a slope of 1 horizontal to 1 vertical from the edge of the bottom of the footing. Excavations that extend within the zone of influence of adjacent footings will require shoring or underpinning of the adjacent structure. The contractor should prepare an excavation plan indicating means and methods of shoring the excavation to prevent disturbance of the existing structures.

7.1.2 Foundations

Exterior footings should be founded a minimum of 4 feet below final exterior grade. Interior footings for heated building areas should be founded a minimum of 2 feet below the slab-ongrade. Foundation excavations should be advanced with a flat-lipped bucket to minimize disturbance to the subgrade soils. Footing subgrades loosened during foundation excavations should be recompacted to their original consistency under the direction of a Geotechnical Engineer.

Footing subgrade soils that become saturated and unstable should be over excavated and replaced with a 6-inch layer of NYSDOT Number 2, crushed stone. The Number 2, crushed stone should be compacted with four passes of a dual-drum walk-behind vibratory roller; a Wacker DPU 6055 vibrating plate tamper; or equivalent, under the direction of the Geotechnical Engineer. The NYSDOT Number 2, crushed stone will provide a stable working surface and dewatering media if ground or surface water enters the excavation.

New footings should be placed at the same elevation as existing footing's to avoid overstressing the existing footings and foundation walls. If necessary, step footings may be utilized to achieve the proposed new footing elevation for the remainder of the structure. Excavations that extend within the zone of influence below existing footing elevations may require underpinning of the existing footings.

Exhibit VIII.C.1.f. (cont.)

Tioga Downs Expansion ATL No. CD3443E-01-11-12 Page 7 of 12 November 26, 2012

Care must be exercised while excavating in the vicinity of the existing structures to prevent disturbance of the existing foundations, utilities, or existing foundation drainage systems, if present.

The on-site soils may be utilized as exterior foundation backfill, provided all deleterious organic and oversize material (particles larger than 4 inches in diameter) are removed and the material is properly moisture conditioned. Interior backfill should consist of Granular Fill. All fill must be placed in accordance with Geotechnical Recommendations 8.5.4 and 8.5.5.

7.1.3 Soil Bearing Capacity and Settlement

Footings founded on stable in-situ soils, compacted Granular Fill, or compacted NYSDOT Number 2, crushed stone overlying stable in-situ soils may be designed using an allowable soil bearing capacity of 3000 psf, provided the recommendations in this report are followed. A detailed settlement analysis was outside the scope of this investigation; however, total and differential settlement less than 1-inch and ½-inch, respectively, are estimated.

Spread footings should be a minimum of 3 feet wide and strip footings a minimum of 2 feet wide.

7.1.4 Slabs-on-Grade

The concrete slabs-on-grade should be supported on a minimum of 8 inches of Engineered Structural Fill. The slabs-on-grade may be designed using a modulus of subgrade reaction of 125 pci.

A vapor retarder should be installed beneath slabs with moisture sensitive floor coverings. The vapor retarder should be installed in accordance with current ACI 302.1 recommendations.

7.2 Frost Protection

Shallow foundations must be founded a minimum of 4 feet below final exterior grade to provide adequate frost protection.

7.3 Seismic

Based on the field standard penetration test results, the seismic site classification for the project site has been determined to be D. The maximum considered earthquake spectral response acceleration for short periods, (S_{MS}) is 0.195g and at 1-second period, (S_{M1}) is 0.131g as determined from the Building Code of New York State 2010. Seismic exposure should be considered in the design of the structures.

7.4 General

The in-situ soils are slightly moisture sensitive and frost susceptible. Construction traffic should be limited on exposed subgrades, especially during wetter periods of the year. Where possible, building subgrades should be sloped to drainage swales or a sump and pump system during construction to prevent surface run-off and perched groundwater from ponding on the subgrades.

Exhibit VIII.C.1.f. (cont.)

Tioga Downs Expansion ATL No. CD3443E-01-11-12 Page 8 of 12 November 26, 2012

Perched groundwater should be anticipated in shallow foundation and utility excavations, especially during wetter periods. The granular in-situ soils will be susceptible to side wall sloughing in open excavations.

The soil parameters presented in the following table may be used for the following backfill materials.

Table of Soil Properties

Soil Property	Granular Fill	Engineered Structural Fill
Angle of Internal Friction (°)	32	34
Active Earth Coefficient (K _a)*	0.31	0.28
At Rest Earth Coefficient (K _o)*	0.47	0.44
Passive Earth Coefficient (K _o)*	3.25	3.54
Ultimate Coefficient of Sliding Friction	0.44	0.47
Wet Unit Weight (pcf)	135-145	140-150

^{*}The Rankine earth pressure coefficients are for level backfill placed in a fully drained condition.

7.5 Pavement Design

7.5.1 Pavement Site Work

Site work will require the removal of surficial topsoil and organic material. The pavement subgrade soils should be compacted with a minimum 10-ton vibratory roller under the direction of the Geotechnical Engineer. The pavement subgrade soils should also be proof rolled in accordance with Geotechnical Recommendation 8.6.1.

The on-site soils are slightly moisture sensitive and frost susceptible. To minimize potential frost action in the pavement structures, a minimum of 2 feet of Granular Fill is recommended beneath the Granular Subbase. If this is not possible, based on economic considerations, the depth of Granular Fill can be reduced. If the depth of Granular Fill is reduced, premature pavement deterioration and/or maintenance should be anticipated.

Proper drainage and control of surface water will be important to the longevity of the payement structures.

7.5.2 Sidewalks and Curbs

Granular fill should be utilized beneath sidewalks and curbs similar to the pavement structures.

8.0 GEOTECHNICAL RECOMMENDATIONS

The following recommendations are presented as the minimum requirements for the design, planning, and construction of the foundation system, slab-on-grade, and pavement

Exhibit VIII.C.1.f. (cont.)

Tioga Downs Expansion ATL No. CD3443E-01-11-12 Page 9 of 12 November 26, 2012

structures. The concepts and geotechnical engineering considerations presented in the preceding sections must be considered in project design and construction.

8.1 Site Preparation

- **8.1.1** In planning excavations adjacent to existing structures and utilities, care must be taken to locate and maintain their stability. The project should be designed to minimize disturbance to existing structures and utilities.
- **8.1.2** Site work should be scheduled during the drier portions of the year to avoid possible delays and additional costs associated with construction during the wet seasons.
- **8.1.3** The building and parking lot subgrades must be prepared as discussed in Section 7.1.1 and 7.5.1 of the Geotechnical Engineering Discussion.
- 8.1.4 Site surface grading must be designed to convey surface water away from building and pavement structures.
- 8.1.5 The contractor must follow excavation safety practices as mandated by 29 CFR Part 1926 (OSHA) and by applicable state regulations.

8.2 Foundations

- **8.2.1** Exterior footings should be founded a minimum of 4 feet below final exterior grade to provide adequate frost protection. Interior footings for heated building areas should be founded a minimum of 2 feet below the finish floor elevation.
- **8.2.2** All foundation excavations should be monitored by a Geotechnical Engineer to verify the stability and soil bearing capacity of the foundation subgrades.
- **8.2.3** Footings founded on stable in-situ soils, compacted Granular Fill, or compacted NYSDOT Number 2, crushed stone overlying stable in-situ soils may be designed using a safe allowable soil bearing capacity of 3000 psf, provided the recommendations presented in this report are followed.

8.3 Slab-on-Grade Preparation

- 8.3.1 A minimum of 8 inches of Engineered Structural Fill, conforming to Geotechnical Recommendation 8.5.3, should be placed to support the concrete slabs-on-grade for the structures. All fill material should be placed and compacted in accordance with Geotechnical Recommendations 8.5.4 and 8.5.5. The slabs may be designed using a modulus of subgrade reaction of 125 pci.
- 8.3.2 Areas to receive slabs-on-grade should be proof rolled, where possible, prior to placing the Engineered Structural Fill. Proof rolling should be conducted using a tandem axle truck with a minimum gross weight of 40,000 lbs. Rollers or low ground pressure construction equipment shall not be used for proof rolling. The proof rolling must be conducted under the observation of the Geotechnical Engineer. Any areas noted to weave or deflect should be excavated to stable material, at the direction of the Geotechnical Engineer, and replaced with compacted Granular Fill.

Exhibit VIII.C.1.f. (cont.)

Tioga Downs Expansion ATL No. CD3443E-01-11-12 Page 10 of 12 November 26, 2012

8.4 Dewatering

- **8.4.1.** It will be the contractor's responsibility to maintain adequate water control at all times. Project specifications should clearly indicate that standing water, and/or saturated, unstable soil conditions will not be tolerated in areas to receive foundations or utilities. The project specifications should state that the contractor will not be reimbursed for extras related to the control of water.
- **8.4.2.** All dewatering activities must comply with New York State Department of Environmental Conservation (NYSDEC) storm water discharge requirements for construction.

8.5 Backfill and Compaction Requirements

- 8.5.1 The on-site soils, excluding deleterious organics and oversize material (particles larger than 4 inches in diameter), may be used for exterior foundation backfill and general site fill, provided the soil is placed and compacted in accordance with Geotechnical Recommendations 8.5.4 and 8.5.5. Granular Fill should be utilized as interior foundation backfill.
- 8.5.2 Granular Fill should consist of a clean, screened, crushed, or bank-run gravel conforming to the following gradation:

Sieve Size	Percent Passing
4"	100
1/4"	35-65
#200	0-10

8.5.3 Engineered Structural Fill should consist of a screened, crushed gravel or crushed ledge rock conforming to the following gradation:

Sieve Size	Percent Passing
3"	100
1"	80 - 95
1/2"	45 - 75
#4	30 - 60
#40	10 - 40
#200	0 - 7

- 8.5.4 All fill and backfill should be placed and compacted in lifts not exceeding eight inches in loose thickness, at a moisture content of \pm 2% of the Optimum Moisture Content, and to densities in excess of 95%, as determined by ASTM D1557, or as directed by the Geotechnical Engineer.
- 8.5.5 Compaction should be performed with vibratory rollers unless there is concern for damage to adjacent structures or underground utilities.

Exhibit VIII.C.1.f. (cont.)

Tioga Downs Expansion ATL No. CD3443E-01-11-12 Page 11 of 12 November 26, 2012

8.6 Pavement Design

- 8.6.1 Where possible, areas to receive pavement structures should be proof rolled. Proof rolling should be conducted using a tandem axle truck with a minimum gross weight of 40,000 lbs. Rollers or low ground pressure construction equipment shall not be used for proof rolling. The proof rolling must be conducted under the observation of the Geotechnical Engineer. Any areas noted to weave or deflect should be excavated to stable material, at the direction of the Geotechnical Engineer, and replaced with Granular Fill.
- 8.6.2 Light Duty Asphalt Pavement (Passenger Cars and Light Trucks) structure should consist of the following:

Thickness	Course	NYSDOT Item No.
1 1/2"	Bituminous Top Course	Table 403.1, Type 6F
3"	Bituminous Binder Course	Table 403.1, Type 3
8"	* Granular Subbase	304, Type 2
24"	** Granular Fill	Recommendation No. 8.5.2

- * The product of crushed ledge rock.
- ** The thickness may be reduced based on the economic considerations discussed in the Geotechnical Engineering Discussion; however, should be a minimum of 8 inches.
- 8.6.3 Heavy Duty Asphalt Pavement (Trucks) structure should consist of the following:

Thickness	Course	NYSDOT Item No.
1 ½"	Bituminous Top Course	Table 403.1, Type 6F
2"	Bituminous Binder Course	Table 403.1, Type 3
3"	Bituminous Base Course	Table 403.1, Type 1
12"	* Granular Subbase	304, Type 2
24"	** Granular Fill	Recommendation No. 8.5.2

- * The product of crushed ledge rock.
- ** The thickness may be reduced based on the economic considerations discussed in the Geotechnical Engineering Discussion; however, should be a minimum of 8 inches.
- **8.6.4** The granular subbase and granular fill should be placed and compacted in accordance with Geotechnical Recommendations 8.5.4 and 8.5.5. Drainage should be provided in the Granular Fill to prevent the bathtub effect and to enhance the longevity of the pavement structure.
- 8.6.5 The bituminous pavements should be compacted with a vibratory roller to densities in excess of 92% of the maximum theoretical specific gravity of bituminous paving materials as determined by ASTM D 2041.
- **8.6.6** It is anticipated there will be future revisions to the New York State DOT specifications for bituminous mixtures. Prior to bidding this project, ATL must review the final pavement specifications.

Exhibit VIII.C.1.f. (cont.)

Tioga Downs Expansion ATL No. CD3443E-01-11-12

Page 12 of 12 November 26, 2012

8.7 Testing and Inspection

- 8.7.1 Subgrade preparation, foundation installations, and slab-on-grade subbase placement and compaction must be continuously observed by an experienced Geotechnical Engineer, and/or their representative, familiar with the subsurface conditions and analysis described in this report. The engineer will be required to assess any unusual conditions and to ensure that adequate bearing capacities and proper foundation installation requirements are achieved.
- 8.7.2 All backfilling, placement of fill, compaction of in-situ soils, and concrete construction should be inspected by an Independent Testing Laboratory, which conforms to ASTM E-329, "The Standard Practice for use in the Evaluation of Testing and Inspection Agencies as Used in Construction". It should be the Independent Testing Laboratory's responsibility to monitor construction practices to determine if they are in accordance with the project documents.
- 8.7.3 The final foundation plans and project specifications should be reviewed by our office to ensure that there has not been a misinterpretation of this report.

9.0 SUMMARY

The subsurface investigation logs and this report in its entirety should be provided to the contractors for information and interpretation. The subsurface investigation logs may not be representative of the entire site subsurface conditions, but only what was found at the individual test locations at the time the investigation was made. The subsurface soil and groundwater conditions may be different from those described on the subsurface investigation logs and summarized in this report.

This report was prepared to present the findings of our subsurface investigation and engineering evaluation, and to outline concepts to be utilized in foundation design and construction. These concepts may require alterations to meet the specific design and economic considerations for this project.

Prepared by

Adam J. Schneider, PE

Engineer

AJS/BTB/ajs

Reviewed by:

Brian T. Barnes, PE

Senior Engineer

Z~T.

TIOGA DOWNS RACETRACK, LLC Exhibit VIII.C.1.f. (cont.)

APPENDIX A SITE LOCATION PLAN



ATLANTIC TESTING LABORATORIES

Proposed Casino and Hotel Expansion Tioga Downs Nichols, New York ATL No CD3443E-01-11-12 SITE LOCATION PLAN

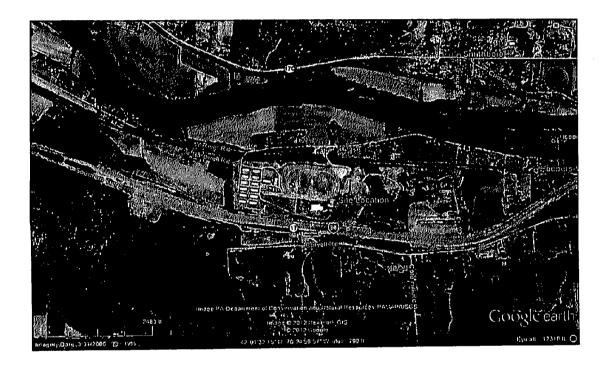


Exhibit VIII.C.1.f. (cont.)

APPENDIX B BORING LOCATION PLAN

Exhibit VIII.C.1.f. (cont.)





TIOGA DOWNS GAMING/HOTELRELATED AMENITIES EXPANSION TIOGA DOWNS CASINO TOWN OF NICHOLS, TIOGA COUNTY, NEW YORK





TIOGA DOWNS. GAMINGHOTELRELATED AMENITIES EXPANSION TIOGA DOWNS. CASINO 300 TOWN OF NICHOLS, TIOGA COUNTY, NEW YORK

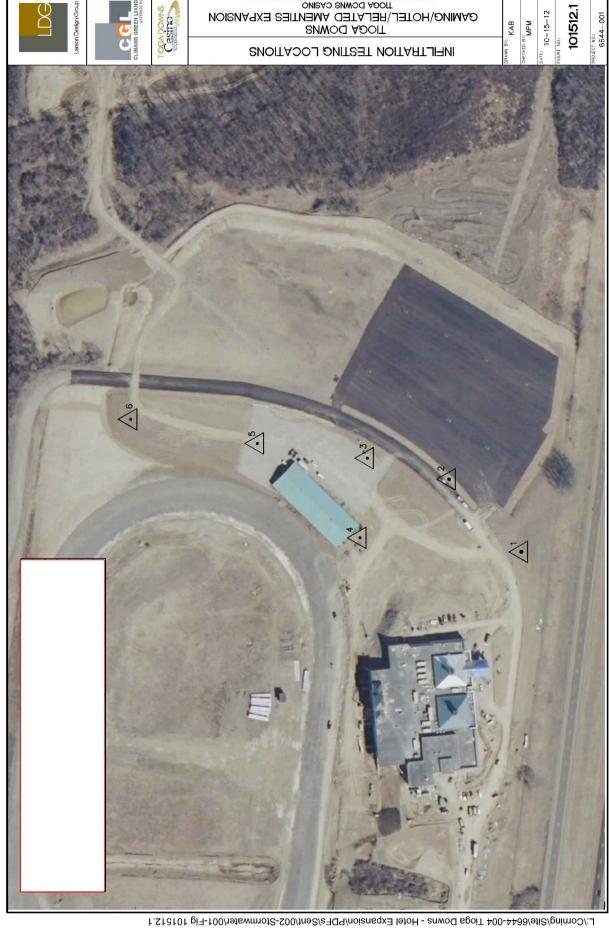








Exhibit VIII.C.1.f. (cont.)

APPENDIX C SUBSURFACE INVESTIGATION LOGS

								S	ubs	surface	• In	vesti	gation						
	Client: Project:		Ilmans G				s, In	с.		<u>.</u>			Report No.: Boring Loca Hotel		See E		D3443-01-1 Location F		
		_1	ioga Dov	ms Casi	ino and	Hotel	Exp	ansio	<u>n</u>										
		1	lichols, N	ew York	(Start Date:				inish Date:	10/4/20	12
١	Boring N		<u>B-1</u>	_		Shee		1_					Date 10/4/2012	•	Groundwa Time	ler Ob	servations Depth 29.6'	Casi	•
	Northing Easting		inates			Weig		npler H 14		mer lbs. in.				-		· -	20.0		
•	casuny	_			Hamm		-	Auto		_				-		-			
•	Ground	Elev.:	8	00.5	_	(Borin	g Adv	ance	 Э Ву:			Borehole c	aved	at 21 feet				
7						_					_								
	METHOD OF ADVANCE	SAMPLE NO.	0	PTH IF IPLE	SAMPLE TYPE	'	SAM PEI 2"	VS ON PLER R 6" O.D.		DEPTH OF CHANGE		fine	CLASSI	FIC	ATION (OF M	IATERIA	and - 35-	50% 35%
	Σ`	ð	From	To	1		SAM!	PLER				medium cossse							20% 10%
	A	1	0.0	2.0	SS	5	7	4	4				SILT; some n	nf GF	AVEL; IIII	le cmf	SAND (wet	,	
1	Ğ				\					2.0		non-pl	·						
┨	R	2	2.0	4.0	SS	12	17	12	11				cmf GRAVEL astic) w=4.2%		ie cmf SA	ND; lit	tle SILT (me	oist,	ļ
1		3	4.0	6.0	SS	7	9	9	14				cmf SAND; s		mf GRAVE	EL; littl	e SILT (wet	,	
					/								astic), w=11.4						
4		4	6.0	8.0	SS	5	5	8	19			Simila	r Soil, w=6.3%	•					
┨	-+	5	8.0	10.0	SS	30	12	13	15			NO RE	COVERY						
1			 			├			_										
		6	10.0	12.0	SS	11	12	11	10				cmf GRAVEL		ne cmf SA	ND; lit	tle SILT (we	et,	
4			ļ		<u> </u>				_			поп-р	uouc), w-4.07	v					
4			<u> </u>			\vdash			\dashv										
1			<u> </u>		 	 			ㅓ										
1		7	15.0	17.0	SS \	7	9	11	18	i		NO RE	COVERY						
4			 	_					_										
+			 		 - -	╂—			_										
+		8	20.0	22.0	SS	21	33	44	19				mf GRAVEL	•	•	_		cmf	
1												SAND	; little SILT (w	et, no	ın-plastic),	w=4.6	3%		
]																			
╛			 		-	 													
J			1		<u> </u>	1				L	L								

					ATI	<u>A</u>	NTIC			LABORATORIES, Limited Investigation	
	Boring N	No.: _	B-1_	_			Repo	rl No.:		CD3443-01-10-12 Sheet 2 of 2	
ОЕРТН	METHOD OF ADVANCE	SAMPLE NO.	DEF O SAM	F	SAMPLE		SAMI PEF 2" (VS ON PLER R 6" D.D. PLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL 1 - Inc	RECOVERY (inches)
26-		9	25.0	27.0	SS	9	12	14 19		Brown mf GRAVEL; some cmf SAND; little SILT (wet, non-plastic), w=5.0%	12
27 —					\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	_				' '	
28 —]	Ţ	
30 —		10	30.0	32.0	SS \	10	12	14 16		Brown cmf GRAVEL; little cmf SAND; little SILT (saturated,	10
31					1				32.0	non-plastic), w=10.5%	
33 —						-				Boring terminated at 32 feet.	-
34 —											
36-	<u> </u>				-	┡			-	Notes: 1. Boring backfilled with on-site soil.	
37	 					╁			1	<u>[</u>	
39 —										-	
40 —						┝			1	<u> </u>	_
41 —]		
43 —			-		ļ	<u> </u>			_	 -	
44—	<u> </u>		_		-	-		·	-		
45	 		_		 	T			1		
46 —]		
48					<u> </u>	1				-	
49	 		ļ	<u> </u>	 	-			4		
50 —	-	 	 	<u> </u>	 	╀╴			+		
51 —	┼──		 	 	╫	╁			1		
52 —	 	-	\vdash	 	 	十			1		
53 —	T^{-}		t^{-}]		
54 — 55 —						I			1		
56 —			1	-	 -	\downarrow			4	1	
57 —	 		 	 	╁	+			-		
58 —	╁	-	 	-	+-	-			-		_
59 —	-	├	 	┼	-	╁			1		
50 — 51 — 52 — 53 — 54 — 55 — 56 — 58 — 59 — 60 —	+		1 -	+ -	\dagger	\dagger			7		
1	+-	 	1	†	1	T]		
62 —	 	†	1	1	1	Τ			L		•

											Investi	Report No.:		CD2442 A4 4	0.40
	Client:	c	limans G	ireen Lis	no Arc	hitec	ls. In	c.				Boring Loca	lion: Sec.	CD3443-01-1 Boring Location P	
	Project:	-	ubsurfac				,	<u>. </u>				Hotel	. <u>388</u>	Boning Cocausii F	181
		_	loga Dov				l Exc	ansid	on						-
			ichols, N									Start Date:	10/3/2012	Finish Date:	10/4/2012
	Boring (B-2			She	et	1	of	2_			Groundwa	iter Observations	
	·	Coordi						npler				Date 10/3/2012	Time	Depth DRY	Casing 30'
	Northing	·				Wei	ght:	_1	40	ibs.		10/3/2012		35.6'	52'
	Easting					F	all:		30	in.		10/12/2012		35.8'	TOW@25'
					Hamm	er Ty	pe:	Auto	mati	<u>c</u>		10/26/2012		32.3'	TOW@25'
	Ground	Elev.:	7:	99.9	_		Borin	ıg Adı	vance	By:					
			_		_			1/4"							
	METHOD OF ADVANCE	SAMPLE NO.	0	PTH OF OPLE	SAMPLE		SAM	VS OF		DEPTH OF CHANGE		CLASSI	FICATION	OF MATERIA	
	METI	SAME	From	To	8.			O.D. PLER	1	F	f - fine m - medium c - coarse				and - 35-50% some - 20-35% title - 10-20% trace - 0-10%
	A	1	0.0	2.0	SS	10	15	9	12			cmf SAND; a	nd mf GRAVE	L; little SILT (wet,	
	G		├──		\vdash	\vdash	-				non-pla				i
_	E	2	2.0	4.0	SS V	5	7	10	5		Similar	Soil			
_	R S			<u> </u>	-	Ĥ	•		_		J. 17.101				
		3	4.0	6.0	SS	7	15	6	6		Brown	cmf SAND; s	ome mf GRAV	EL; some SILT (we	et.
						_			_		non-pla	astic)			
_		4	6.0	8.0	SS \	5	7	7	9		Brown	cmf GRAVEL	; some cmf SA	ND; little SILT (mo	oist,
		-			1					8.0	non-pla	astic)			
_		5	8.0	10.0	SS \	13	15	12	12	0.0	Brown	cmf SAND; li	tte cmf GRAVI	EL; trace SILT (we	i.
	_					-					non-pla	astic)			
-		6	10.0	12.0	SS \	10	12	20	21		Brown	cmf GRAVEI	; some cmf S	AND; trace SILT (n	noist,
_	-					_					non-pla	astic)		•	
					 	1		-							
	1				 	\vdash									
_	+				<u> </u>	+			-						
-	+	7	15.0	17.0	SS	12	14	19	17		Similar	Soil; little SII	.T (wet, non-pi	astic), w=4.7%	
	\vdash		 	 -		Ë			-					•	
	-	-			<u> </u>	1				· '					
_	-				 	╫									
	\vdash		 		\vdash	╀	_								
		8	20.0	22.0	SS \	5	7	7	9		Brown	cmf SAND: li	Itle mf GRAVE	L; little SILT (wet,	
	 		20.0	22.0	33	Ľ			-			astic), w=11.2		-1 OIF: (MOL)	
_	-				<u> </u>	\					,	-			
	1					1									
	1			<u> </u>	 	╄-									
_					<u> </u>										

From To c - course tace - 0.10%						ATI	<u> AN</u>	<u>YTI</u>	_			LABORATORIES, Limited Investigation	
## 13.4% ## 15.		Boring N	ło.: _	B•2	_			Repo	ort No.:	-		CD3443-01-10-12 Sheet 2 of 2	
9 250 270 SS 5 7 7 Brown cmf SAND; httle f GRAVEL; little SiLT (wel, non-plastic), w=13.4% Brown cmf SAND; some SiLT; some f GRAVEL (wet, non-plastic), w=5.4% Brown cmf SAND; some SiLT; some f GRAVEL (wet, non-plastic), w=5.4% NO RECOVERY Brown mf* SAND; and SiLT (saturated, non-plastic), w=29.9% Brown mf* SAND; some SiLT (saturated, non-plastic), w=29.9% Brown f SAND; some SiLT (saturated, non-plastic), w=18.0% Brown f SAND; some SiLT; some f GRAVEL (wet, non-plastic), w=18.0% Brown f SAND; some SiLT; some f GRAVEL (wet, non-plastic), w=18.0% Brown f SAND; some SiLT; some f GRAVEL (wet, non-plastic), w=18.0% Brown f SAND; some SiLT; some f GRAVEL (wet, non-plastic), w=18.0% Brown f SAND; some SiLT; some f GRAVEL (wet, non-plastic), w=18.0% Brown f SAND; some SiLT; some f GRAVEL (wet, non-plastic), w=18.0% Brown f SAND; some SiLT; some f GRAVEL (wet, non-plastic), w=18.0% Brown f SAND; some SiLT; some f GRAVEL (wet, non-plastic), w=18.0% Brown f SAND; some SiLT; some f GRAVEL (wet, non-plastic), w=18.0% Brown f SAND; some SiLT; some f GRAVEL (wet, non-plastic), w=18.0%	ОЕРТН	METHOD OF ADVANCE	SAMPLE NO.	SAM	F PLE	SAMPLE		SAM PEI 2" (PLER R 6" O.D.		DEPTH OF CHANGE	f - fino somo - 20-35% m - medium Litie - 10-20%	RECOVERY
Brown cmf SAND; some SiLT; some f GRAVEL (wet, non-plastic), w=5.4% Brown cmf SAND; some SiLT; some f GRAVEL (wet, non-plastic), w=5.4% NO RECOVERY Brown mf+ SAND; and SILT (saturated, non-plastic), w=29.9% Brown ff+ SAND; some SiLT (saturated, non-plastic), w=18.0% Brown ff+ SAND; some SiLT (saturated, non-plastic), w=29.9% Brown			9			SS V	5	5	7 7	, 			1
Brown cmf SAND; some SiLT; some f GRAVEL (wet, non-plastic), w=5.4% 11	s						Ě			\dashv			_
Brown cmf SAND; some SILT; some f GRAVEL (wet, non-plastic), w=5.4% Brown cmf SAND; some SILT; some f GRAVEL (wet, non-plastic), w=6.4% NO RECOVERY Brown mf+ SAND, and SILT (saturated, non-plastic), w=29.9% Brown f SAND; some SILT (saturated, non-plastic), w=29.9% Brown f SAND; some SILT (saturated, non-plastic), w=18.0% Brown f SAND; some SILT (saturated, non-plastic), w=18.0% Similar Soil, w=16.9% Similar Soil, w=16.9% Similar Soil, w=16.9% 1. Temporary observation well installed to a depth of 25 feet.	7—	-					_			4		-	
Brown cnf SAND; some SILT; some f GRAVEL (wet, non-plastic), w=5.4% Brown cnf SAND; some SILT; some f GRAVEL (wet, non-plastic), w=5.4% NO RECOVERY Brown mf+ SAND; and SILT (saturated, non-plastic), w=29.9% Brown f SAND; some SILT (saturated, non-plastic), w=29.9% Brown f SAND; some SILT (saturated, non-plastic), w=18.0% Brown f SAND; some SILT (saturated, non-plastic), w=29.9% Brown f SAND; some SILT; some f GRAVEL (wet, non-plastic), w=29.9% Brown f SAND; some SILT; some f GRAVEL (wet, non-plastic), w=29.9% Brown f SAND; some SILT; some f GRAVEL (wet, non-plastic), w=29.9% Brown f SAND; some SILT; some f GRAVEL (wet, non-plastic), w=29.9% Brown f SAND; some SILT; some f GRAVEL (wet, non-plastic), w=29.9% Brown f SAND; some SILT; some f GRAVEL (wet, non-plastic), w=29.9% Brown f SAND; some SILT; some f GRAVEL (wet, non-plastic), w=29.9% Brown f SAND; some SILT; some f GRAVEL (wet, non-plastic), w=29.9% Brown f SAND; some SILT; some f GRAVEL (wet, non-plastic), w=29.9% Brown f SAND; some SILT; some f GRAVEL (wet, non-plastic), w=29.9% Brown f SAND; some SILT; some f GRAVEL (wet, non-plastic), w=29.9% Brown f SAND; some SILT;	8					-	-			4		 	_
10 30,0 32.0 SS 22 21 13 12	9					-	-			-		 	_
non-plastic), w=5.4% 11 35.0 37.0 SS 38.0 38.0 12 40.0 42.0 SS WOH/24" Brown mf+ SAND, and SILT (saturated, non-plastic), w=29.9% 43.0 Brown f SAND; some SILT (saturated, non-plastic), w=18.0% Similar Soil, w=16.9% Similar Soil, w=16.9% 12 14 50.0 52.0 SS 5 9 9 12 Similar Soil, w=16.9% 13 45.0 47.0 SS 4 4 5 9 Boring terminated at 52 feet. Notes: 1. Temporary observation well installed to a depth of 25 feet.	ю <u> —</u>		10	30.0	32.0	ee 1	22	21	12 1			Brown cmf SAND: some SILT: some f GRAVEL (wet	_
33.	ıı —		10	30.0	32.U	33	Ľ		13	-			_
NO RECOVERY	2						\vdash			\dashv		 	_
11 35.0 37.0 SS 5 7 7 7 7 38.0 38.0 38.0 38.0 38.0 38.0 38.0 38.0	з —					ļ <u>.</u>	<u> </u>			4		 	
11 35.0 37.0 SS 5 7 7 7 38.0 38.0 38.0 Brown mf+ SAND; and SiLT (saturated, non-plastic), w=29.9% 11 12 40.0 42.0 SS WOH/24" 13 45.0 47.0 SS 4 4 5 9 14 50.0 52.0 SS 5 9 9 12 15 52 53 53 54 55 55 55 55 55 55 55 55 55 55 55 55	⊿ —					<u> </u>	<u> </u>			4		 	_
38.0. 38.0. Brown mf+ SAND; and SiLT (saturated, non-plastic), w=29.9% 43.0 Brown f SAND; some SiLT (saturated, non-plastic), w=18.0% Brown f SAND; some SiLT (saturated, non-plastic), w=18.0% Similar Soil, w=19.9% Similar Soil, w=19.9% Notes: 1. Temporary observation well installed to a depth of 25 feet.	5		- 44	05.0	07.0	CC.	_		-	\dashv		NO RECOVERY	_
38.0 38.0 Brown mf+ SAND; and SiLT (saturated, non-plastic), w=29.9% 31 43.0 Brown i SAND; some SiLT (saturated, non-plastic), w=18.0% 31 45.0 47.0 SS 4 4 5 9 Similar Soil, w=16.9% 31 52.0 Boring terminated at \$2 feet. Notes: 1. Temporary observation well installed to a depth of 25 feet.	ı6 —		11	35.0	37.0	55	Ľ			4		T NO RECOVERY	_
Brown mf+ SAND; and SILT (saturated, non-plastic), w=29.9% 43.0 43.0 Brown f SAND; some SILT (saturated, non-plastic), w=18.0% Brown f SAND; some SILT (saturated, non-plastic), w=18.0% Similar Soil, w=18.9% Similar Soil, w=18.9% Similar Soil, w=10.9% Notes: 1. Temporary observation well installed to a depth of 25 feet.	s7						_			4		-	_
Brown mf+ SAND; and SiLT (saturated, non-plastic), w=29.9% 43.0 Brown f SAND; some SiLT (saturated, non-plastic), w=18.0% Brown f SAND; some SiLT (saturated, non-plastic), w=18.0% Similar Soil, w=16.9% Similar Soil, w=16.9% Similar Soil, w=16.9% Notes: 1. Temporary observation well installed to a depth of 25 feet.	sa						<u> </u>			վ.	38.0		_
Brown mf+ SAND; and SiLT (saturated, non-plastic), w=29.9% 43.0 Brown f SAND; some SiLT (saturated, non-plastic), w=18.0% Brown f SAND; some SiLT (saturated, non-plastic), w=18.0% Similar Soil, w=16.9% Similar Soil, w=16.9% Similar Soil, w=16.9% Notes: 1. Temporary observation well installed to a depth of 25 feet.	s9 —				_		<u> </u>			_			_
12 40.0 42.0 SS WORL24 Brown f SAND; some SILT (saturated, non-plastic), w=18.0% Brown f SAND; some SILT (saturated, non-plastic), w=18.0% Similar Soil, w=16.9% Similar Soil, w=16.9% Similar Soil, w=16.9% Notes: 1. Temporary observation well installed to a depth of 25 feet.										_			
43.0 43.0 Brown f SAND; some SILT (saturated, non-plastic), w=18.0% Similar Soil, w=16.9% Similar Soil, w=16.9			12	40.0	42.0	SS \	W	DH/24	4" 			Brown mf+ SAND; and SILT (saturated, non-plastic), w=29.9%	_
43.0 43.0 Brown f SAND; some SiLT (saturated, non-plastic), w=18.0% Similar Soil, w=16.9% Similar Soil, w=16.9% Similar Soil, w=16.9% Notes: 1. Temporary observation well installed to a depth of 25 feet.						\	_						_
Brown f SAND; some SILT (saturated, non-plastic), w=18.0%							<u> </u>			Ц.	43.0		L
Brown f SAND; some SILT (saturated, non-plastic), w=18.0% Brown f SAND; some SILT (saturated, non-plastic), w=18.0% Similar Soil, w=16.9% Similar Soil, w=16.9% Notes: 1. Temporary observation well installed to a depth of 25 feet.						<u> </u>				_			_
14 50.0 52.0 SS 5 9 9 12 Similar Soil, w=16.9% 52 Boring terminated at 52 feet. Notes: 1. Temporary observation well installed to a depth of 25 feet. 1. Temporary observation well installed to a depth of 25 feet.										_			<u> </u>
14 50.0 52.0 SS 5 9 9 12 Similar Soil, w=16.9% 52.0 Boring terminated at 52 feet. Notes: 1. Temporary observation well installed to a depth of 25 feet.			13	45.0	47.0	ss \	4	4	5 9	9		Brown f SAND; some SILT (saturated, non-plastic), w=18.0%	
18			ļ			\\							L
Similar Soil, w=16.9% Similar Soil, w=16.9% Simil												}	L
50													L
51										\Box			L
52.0 Boring terminated at 52 feet. Notes: 1. Temporary observation well installed to a depth of 25 feet. 55 66 61			14	50.0	52.0	SS	5	9	9	12		Similar Soil, w=16.9%	L
Notes: 1. Temporary observation well installed to a depth of 25 feet. 55 66 61						\					52.0		L
Notes: 1. Temporary observation well installed to a depth of 25 feet.										\Box		Boring terminated at 52 feet.	\vdash
Notes: 1. Temporary observation well installed to a depth of 25 feet. 55 66 61													L
66												Notes:	L
57 58 59 60 61							\prod					Temporary observation well installed to a depth of 25 feet.	L
58 — — — — — — — — — — — — — — — — — — —													L
59 60 61													L
61													L
61		1	<u> </u>										L
\ \ \ \ \ \ \ \ <u></u>		\vdash				Ī							L
	61 —				1 -		Τ						L

Norti East	JONANGE A JOSEP	Su Tic Nic		ns Casil pw York	gation no and	Sheer Ty	Sampht: Sall: pe: Borin 3 BLOV SAMPE	ansio	of _ lamr 40 o matin	ner lbs. in. c By:		Date 10/4/2012 10/4/2012 10/4/2012	10/4/2012	CD3443-01-11 oring Location P Finish Date: er Observations Depth DRY DRY DRY	
Projett Borist North East Ground Hall W A Hall Ground Hall W G E E E E E E E E E E E E E E E E E E	JONANGE A JOSEP	Su Tic Nic Nic Nic Nic Nic Nic Nic Nic Nic N	bsurface pga Down chols, Ne B-3 ates DEP OI SAM	Pinvesti ns Casin PW York	SAMPLE SAMPLE	Sheer Ty	Sampht: Sall: pe: Borin 3 BLOV SAMPE	1 14 3 Auto	of _ lamr 40 o matin	ner lbs. in. c By:		Hotel Start Date: Date 10/4/2012 10/4/2012	10/4/2012 Groundwate Time	Finish Date: er Observations Depth DRY DRY	10/4/2012 Casing 10' 30'
Borin North East Ground August 1980 August	ADVANCE	Tic Nic Nic Nic Nic Nic Nic Nic Nic Nic N	B-3 ales DEP OI SAMI	ns Casil nw York	SAMPLE TYPE	Sheer Weig	Sam Sam Sall: pe: Borin 3 BLOV SAMI	1 14 3 Autor 1/4" A	of _ lamr 40 o matin	ner lbs. in. c By:		Start Date: Date 10/4/2012 10/4/2012	Groundwate Time	DRY DRY DRY	Casing 10'
North East Ground August 1990 Oct 1990	Conting Individual State of the	Nic SAMPLE NO.	B-3 ales B0 DEP OI SAMI	2.6 TH FPLE	SAMPLE	Shee	Sam Sam Sall: pe: Borin 3 BLOV SAMI	1 14 3 Autor 1/4" A	of _ lamr 40 o matin	ner lbs. in. c By:		Date 10/4/2012 10/4/2012 10/4/2012	Groundwate Time	DRY DRY DRY	Casing 10'
North East Ground A Land G G E E E S S	Conting Individual State of the	ev.:	B-3 ales B0 DEP OI SAMI	22.6 TH F PLE	SAMPLE TYPE	Weig	Sampht: Fall: pe: Borin 3 BLOV SAMI	Autor	lamr 40 0 matir	ner lbs. in. c By:		Date 10/4/2012 10/4/2012 10/4/2012	Groundwate Time	DRY DRY DRY	Casing 10'
North East Ground A Land Groun	Conting Individual State of the	ev.:	DEP OI SAMI	2.6 PTH F PLE	SAMPLE	Weig	Sampht: Fall: pe: Borin 3 BLOV SAMI	Autor	lamr 40 0 matir	ner lbs. in. c By:		10/4/2012 10/4/2012 10/4/2012	Time	Depth DRY DRY DRY	10°
Ground A GO GO HLLLING S S S S S S S S S S S S S S S S S S S	Thing and Electrical Approximations and Electrical Approximations and Electrical Approximation and Electrical Approximations a	ev.:	DEP OI SAMI	TH F PLE	SAMPLE	Finer Ty	ght: fall: pe: Borin 3 BLOV SAMI	34 Autor g Adv 1/4" A	40 mati vance	lbs. in. c By:		10/4/2012	aved at 19 feet.	DRY	30'
Ground A G G E E E E E E E E E E E E E E E E E	A DONANCE	SAMPLE NO.	DEP OI SAM	TH F PLE	SAMPLE	Finer Ty	all: pe: Borin 3 BLOV SAMI PEI	Autor g Adv 1/4" A	mati mati	in. c By:		10/4/2012	aved at 19 feet.	DRY	
Ground WETHOD OF S	A ADVANCE	SAMPLE NO.	DEP OI SAM	TH F PLE	SAMPLE	er Ty	pe: Borin 3 BLOV SAMI PEI	Autor g Adv 1/4" A	mati ance	C By:			aved at 19 feet.		CAVED
METHOD OF	A ADVANCE	SAMPLE NO.	DEP OI SAM	TH F PLE	SAMPLE		Borin 3 BLOV SAMI PEI	g Adv 1/4" A	ance	By:		Borehole c	aved at 19 feet.		
METHOD OF	A ADVANCE	SAMPLE NO.	DEP OI SAM	TH F PLE		E	3 BLOV SAMI PEI	1/4" A		•		Borehola	aved at 19 feet		
A U	A G	1	From 0.0	F PLE To			BLOV SAMI PEI	vs or	Auge						
A U	A G	1	From 0.0	F PLE To			SAMI PEI			<u>r</u>					
A G G G G G G G G G G G G G G G G G G G	A G	1	From 0.0	F PLE To			SAMI PEI					CLASSI	FICATION (OF MATERIA	
A U	A G	1	From 0.0	PLE To			PEI			DEPTH OF CHANGE		OLAGO.	, loniton (_
A U	A G	1	0.0					R 6" O.D.		HAY N					and - 35-50%
A U	A G	1	0.0		SS V			PLER	:	꿈ㅁ	f + fine m - moda				some - 20-35% ittlo - 10-20%
G	G E R			2.0	33 =			10	40		c - coars		mf CAND: some	cmf GRAVEL; to	trace - 0-10%
9	E R	2	2.0			9	10	10	12			•	ot) (wet, non-pla		ace
S	R.	-	2.0	4.0	SS	10	19	22	27	2.0	Bros	m cmf SAND: a	nd cmf GRAVE	L; some SILT (mo	niet
	* -			4.0	33	Ľ						plastic)	ing cim crowc	e, some orer (me	,,,
		3	4.0	6.0	ss V	20	14	16	14	ļ	Bros	wn.cmf.SAND: s	oma SILT: som	e mf GRAVEL (m	ioist.
ļ	-+	-	7.0			Ë			-	ł		plastic)			
		4	6.0	8.0	ss V	16	7	5	14	1	Sim	llar Soll (wet, no	n-plastic)		
	-	-	0.0		-	Ë	•								
Į.		5	8.0	10.0	ss	3	4	4	5	1	Sim	ilar Soil			
ļ	+	<u> </u>				₩				1					
╫	+	6	10.0	12.0	SS V	6	6	7	6	ł	Bro	wn cmf SAND; a	and cmf GRAVE	L ; some SILT (w	et,
						┫				1	non	-plastic)			
+	+	\dashv			-	╁				1					
+	+		<u> </u>		1	+				1					
+	+				+-	+				1					
+-	\dashv	7	15.0	17.0	SS	11	4	4	4	1	Sim	ilar Soil			
+	+					1				1					
十				-	 	\top				1					
+	\dashv			-		\top				1					
+	_					\top]					
一	$\neg \uparrow$	8	20.0	22.0	SS	5	7	7	12]	NO	RECOVERY			
╅	1														
十	$\neg \uparrow$	_				$oxed{\mathbb{L}}$]					
]					
十	十					Ι				1	ļ				

					<u>AT</u>	LAI	NTI	C TES	<u> </u>	LABORATORIES, Limited	
								Sub	surfac	e Investigation	
	Boring I	No.: _	8-3				Repo	ort No.:		CD3443-01-10-12 Sheet 2 of 2	
ОЕРТН	METHOD OF ADVANCE	SAMPLE NO.	SAN	PTH)F MPLE	SAMPLE		SAM PE 2"	WS ON IPLER R 6" O.D. IPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL and . 35-50% tome . 20-33% use . 10-20%	RECOVERY (inches)
		9	From 25.0	To 27.0	SS	14	8	7 8	<u> </u>	Brown cmf GRAVEL; some cmf SAND; some SILT (saturated,	10
26 —									1	non-plastic)	
27 —]		
29						L			1	<u> </u>	
30		10	30.0	32.0	SS V	14	9	10 8	1	Brown cmf GRAVEL; and cmf SAND; some SILT (saturated,	12
31 —			30.0	J2.0	33	Ë		10 0	 	non-plastic)	
32				t	<u> </u>	┪			32.0	Boring terminated at 32 feet.	
33 —						Т	-		1		
34 — 35 —]	Notes:	
36 —										Boring backfilled with on-site soil.	
37 —											
38 —						_			-	-	
39 —				 		<u> </u>			-		
40-									1		
41 —				 					1	 	
42			<u> </u>						1		
43									1		
44 —]		
46]	<u> </u>	
47 —			<u> </u>		ļ	_			1	-	
48			 		 	_			-		
49	_				 	┝			1	 	
50 —			 	-	-	一			1		
51 —			 	-	 	\vdash			1		
52 —						T			1	[
53]		
54 —									1	1	
56			<u></u>		ļ	lacksquare		···-	4		
57 —	<u> </u>		<u> </u>	 	 	├-			4		
58 —			 	_	 	-			1	}	
59			 	-	 	\vdash			1	 	
60-	-		 	 	\vdash	\vdash			1		
61 —	-	_	 		1	<u> </u>			1		
62—			1			1			1		

								_			Investig	Report No.:			CD3443-01-10	0-12
	Client:	c	limans G	reen I la	na Arci	hiteci	ts, Inc	c.				Boring Loca	_		ring Location P	
	Project:		ubsurfac					<u>. </u>				Hotel		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ing section:	
	· rojoot.		oga Dow				1 Exp	ansio	n .							
			chols, N			.,,,,,	<u>,</u>	<u> </u>	.,,,			Start Date:	10/4/201	2	Finish Date:	10/4/2012
			CHOID, IV	ON IOIN								Olari Dato.	•	_	Observations	
	Boring N	lo.: _	B-4	-		She	et _	1_	of _	2		Date	Tin		Depth 29.8	Casing 30'
		Coordi				10/01		npler I		ner lbs.		10/4/2012				
	Northing	' —					ght: Fall:		40 10	ios. in.			-			
	Easting		—		Hamm	-								_		
					· idiiiii		-	Auto								
	Ground	Elev.:	8	03.0	_			ıg Adı								
						_	3	1/4" /	Auge	<u>r</u>						
_	1		1		1	Т			_			CLASS	EICATI	3N O	F MATERIA	 :
E	METHOD OF ADVANCE	SAMPLE NO.		PTH	و ا			NS OI		유병		CLASS	ii IOA III	JI4 U	INAIENIA	-
7	ŠŠ	7)F NPLE	SAMPLE		PE	R 6"	•	DEPTH OF CHANGE						and - 35-50%
Š	A A	Ϋ́	l		S P			O.D. PLER	2	필포	f - fne m - medum					some - 20-35% ligito - 10-20%
			From	То	<u> </u>	<u>l. </u>					c - coarse				<u></u>	trace - 0-10%
	A	1	0.0	2.0	SS	7	19	10	15		Brown non-pla		nf SAND; i	ttle mf	GRAVEL (moisi	t,
	Ğ										•	,				
	E R	2	2.0	4.0	SS	18	15	24	21		Similar	Soil; some r	nf GRAVE	L		
_	S									4.0						
		3	4.0	6.0	SS	19	16	13	13				and SILT; s	ome m	of GRAVEL (wet	
					1	T					non-pla	astic)				
·—		4	6.0	8.0	SS	8	11	11	12	[some SILT	; some	mf GRAVEL (w	et,
_						lacktriangledown				1	non-pla	astic)				
·—		5	8.0	10.0	SS	9	11	10	7	1	NO RE	COVERY				
_				 		-				1						
-	1	6	10.0	12.0	SS	11	4	5	7	10.5				2004115		
_	+					┫				1	Brown non-pla		some cm1 (SRAVE	L; little SILT (w	et,
-	+-				+	╁				1	, ion pa	2010)				
-			-		+	+				1						
-			 	 	 	╁				1						
-	+	7	15.0	17.0	SS	3	4	5	5	l	Brown	cmf SAND;	some mf G	RAVEL	.; little SILT (sat	urated,
, —	+	<u> </u>	-			┪			_	ł	non-pla				•	
_					-	╄				ł						
-	+-+				+	+				1						
-	+			1	+	╁╌				1						
_	+-	8	20.0	22.0	SS	9	5	5	5	1	Brown	cmf GRAVE	L; some cr	nf SAN	D; some SILT (saturated,
_	+		 	 	13	H				1	non-pla					
_	┼		 	 	╁	1-				1						
	+			-	 	+				{						
-	1		ļ	<u> </u>	↓	ļ				ļ						
3— 4—			1													

					ATI	LAN	NTIC	C TEST	ring i	LABORATORIES, Limited	
					<u> </u>					e Investigation	
	Boring I	No.: _	B-4	<u> </u>			Repoi	rl No.:		CD3443-01-10-12 Sheet 2 of 2	
DEPTH	METHOD OF ADVANCE	SAMPLE NO.	0	PTH OF IPLE	SAMPLE		BLOW SAMF PER 2" C SAMF	R 6" D.D.	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL and - 35-50% to the some - 20-35% to - 10-20% to - 10-20% trace - 0-10%	RECOVERY (inches)
26 —		9	25.0	27.0	SS	4	4	2 2		Brown mf GRAVEL ;some cmf SAND; some SILT; trace ORGANIC MATERIAL (root hairs) (saturated, non-plastic)	10
27-			<u> </u>		\	_			1	, , , , , , , , , , , , , , , , , , , ,	
28 —									j		
30—		10	30.0	32.0	SS \	4	4	5 5]	Brown cmf GRAVEL; some cmf SAND; some SILT (saturated,	10
31		10	30.0	32.0	33	-			32.0	non-plastic)	· ·
32 —									† <u></u>	Boring terminated at 32 feet.	
34-]		
35 —				-	-	 			┨	Notes: 1. Boring backfilled with on-site soil.	-
36 —				-					┨		
37 —									1		
39—]		
40-					ļ	-			┨		
41—				-	<u> </u>	┝	-		┨		
42-					<u> </u>				1		
43]		
45-						L					<u> </u>
45 —			-			L			-		
47								-	{		
48	\vdash								1		
49—]		
51 —									}		
52 —						\vdash			-		<u> </u>
53 —				<u> </u>	\vdash	┢			1		
54 —					<u> </u>	-			1		
55 —									1		
56—											
58						_			4		<u> </u>
59 —					-	\vdash			-		
60						-			-		
61						\vdash			1		
62 —	 	-		 	 	 			<u> </u>		

										urface		Ī	Report No.:			CD3443-0	1-10-12		
	Client:	CI	limans G	reen Lia	na Arci	nitects	s. Inc						Boring Loca	tion:	See Be	oring Location			
	Project:		ubsurfac				1,111						Hotel/ Ame		_				•
	,		oga Dow			Hotel	Exp	ansio	п						-				•
		_	chols, N										Start Date:	10/	4/2012	Finish Da	te: 10/4	/2012	•
			0110101 111													r Observatio		<u></u>	
	Boring N	_	B-5	_				1					Date 10/4/2012		Time PM	Depth 24.3'		asing 25'	
	Northing	Coordii	nates			Weig		pler H 14		ner lbs.			10/4/2012	-	PM	DRY		AVED	•
	Easting	, —				_	ali:	34		55. in.			101-7/2012	-					•
					Hamm	-	• • •	Auto						-					•
	Ground	Flev ·	80	03.1				g Adv		_			Borehole o	aved:	at 16 feet				•
	Cibalia	L. 10 V		JU. 1	_	•		1/4" A		•									-
									1090										•
	ш												CLASS	IFIC	ATION C	F MATER	RIAL		Γ
:	METHOD OF ADVANCE	SAMPLE NO	DEF	PTH F	SAMPLE		SAMI	VS ON PLER		DEPTH OF CHANGE									l
	울奏	Æ		PLE	₹ 2		PEF 2" (EA		fao						- 35-50% - 20-35%	١
•	풀	SA			, o			PLER		20 E	m·	modium					Little	- 10-20% - 0-10%	l
_	I .	1	From 0.0	7o	l ss \	18	26	21	20		٠.		SILT; and cn	of SA	ND: some i	mt GRAVEL (. 0-10%	Ļ
	-Û-		0.0	2.0	33	10	20	41				non-pla	-	III JA	110, 30,116 1	III OIVAVEE ((1110101.		ŀ
	G		-	4.5	00					i		•	•						ŀ
	R	2	2.0	4.0	SS	20	11	11	12			Similar	5011						ŀ
	s				,	_		•••		4.0	_	A 51	- 0 - 0				The bests		Ļ
		3	4.0	6.0	ss	8	12	11	10				optic line wa oved 5 feet s					9	ŀ
_	ļ				,								cmf SAND; s						L
_	ļ	4	6.0	8.0	ss	10	12	12	14			non-pla	•			O# =			L
_					'	_						non-pla	cmf SAND; a	and m	IT GRAVEL	some SILT ((moist,		L
_		5	8.0	10.0	ss \	14	12	11	13				cmf SAND; a	and m	f GRAVEL	little SILT (w	ret,		L
_												non-pla							L
_		6	10.0	12.0	SS	12	11	13	10			Similar	r Soil						L
					<u> </u>														L
_																			L
											ļ								
_																			L
_		7	15.0	17.0	SS	11	14	10	8		ĺ		cmf SAND; s	some	mf GRAVE	L; some SIL1	Γ (moist,		
												non-pl	a50C)						
											ł								
		8	20.0	22.0	SS	5	6	4	3				cmf GRAVE	L ;soı	ne cmf SAI	ND; some SIL	T (saturate	ed,	
												non-pl	asuc)						
]																ſ
		-				Π		_			_								T
	1				 	1					Ţ								ľ

						Sub	surface	Investigation		
	Boring t	No.: _	B-5			Report No.:		CD3443-01-10-12	Sheet <u>2</u> of <u>2</u>	_
DEPTH	METHOD OF ADVANCE	SAMPLE NO.	SAM	F IPLE	SAMPLE	BLOWS ON SAMPLER PER 6" 2" O.D. SAMPLER	DEPTH OF CHANGE	CLASSIFICAT	ION OF MATERIAL and . 35-50% some . 20-35% atte . 10-20% trace . 0-10%	: ₩
		9	From 25.0	To 27.0	SS V	4 4 5 6	<u> </u>	Similar Soil	2000 - 9-19-1	1 10
8					1		27.0			\vdash
7 —							27.0	Boring terminated at 27 feet.		\top
8							1			
9			i				1	Notes:		
ю —	П					-	1	1. Boring backfilled with on-s	site soit.	
n]			
12 — 13 —										
13 14										L
 15 —										L
~ 18 —							_			
7					ļ		4			L
ж —				<u> </u>	<u> </u>		4			\vdash
9 —					ļ		-			\vdash
ю	\sqcup				<u> </u>		-			\vdash
11	-				<u> </u>		4			\vdash
2 —							-			\vdash
13					1		+			\vdash
4					-		┥			\vdash
15 —					 		1			\vdash
1 5 —					\vdash		1			\vdash
:7 	 			<u> </u>	1		1			\vdash
16				<u> </u>	 		1			H
.p—				<u> </u>			1			
ю —							7			Г
1 —]			
2 — 3 —]			
3]			
5—]			
6 —							1			L
~ .7 —	\square			<u> </u>	<u> </u>		1			
8 —				ļ	<u> </u>		4			
i9 —	\square				_		4			<u> </u>
o	$\vdash \vdash \vdash$						-			L
ii —	\square				_		4			<u> </u>
i2 —	\vdash			<u> </u>			4			

								S	Subs	urface	: In	vestig	gation				
	Client:		imans G			nitect	s, inc	c					Report No.: Boring Local Amenities	ition:	See B	CD3443-01-1 oring Location F	
	,		oga Dow			Hote	l Exp	ansic	on								
		_N	chols, N	ew York									Start Date:	_16	0/3/2012	Finish Date:	10/4/2012
	Boring N	lo.: _	8-6	_		Shee	et _	1_	of _	2			Date		Time	er Observations Depth	Casing
		Coordi	nates					npler					10/3/2012		PM	DRY	<u>15'</u> 15'
	Northing	' —				Wei	gnt: Fall:		<u>40</u> 30	lbs. in.			10/4/2012		AM AM	24.2'	25'
	Easting				Hamm			Auto	-	_			10/4/2012		AIR	24.2	
	Ground	Elev.:	80	02.5	_	_	Borin	ng Ad	vance	By:			Borehole	cave	d at 16 feet.		
								114	Auge	<u>'</u>							
	METHOD OF ADVANCE	SAMPLE NO.	DEF O SAM	F	SAMPLE		SAM PE	NS OI IPLEF R 6"		DEPTH OF CHANGE			CLASS	IFIC	CATION (OF MATERIA	and - 35-50%
	A PE	SAM			8			O.D. IPLEF	₹	필공	m -	fino medium					somo - 20-35% Ettio - 10-20%
			From	To	100		44	45	40		c -	Совтее	ami CAND		omt CBAV	EL; trace SILT (n	trace - 0-10%
	A U G	1	0.0	2.0	SS	20	14	15	10			non-pl	•	SUTTR	a GIII GRAV	EL, HACE SILT (II	noist,
	E R	2	2.0	4.0	SS	16	14	9	10				cmf SAND; a			MATERIAL (WOO	D); little
_	S					\							•		•	•	-1
		3	4.0	6.0	ss \	14	14	11	7				cmf SAND; astic), w=6.7		mf GRAVEL	; trace SILT (moi	st,
		4	6.0	8.0	ss	12	11	10	10				cmf SAND;			L; trace SILT; tra %	ce CLAY
	<u> </u>	5	8.0	10.0	SS	7	7	7	7	8.0		Brown	cmf SAND:	and a	cmf GRAVE	L; trace SILT (mo	nist.
			0.0	10.0	00	Ŀ			<u>.</u>	[astic), w=5.0			-,	
_		6	10.0	12.0	SS	6	5	7	6	}		Brown	mf GRAVEL	.; soı	ne cmf SAN	ID; little SILT (mo	oist,
_	 					\vdash				1		non-pi	astic), w=6.6	%			
	 				 	1											
										1							
]							
_		7	15.0	17.0	SS	12	22	7	6]		NO RI	ECOVERY				
					<u> </u>	\]							
_					_	_				1							
_	-				<u> </u>	┼	_			{							
	 	8	20.0	22.0	SS	6	14	10	12	{		Brown	cmf SAND:	and	cmf GRAVE	L; little SILT; trac	æ CLAY
	1	_			+	Ť	, ,			1			ery slightly p				•
_	+-			\vdash	 	1				1							
	†			 	 	+			-	1	_						
-	+			 	†	1				1	Ţ						

3								LABORATORIES, Limited Investigation	•	
	Boring I	No.: _	B-6	_		Report No.:		CD3443-01-10-12	Sheet <u>2</u> of <u>2</u>	_
ОЕРТН	METHOD OF ADVANCE	SAMPLE NO.	0	PTH OF MPLE	SAMPLE	BLOWS ON SAMPLER PER 6" 2" O.D. SAMPLER	DEPTH OF CHANGE	CLASSIFICATION	and - 35-50 some - 20-35 Life - 10-20 trace - 0-10	* H
26 — 27 — 28 — 30 — 31 — 32 — 33 — 35 — 36 — 37 — 41 — 42 — 43 — 45 — 45 — 45 — 50 — 51 — 52 — 53 — 54 — 55 — 55 — 55 — 55 — 55 — 55		9	25.0	27.0	SS	6 9 13 1	27.0	Brown cmf SAND; some mf GRA: non-plastic) Boring terminated at 27 feet. Notes: 1. Boring backfilled with on-site so		
56 — 57 — 58 — 59 — 60 — 61 — 62 —										

											Investi	Report No.:		CD3443-01-1	0.12
	Client:	С	limans G	ireen Lia	ana Arc	hitec	ts. In	1C.				Boring Local	tion: See B	oring Location F	
	Project:		ubsurfac					· · · · · · · · · · · · · · · · · · ·				Amenties	<u>-000 D</u>	oing cooddon	
		_	ioga Dov				el Exi	oansi	on						
			ichols, N									Start Date:	10/3/2012	Finish Date:	10/3/2012
	Boring I		B-7		·	She	et _	1	of	2_		Date		er Observations Depth	Casing
							_					10/3/2012	PM	DRY	TOW@27'
	Northing	Coordi				We	Sar ight:	mpler	Ham: 140	mer Ibs.		10/11/2012		23.4'	TOW@27'
	Easting						Fail:		30	— in.		10/12/2012	PM	23.5'	TOW@27'
	Lusung				Нат			_	omati	_		10/26/2012	PM	24.0'	TOW@27
	Ground	Elou ·		02.2			• •	ng Ad				10/20/2012			10440021
	Gibana	CIGV		U4.4	_			•		-					
						_		1/4"	Auge	er			-		
=						T						CI ASSI	EICATION (OF MATERIA	
	METHOD OF ADVANCE	SAMPLE NO.		PTH	ᄤ			WS O		DEPTH OF CHANGE		CLASSI	rica non c	AL BIATERIA	-
	E A	PLE		IF IPLE	SAMPLE	1	PE	R 6"		PTH TAN					and - 35-50%
ı	AP	3AM			」໖ົ			O.D. IPLEI		필호	f - fine m - medium				some - 20-35% Ettle - 10-20%
			From	То		<u> </u>					c - connec				trace - 0-10%
	A	1	0.0	2.0	SS	4	8	7	10	0.2			RGANIC MATER		
	Ğ				'	1								trace SILT; trace	
	E R	2	2.0	4.0	SS	13	13	13	13]				noist, non-plastic; _; trace SILT (mo	
_	s				1	T				1	non-pl		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	-,	.0.,
		3	4.0	6.0	SS	13	16	11	10		Brown	cmf SAND; s	ome cmf GRAV	EL ;trace SILT; tr	ace CLAY
_		•	 			┫					(moist	very slightly	plastic)		
		4	6.0	8.0	SS	10	6	7	6	6.5					
	╁				1	┫				1	non-pl	=	tile mf GRAVEL	; trace SILT (moi:	st.
		5	8.0	10.0	SS	6	5	6	4	1	•	•	ome cmf GRAV	EL; little SILT (mo	oist,
				-	 	┫					non-pl	astic)			
	 	6	10.0	12.0	SS	4	5	4	3	1	Brown	cmf SAND; s	ome cmf GRAV	EL; trace SILT (w	ret.
				<u> </u>	1	┢				ł	non-pl	astic)		,	
-					-	+				 					
_					+	+									
					 	+									
_	\vdash	7	15.0	17.0	SS V	3	4	4	12		Brown	cmf SAND: e	ome cmf GRAV	EL; trace SILT (w	net les
_				-	 _	Ľ		-т		16.5	non-pla	· ·	one one Grott	LL, HUSE OIL I (N	V.,
_					-	1-									
			 	ļ	<u> </u>	1									
_			<u> </u>		<u> </u>	-									
	 		20.0	22.2	00 -	_	4 ***	4.					-44000		. 01 414
	<u> </u>	8	20.0	22.0	SS	7	12	11	14			cmf SAND; a ery slightly pla		trace SILT; trace	CLAY
	<u> </u>				<u> </u>	\					(2101, 4	ary original bio	/		
					<u> </u>	_									
											COBB	LES encounte	red from 23 to 2	!5 feet	
	i I												<u> </u>		
														_	

						Subs	surface	Investigation	
	Boring I	No.: _	B-7			Report No.:		CD3443-01-10-12 Sheet 2 of 2	_
DEPTH	METHOD OF ADVANCE	SAMPLE NO.	DEF O SAM	F	SAMPLE	BLOWS ON SAMPLER PER 6" 2" O.D. SAMPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL ord - 35-50' to - medium t - course ord - 35-50' to - 70-20' to - 6-10' to - 6-10'	* i
		9	25.0	27.0	SS	5 9 10 10	<u> </u>	Brown cmf SAND; and cmf GRAVEL; trace SILT; trace CLAY	1
6 							27.0	(wet, very slightly plastic)	\vdash
7— 8—								Boring terminated at 27 feet.	十
9—									
o—								Notes:	
· -								 Temporary observation well was installed to a depth of 27 feet. 	L
_	\longmapsto							· ··	_
3 —	\vdash								L
4	 								F
<u> </u>	11								-
-	 								\vdash
<i>'</i> —					-				┢
8					\vdash				\vdash
9 —		\neg							\vdash
o—									H
·—	Ħ								r
?— 3—									r
;—									
· ·									
· 									L
									L
									\vdash
·—	$\vdash \vdash$								<u> </u>
—	\vdash								-
_	┝				\vdash				-
	$\vdash \vdash$								-
-		\longrightarrow							\vdash
_	+								\vdash
_					 				\vdash
		- 							\vdash
_									-
									\vdash
		1							

								•	SUDS	surface	יחו	/estig	gation					
		_		_									Report No.:			CD3443-01-1	0-12	_
	Client:		limans G				ts, in	<u>c.</u>			•		Boring Loca		See B	oring Location P	lan	_
	Project:		ubsurfac				4.5				-		Amenities			·		-
			loga Dov			HOLE	H EXP	ansı	on		•							-
			lichols, N	ION TON							•		Start Date:			Finish Date:	10/11/2012	
	Boring I	•	B-9			She	et _	1	of _	2			Date	G	Time	er Observations Depth	Casing	
	Northing	Coord	inates			Wei		•	Ham: 140	mer Ibs.			10/11/2012	_	PM PM	DRY DRY	25'	-
	Easting						gili. Fall:		30				10/11/2012	_	rm_	<u>DR1</u>	CAVED	-
	20019				Hamm				_	_				-				-
	Ground	Elev:	8	23.3					vance				Borehole d	— e bever	t 21 foot			-
	0.00				_			_	Auge	-			<u> </u>	aveu e	1211000			-
									Vode									_
	METHOD OF ADVANCE	SAMPLE NO.		PTH OF MPLE	SAMPLE	1	PE	NS O PLEF R 6" O.D.		DEPTH OF CHANGE	1.	ina.	CLASSI	IFICA	TION C	F MATERIA	and - 35-50% some - 20-35%	
	¥	SA	From	То	- "		SAM	PLE	₹	百이	m -	medium connie					little - 10-20% trace - 0-10%	
_	A	1	0.0	2.0	SS	3	5	9	12		<u> </u>		cmf SAND: s	ome m	GRAVE	L: some SILT: tra		+
						H							NIC MATERI					ŀ
	G E	2	2.0	4.0	SS V	10	10	15	12			Brown	cmf GRAVEL	.: and o	mf SAND	; little SILT (mois	st.	ŀ
	R S		 			┡						non-pla				,		ŀ
	 	3	4.0	6.0	SS \	13	56	77	15			Brown	cmf SAND; s	ome m	f GRAVE	L; some SILT (wa	et,	H
-	$\vdash \vdash$					\vdash						non-pla			- · · · -		•	H
		4	6.0	8.0	ss	14	19	30	22		;	Similar	Soil					ŀ
	1		<u> </u>			-												H
		5	8.0	10.0	ss \	6	10	14	17		;	Similar	Soil					ŀ
						┫	-											ŀ
		6	10.0	12.0	SS	12	13	13	18		1	Brown	cmf SAND; s	ome S	LT; little r	nf GRAVEL (wet		\vdash
	\Box	_				┫					•	non-pla	astic)					
						1		-										r
					1	1												۲
_						T												۲
		7	15.0	17.0	ss \	10	14	19	22					ome m	GRAVE	.; some SILT (me	oist.	۲
					1						•	non-pla	astic)					T
																		T
																		T
																		r
		8	20.0	22.0	SS	14	19	26	24					ome m	GRAVE	.; some SILT (me	oist,	
					\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \						r	non-pla	15(IC)					
_																		
																		ſ
												-						

					AT	LAI	NTIC	TEST	ING I	LABORATORIES, Limited	
								Subs	surface	e Investigation	
	Boring I	No.: _	B-9	_			Report	No.:		CD3443-01-10-12 Sheet 2 of 2	
ОЕРТН	METHOD OF ADVANCE	SAMPLE NO.	SAM	F IPLE	SAMPLE		BLOWS SAMPI PER 2" O. SAMPI	LER 6" .D.	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL end - 35-50% some - 20-35% m - modum	RECOVERY (inches)
<u> </u>			From	To	l cc		40	47 40	 	c - course trace - 0-10% Brown cmf SAND; and mf GRAVEL; some SILT (wet,	10
26 —		9	25.0	27.0	SS	8	13	17 19		non-plastic)	10
27 —				<u> </u>	<u> </u>	_			27.0		
28	igsquare			<u> </u>	ļ	ــــــــــــــــــــــــــــــــــــــ				Boring terminated at 27 feet.	
29-	Щ					$oxed{oldsymbol{oldsymbol{\perp}}}$]		
30-	<u> </u>		<u> </u>			ــــــــــــــــــــــــــــــــــــــ]	Notes:	
31					<u> </u>	$oxed{oxed}$			1	Boring backfilled with on-site soils on completion.	
32 —						<u> </u>]		
33											
34					<u> </u>						
35—											
35—						<u> </u>					
37 —											
l											
38											
39									1		
40 —									1		
41—									1		
42	<u> </u>								1		
43 —									1		
44—			ĺ			1			1		
45 —									1		
46	 		 -			1			1		
47 —	<u> </u>	<u> </u>			\vdash	1			1		
48			-			1			1		
49 —						\top			1		
50	 		 			T			1		
51 — 52 —		 	 	 	1	T			1		
52	 		 		1	\top			1		
53 — 54 —	 	 	 	1	1	╁			1		
54	\vdash	\vdash		 	╂─┈	+			1		
55-	\vdash	 	 	 	┼	+			1		
56 —			 -	 	+	╁╴			1		
57 —			 	+-	+	+-			1		_
56 — 57 — 58 —	-		 	-	1	+			1		
	 	<u> </u>	 	 	+	+			1		
60 —	 		1	-	 	╁			┨		
61	├		-	1	+	╁			1		
62 —			├		┨——			<u> </u>	L		_
	•	•	•	•	•	•					

								S	ubs	surface	Investig	gation					
												Report No.:	_		CD3443-01-1	10-12	_
(Client:	CI	imans G	reen Lia	ng Arci	hitect	s, Inc	;				Boring Loca	tion: <u>S</u>	iee Boı	ing Location I	lan	_
F	Project:	Sı	ıbsurfacı	e Investi	gation							Amenities			•		-
		Ti	oga Dow	ns Casi	no and	Hote	Exp	anslo	n						_		_
		_N	chols, N	ew York	, .							Start Date:	10/5/201	<u>2</u>	Finish Date:	10/5/2012	
E	Boring N	lo.: _	B-10	_		Shee	et _	1_	of _	2		Date	Groun Tim		Observations Depth	Casing	
		Coordii	nates				Sam	pler l	lamı	mer		10/5/2012	An	1	26.8'	27'	_
ľ	Vorthing					Weig	ght:		4D	_ lbs.		10/5/2012	AR	1	DRY	CAVED	_
E	Easting						all:		0	_ in.							-
					Hamm	er Ty	pe:	Auto	mati	<u>c</u>							_
(Ground	Elev.:	81	11.6	_		Borin	g Adv	ance	By:		Borehole o	aved at <u>17</u>	feet.			_
							4	1/4" /	luge	·r							_
7	T	-			_	 		_	_								Ŧ
ļ	METHOD OF ADVANCE	SAMPLE NO.	DEF	PTH OF	SAMPLE		SAM	VS OF		DEPTH OF CHANGE		CLASSI	IFICATIO	ON OI	F MATERIA	L	,
	Ĕδ	를	SAM	IPLE	₹			R 6" O.D.		F X	f - fino					and - 35-50% some - 20-35%	
	E &	SA	From	То	‴			PLER	:	٦٥	m - medium c - coanse					tittle - 10-20% trace - 0-10%	١.
-	A	1	0.0	2.0	I SS	10	14	18	16	0.3		PSOIL and OI	RGANIC M	ATERI	AL .		╪
-	U				-	Ë				"."					L; trace SILT (moist,	\vdash
\dashv	G	2	2.0	4.0	SS	20	21	19	17		non-pl	-			,		\vdash
4	- R S		2.0	1.0	33				••				ome mf Gl	RAVEL	; little SILT (mo	oist,	H
4	3		4.0	6.0	SS	17	17	18	16		non-pi Brown	•	and cmf GF	AVEL	trace SILT (me	nist	H
_			4.0	0.0	33	<u> </u> "		-10			non-pl		and chin Or		WASS SILT (III	J.G.,	-
4		4	6.0	8.0	SS	16	15	14	16		Brown	omf SAND: e	ome cmf (DAVE	L; trace SILT (moiet	H
_			0.0	8.0	33	Ľ	-15				non-pi		some can c	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	L, nave vici (morat,	┝
4		5	8.0	10.0	SS	15	12	18	14		Drown	emf SAND: s	and mf GB	∆\/E1 - 1	race SILT (mo	iet	\vdash
4			0.0	10.0	33	Ľ	12	10			non-pl	-	and an Ora	 , (iace Sici (iiio	151,	H
_		6	10.0	12.0	SS	15	10	17	14		Brown	omf SAND: e	omo mi G	DA\/E1	; trace SILT (m	soiet	F
4		•	10.0	12.0	33	15					non-pl	•	SOTHE HIT G	MACL	, liace Sici (ii	iuisi,	-
_						<u> </u>				ł	,	,					-
_			<u> </u>		<u> </u>	<u> </u>				ļ							
_			ļ	<u> </u>	 	ـ				Į							-
4			4	48.2	65	45		_	_	1	6.	ami OANO	· · · · · · · · · · · · · · · · · · ·		Litence CHT (maiet	F
_		7	15.0	17.0	SS \	13	12	б	5	16.0	Brown non-p!		some cmi (RAVE	L; trace SILT (INOIST,	+
4				<u> </u>	<u> </u>	1											Ļ
			}		<u> </u>	↓_											-
4					<u> </u>	_											ļ
ightharpoonup					00.					1	_					'-4	
_		8	20.0	22.0	SS	4	7	8	6	1	Brown non-pi		some cmf (KAVE	L; little SILT (n	noist,	L
_				<u> </u>	<u> </u>	1_				1	1101111						1
_[<u> </u>	_											L
- 1					<u> </u>	$oxed{igspace}$											L
\Box	T T																1
_	1																

Subsurface Investigation	
Boring No.: <u>B-10</u> Report No.: <u>CD3443-01-10-12</u> Sheel <u>2</u> of <u>2</u>	_
DEPTH OF SAMPLE PER 6" 2" O.D. SAMPLER PER 6" 10-20-30-30-30-30-30-30-30-30-30-30-30-30-30	: జై
From To From	

												Report No.:			CD3443-01-1	0-12	_
	Client:	C	imans G	reen Lia	ng Arci	nitect	ts, In	c				Boring Loca	ition:	See Bo	ring Location I	Plan	_
	Project:	S	ubsurfac	e Investi	igation							Amentites					_
		Ti	oga Dow	ns Casi	no and	Hote	l Exp	ansic	n								_
		Ni	chols, N	ew York								Start Date:	_10/	4/2012	Finish Date:	10/5/2012	
	Boring N	lo.: _	B-11	_		She	et _	1_	of _	2		Date	(Groundwate Time	r Observations Depth	Casing	
		Coordii	nates				San	ıpler I	lamı	mer		10/4/2012	_	PM	DRY	15'	_
	Northing					Weig	ght:	1	40	lbs.		10/5/2012	-	AM	DRY	15'	_
	Easting					F	all:	3	0	in.		10/5/2012	-	AM	DRY	25'	_
					Hamm	er Ty	rpe:	Auto	mati	<u>c</u>		10/5/2012	_	AM	DRY	CAVED	_
	Ground	Elev.:	8	08.4	-			ıg Adv 1/4" /		•		Borehole	caved	at 19 feet.			_ _
_	유피	ó	DEF	ЭТН	ш			vs or		۲ ₋		CLASS	IFIC	ATION O	F MATERIA	L	7
	METHOD OF ADVANCE	SAMPLE NO	0	PLE	SAMPLE		PEI 2"	PLER R 6" O.D. PLER		DEPTH OF CHANGE	f - fine m - medium					and - 35-50% some - 20-35% little - 10-20%	۱,
			From	To		10	44		-14		c - coarse	20011 1 0	2011			trace - 0-10%	<u>.</u>
_	Û	1	0.0	2.0	SS	10	11	16	19	0.3	_	SOIL and O					٦
_	G				\										; trace SILT; tra oist, non-plastic		١
_	R.	2	2.0	4.0	ss \	38	36	22	16		Brown	cmf SAND; 8	some	cmf GRAVE	L; trace SILT (r	noist,	
_	\$	•	4.0		00		40	40	44		•	-			from 2.2 to 4 fe		ļ
_		3	4.0	6.0	ss	14	16	12	11		non-pla	•	ana cr	ni GRAVEL	trace SILT (mo	NST,	ļ
_		4	6.0	8.0	SS	16	11	10	10		•	•		mf CDAVE	.; little SILT (mo	iet	-
_		-	0.0	0.0	33	10	- ' '		-10		non-pl		SOUTE	IIII GRAVEL	., nuo 31L1 (MC	wi,	
_	$\vdash \vdash \vdash$	5	8.0	10.0	SS V	12	14	13	10		•	-	ome	mf GRAVEI	.; little SILT; trad	e CLAY	ŀ
_	$\vdash\vdash\vdash$		0.0	10.0	33	<u> </u>						very slightly			., OILT, IIdl	out!	-
_	├─┤	6	10.0	12.0	SS	20	18	16	12		•	cmf SAND; t			non-plastic)		ŀ
		-	10.0	16.0	33		10	10	12		ואטוט	om onno, i		ore (must,	piaatiuj		ŀ
			-		 	1											ŀ
					-	 											ŀ
	\vdash				-	\vdash											-
_	\vdash	7	15.0	17.0	SS V	4	2	<u> </u>	2		Brown	cmf SAND; t	race s	SILT (wet. na	on-plastic)		
	\vdash	•		-		Ė		-	-			5. 2. 2		(· ,· ··===/		
-	$\vdash \vdash \vdash$				 	1											
	 		-		 	+-											
_	\vdash				 	 											
_	$\vdash \vdash \vdash$	8	20.0	22.0	ss \	20	27	33	20		Brown	cmf SAND; a	and cr	nf GRAVEL	trace SILT (mo	oist,	
	$\vdash \vdash \vdash$				\square	-					non-pl				•		
	$\vdash \vdash \vdash$				 												-
					\vdash	\vdash											ŀ
					 	 											
				L		<u> </u>				L							۷

•					ATI	LANTI			LABORATORIES, Limited Investigation	,
							Subs	suriace	a investigation	
	Boring N	No.: _	B-11	_		Rep	ort No.:		CD3443-01-10-12 Sheet 2 of 2	
рертн	METHOD OF ADVANCE	SAMPLE NO.	DEF O SAM	F	SAMPLE	SAN PE 2"	WS ON IPLER ER 6" O.D. IPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL and . 35-50% tone some . 20-35% tone . 10-20%	RECOVERY (inches)
		9	From 25.0	To 27.0	SS V	6 7	10 11		c - coune trace - 0-10% Brown cmf SAND; and mf GRAVEL; little SILT (wet,	7
26			25.0	21.0	33	<u> </u>	10 11		non-plastic)	<u> </u>
27					 			27.0	Boring terminated at 27 feet.	
28 —				***				1		
29 									Notes:	
31 —									Borehole backfilled with on-site soils.	
32 —										
33 —				_	-	_		}		
34 —					 			l		
35 —			<u> </u>					1		
36 —										
37										
39 —	<u> </u>									
40 —					ļ					
41			<u> </u>		-					
42 —					 		•	i		
43						 		1		
44 —			 -		_	 		1		
46 —]		
47 —							•			
48 —	<u> </u>				<u> </u>			1		
49	-		-	-	<u> </u>			1		
50		<u> </u>	+		ļ	 		1		\vdash
51 —	-		 		<u> </u>	 		1		
52				 			-	1		
53 —	<u> </u>									
54 — 55 —								}		
56					ļ			4		
57 —	 				<u> </u>	 		-		<u> </u>
58	 			 	 	-		-		<u> </u>
59	 				 	+		1		
60 —	 	<u> </u>				 		1		
60 — 61 —					†			1		
62 —	1		İ	İ	1	†		<u> </u>		

								Oub	Jun 1400	Investig					
	Client:	-	o					_			Report No.:		CD3443-01-1		-
		_	imans G				s, inc	G			Boring Loca		Boring Location F	rian	-
	Project:		ubsurfaci				l Fun				Amenities				-
			oga Dow			Hote	ı exp	ansion			0:-40-4-	401440040	Flatab Data	40/4/0040	-
		Ni	chols, N	W YORK							Start Date:	10/4/2012	Finish Date:	10/4/2012	
	Boring N	lo.: _	B-12	_		Shee	et _	<u>1</u> of	2		Date	Time	ater Observations Depth	Casing	
		Coordi	nates					npler Han			10/4/2012		DRY	4'	-
	Northing					Weig	_	140	lbs.		10/4/2012		DRY	25'	-
	Easting				Homm		all:	30	in.						-
					cidifWN			Automa				-		-	-
	Ground	Elev.:	80)5.7	-			g Advant	•						-
							3	1/4" Aug	er						_
_	1					1			 						Ŧ
	METHOD OF ADVANCE	ġ	DEF	тн	<u> </u>			VS ON	유교		CLASS	IFICATION	OF MATERIA	ıL.	
<u> </u>	₽₹	SAMPLE NO	O SAM		SAMPLE			PLER R 6"	DEPTH OF CHANGE					and - 35-50%	
2	E S	M.	JAM	FLE	S.			O.D. PLER	일종	f - fine				some - 20-35%	١,
	2	ß	From	То	1		SAM	PLEK		m - medium c - coarse				tatie - 10-20% trace - 0-10%	· I
	A	1	0.0	2.0	ss \	9	14	15 15	†	Brown	cmf SAND; I	ittle cmf GRAV	EL; trace SILT (mo	oist,	Ť
_	G					┢			1	non-pla	astic)				H
_	E	2	2.0	4.0	ss \	15	14	17 17	┪	Similar	Soil (moist,	non-plastic)			H
	R				-	H			-			•			H
_	-		4.0	6.0	ss V	9	14	14 15	4	Brown	cmf SAND: a	and cmf GRAV	EL; trace SILT (mo	oist.	\vdash
_	\vdash	<u> </u>	7.0		-	Ľ			-	non-pla					-
		4	6.0	8.0	ss	16	17	17 18	4	Brown	cmf SAND: I	ittle cmf GRAV	EL; trace SILT (mo	nist	\vdash
_			0.0	0.0		<u> </u> "			-	non-pla			22, 11000 0127 (J. J. J. J. J. J. J. J. J. J. J. J. J. J	\vdash
_		5	8.0	10.0	ss \	9	10	19 19	4	Brown	omf SAND: a	ome of CDA	/EL; trace SILT (m	olet	┢
_	L		8.0	10.0	33	,	10	פו פו	4	non-pla		one ili Grav	/EL, 11808 31L1 (111	oist,	┝
_			40.0	10.0	,	1		00 0	1	·	·	uus seet ODA)	(Cl. Anna PH T. Am	a tak	┝
		6	10.0	12.0	ss \	17	19	22 27		Brown non-pla		ittle cmt GRAV	'EL; trace SILT; (m	ioist,	L
_					<u>'</u>	_			1	11011-910	20110)				L
_									13.0		******	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		**************	<u>.</u>
_									1						L
_															L
_		7	15.0	17.0	SS	4	4	5 4		NO RE	COVERY				
_															
_]						ſ
_					Ī	Г			1						Γ
						T			1						Γ
		8	20.0	22.0	SS	5	9	9 12	1			and cmf GRAV	EL; trace SILT; (m	oist,	ľ
_						┫			1	non-pla	astic)				T
						\vdash			1						r
	\vdash					十			1						r
						\vdash			1						t
				L	1										

					ATI	LANT			LABORATORIES, Limited	
							Subs	surface	e Investigation	
	Boring 1	No.: _	B-12			Re	port No.:		CD3443-01-10-12 Sheet 2 of 2	
ОЕРТН	METHOD OF ADVANCE	SAMPLE NO.	SAM	PTH OF IPLE	SAMPLE	SA F	OWS ON IMPLER PER 6" " O.D. IMPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL and - 35-50% some - 20-35% m - medium and - 35-50% some - 20-35%	RECOVERY (inches)
<u> </u>		9	From 25.0	To 27.0	SS	5 9	12 14	l	Brown cmf SAND; some mf GRAVEL; trace SILT; (moist,	16
26								27.0	non-plastic)	
28					<u> </u>				Boring terminated at 27 feet.	
29 —					<u> </u>			-		
30					 			1	Notes: 1. Boring backfilled with on-site soil.	
31	 		 					1		
32 —								1]	
34-										
35 —						ļ				
36 —					-					
37 —	\vdash			<u> </u>	 			İ	 	
38									1	
39— 40—										
41-										
42 —	_					<u> </u>			-	
43 —			-	 				1		
44			<u> </u>					-	<u> </u>	
45								1	ļ .	
46 —]		
48—										
49 —	\vdash							┨		
50			 	-				1		
51 —								1		
52						 		1		
53— 54—]		
55								1		
56			<u> </u>	[-			1		
57—	\vdash		-					1		
58								1		
59								1		
60— 61—]		
62-								1		
/	, ,	l	'	•	1	1			<u> </u>	

Borin North	PROPARCE T N Ing No.: Coord thing	DEF O SAM	o Investi ins Casi ew York	Hamm	She	Sanight: Fall: ype:	1 npler	of _ Hamr 40	1bs.		Parking Go Parking Go Start Date: Date 10/26/2012	10/26/2012	Finish Date: er Observations Depth DRY	10/26/2012 Casing 25'
Bori North	T No.: Coord thing ting with the coord thing with the coord the coord thing with the coord t	ligga Dow lichols, Ni B-13 inales	ons Cash ew York	Hamm	She	Sanight: Fall: ype:	npler	of _ Hamr 40	mer lbs.		Start Date:	10/26/2012 Groundwat Time	er Observations Depth	Casing
Service Servic	Coord ting ting Built ing ting	B-13 inates BC BC BC BC BC BC BC BC BC B	96.7 PTH	Hamm	She Wei	Sanight: Fall: ype:	npler	of _ Hamr 40	mer lbs.		Date	Groundwat Time	er Observations Depth	Casing
North East	Coord thing	B-13 inates BU BU BU BU BU BU BU BU BU B	06.7 PTH F	Hamm	Wei	San ight: Fall: ype: Borir	npler 1 3 Auto	Hamr 40 30	mer lbs.		Date	Groundwat Time	er Observations Depth	Casing
Service Servic	Coord thing ting the condition	DEF O SAM	06.7 PTH F	Hamm	Wei	San ight: Fall: ype: Borir	npler 1 3 Auto	Hamr 40 30	mer lbs.			Time	Depth	•
Ground METHOD OF	ADVANCE ADVANCE SAMPLE NO.	DEF O SAM	PTH F	Hamm	ı	ight: Fall: ype: Borir	1 ;	40 _. 30	1bs.		10/26/2012	AM	DRY	25'
Ground METHOD OF	ADVANCE SAMPLE NO.	DEF O SAM	PTH F	- 		ype: Borir	Auto							
METHOD OF	ADVANCE SAMPLE NO.	DEF O SAM	PTH F	- 		Borin			in. c					
	1	SAM	F		+		1/4"	vance	в Ву:		Borehole o	eaved at 14.5 fe	et.	
	1	SAM	F						·					
	1	<u> </u>	r'LE	SAMPLE		PE	NS OFFICE		DEPTH OF CHANGE	t · fino	CLASS	FICATION (OF MATERIAI	end - 35-50% some - 20-35%
(j 	From	То	, s			PLEF	₹	80	m - medium c - coanse				tate - 10-20% trace - 0-10%
		0.0	2.0	SS	7	5	7	9					cmf SAND; trace	
E	_			\					2.0	non-pi		AL (root nairs, r	ine organics) (wet	اء ــــ
5	₹	2.0	4.0	SS	5	5	9	6		_		ome mf GRAVE	EL; little SILT (wet	l,
				\						non-pi				_
+	3	4.0	6.0	SS	7	14	14	11		Brown non-p		ind cmf GRAVE	L; some SILT (we	it,
	4	6.0	8.0	SS	8	11	10	10		Simila	r Soil			
	5	8.0	10.0	SS	6	8	6	5		NO R	ECOVERY			
\perp				\	_									
\perp	6	10.0	12.0	SS	7	7	7	9			-	ttle mf GRAVEL	.; little SILT (wet,	
\bot				\\	_					non-pi	asuc)			
+					-					COBE	LES were en	countered from	10 to 20 feet	
+				1	T									
\dagger	7	15.0	17.0	ss \	5	5	5	6		Simila	r Soil			
+														
					Ť									
	8	20.0	22.0	SS	9	15	15	12				some cmf SAN	ID; little SILT (satı	urated,
										non-pi	astic)			

							Sub	surface	e Investiga	ation			
	Boring I	No.: _	B-13			Re	eport No.:		CD3443-	01-10-12	Sheet	2 of 2	-
ОЕРТН	METHOD OF ADVANCE	SAMPLE NO.	SAM	PTH OF SPLE	SAMPLE	SA	OWS ON AMPLER PER 6" 2" O.D. AMPLER	DEPTH OF CHANGE	f - fino m - medium	CLASSIFICATION	OF MATERI	and - 35-50% some - 20-35% kzte - 10-20%	RECOVERY
		9	From 25.0	To 27.0	ss V	13 1	13 13 11		c · course	Soil		trace - 0-10%	+
26								27.0					-
7 —	\vdash							27.0	Boring to	erminated at 27 feet.			\vdash
8								1					F
9—								1	Notes:				
o 								1		g backfilled with on-site s	oils.		
1 — 2 —													
2— 3—]	1				
4 —													L
s —													L
5 —													L
7 —													L
e —													L
9—								l					\vdash
o—								ł					-
1—								ł					\vdash
2								ł					-
3—								{					\vdash
4								ľ					┢
5—									:				\vdash
5 —													┢
·—													
- -													
,—													
·—													
· 													L
;—					<u> </u>								L
					<u> </u>								L
,													<u> </u>
<u>. </u>					 -								L
,_													<u> </u>
,-													\vdash
•—					$\vdash\vdash$								\vdash
-													-
1—					\vdash								\vdash
2 ─	1	-						1					\vdash

								5	Subs	surface	Investigat	tion					
											Re	eport No.:			CD3443-01-1	0-12	_
	Client:	_ <u>c</u>	limans G	reen Lia	ng Arci	nitec	ts, inc	C			В	oring Local	tion:	See Bo	oring Location F	lan	-
	Project:	<u> </u>	ubsurfac	e Invest	gation					-		Parking Go	arage				-
			loga Dow	ns Casi	no and	Hote	l Exp	ansic	n		_						-
		_ <u>N</u>	ichols, N	ew York							St	tart Date:			Finish Date:	10/11/2012	
	Boring N	No.: _	8-14	_		She	et	1_	of _	2		Date	G	roundwate Time	or Observations Depth	Casing	
		Coordi						ipler l			10	0/11/2012	_		DRY	25'	-
	Northing	<i>-</i>				Wei	-		40	lbs.	_						-
	Easting				Homm		Fall:		30	in.	_		_				-
					Hamm	eriy					_		_				-
	Ground	Elev.:	B	14.5	_		Borin	•		•	<u>_E</u>	Borehole c	aved a	t 18.8 fee	t		-
						_	4	1/4" /	Auge	ır	_						-
	METHOD OF ADVANCE	SAMPLE NO.	DEF O SAM	F	SAMPLE		2"	PLER R 6" O.D.	₹	DEPTH OF CHANGE	I - fine	CLASSI	FICA	TION C	F MATERIA	and - 35-50% some - 20-35%	1
	2 4	Š	From	То	"		SAM	PLER	ł		m - madium c - coane					trace - 0-10%	
	A	1	0.0	2.0	SS	2	4	7	7		Brown SII	LT; some o	cmf SA	ND; some	mf GRAVEL; tr	ace	t
	Ğ					┢	-			2.0	ORGANIC	C MATERI	AL (roc	ot hair) (w	et, non-plastic)		H
_	E	2	2.0	4.0	ss \	17	13	9	14	2.0	Brown cm	nf SAND; a	nd SIL	T; some n	nf GRAVEL (wet		\dagger
_	R				-	┢─				ł	non-plasti	ic)			·		H
		3	4.0	6.0	SS	11	15	17	17	1	Brown cm	nf GRAVEI	L; some	e cmf SAN	ID; little SILT (w	et,	ŀ
					-	┢			-	1		ic), w=6.0%			•		H
		4	6.0	8.0	SS \	11	14	19	22	ł	Similar St	oil, w=7.2%	6				┝
_						-				ł							H
		5	8.0	10.0	SS	9	12	17	16	1	Similar So	oil, w=5.8%	6				H
-		_				\vdash	-	-		1		. ,					H
_	-	- 6	10.0	12.0	SS	14	16	13	15	ł	Brown cm	nf SAND: s	ome S	ILT: some	mf GRAVEL (w	et.	ŀ
		-			-	H				1		ic), w=5.49		,	····· -·· -·· -·· •	,	H
	\vdash					┰				ł							ŀ
	$\vdash\vdash\vdash$				-	╀				ł							\vdash
	 					╁				{							-
_	$\vdash \vdash \vdash$	7	15.0	17.0	ss \	9	11	14	11	1	Brown mf	GRAVEL:	some	cmf SANI	D; some SILT; tn	ace	\vdash
	\vdash					Ė				ł					vet, non-plastic),		F
	\vdash				 	┪		-		l							\vdash
			<u> </u>			┼											\vdash
_		-	-			\vdash	-			19.0	• • • • • • • • • • • • • • • • • • • •		• • • • • • •		•••••	• • • • • • • • • • • • • • • • • • • •	╁
		8	20.0	22.0	SS \	4	5	5	7	1	Brown cm	if+ SAND	some	SILT (wet	, non-plastic), w	:12.5%	\vdash
						H	<u> </u>		•	1	J. J. M.			(1144	, piuosoj, m-		-
					<u> </u>	1				1							H
	\vdash		 		-	┼—				{							-
_			ļ		-	╀				1							1
	L		<u> </u>			1				<u> </u>							1

				<u>-</u>	ATI	ANTI	C TEST	ring i	LABORATORIES, Limited	
							Subs	surface	e Investigation	
	Boring N	1o.: _	B-14	_		Repo	rt No.:		CD3443-01-10-12 Sheet 2 of 2	
DEPTH	METHOD OF ADVANCE	SAMPLE NO.	DEF O SAM	F	SAMPLE	SAMI PEI 2" (D.D.	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL and . 35-50% some - 20-35%	RECOVERY (inches)
	물	S	From	То	"	SAM	PLER	ے ا	m - modum c - course tace - 0-10%	2
		9	25.0	27.0	SS	4 9	10 17	l .	Brown cmf GRAVEL; and SILT; some cmf SAND (wet,	2
26							-		non-plastic), w=6.5%	
27 —					<u> </u>			27.0	Boring terminated at 27 feet.	
28 —			<u> </u>	<u> </u>	 		_	1	}	
29 —								1	Name:	
30 —	\vdash				-			1	Notes: 1. Boring backfilled with on-site soil.	-
31								-		
32				_	ļ		_	ł		
33 —	\sqcup			_	<u> </u>			ł	 -	
34					ļ .					
35										
35—]	
37 —										
38					L			j		
39										
40 —										
41								1		
42 —								1	[
43 —				-			-	1		
44								1		
45				<u> </u>	 			1		
46	 		 	 	\vdash	 		1	1	
47			-	 	+			1		
48 —	ļ	_			├	 		1		
49 —	ļ		\vdash	 	\vdash	-	_	┨	1	
50	-			-	 			1	}	1
51—			 	 	├	-		-	1	
52			 	<u> </u>	 	-		-	·	
53 —		 	<u> </u>	ļ	ļ			-		
54—	igsquare			<u> </u>	<u> </u>			4		
55—	<u> </u>		<u> </u>		ļ			-		
56—				L	<u> </u>	ļ		1]	
57—					<u> </u>			1		
58—								1		
1]		
59 —]		
60							_	1		
61 —								1	į į	
62—	 		 	i	1	1		1	<u> </u>	

												Report No.:			CD3443-01-1	0-12	_
	Client:	_ <u>c</u>	limans G	reen Lia	ing Arc	hitec	ts, In	c				Boring Loca	tion:	See Bo	ring Location P	lan	_
	Project:		ubsurfac	e Invest	lgation							Parking Ga	arage		7.		_
		_ <u></u>	loga Dov	ms Casi	ino and	Hote	l Exp	ansic	n						······································		_
		_ <u>N</u>	ichols, N	ew York								Start Date:	10/11	/2012	Finish Date:	10/11/2012	
	Boring f	No.: _	B-15			She	et _	1_	of _	2		Date		oundwater Time	Observations Depth	Casing	
		Coordi	nates				San	npler I	Hamı	mer		10/11/2012	_	AM	DRY	25'	_
	Northing	·				Wei	-		40	lbs.		10/11/2012	_	AM	DRY	CAVED	-
	Easting						Fall:		0	in.			_			***	-
					Hamm	er Ty	/pe:	Auto	mati	<u>c</u>			_				_
	Ground	Elev.:	8	24.0	-		Borin	ıg Adı	/ance	By:		Borehole o	aved a	t 22 feet.			_
						_	4	1/4" /	Auge	<u>r</u>							_
					1	 						01.400					Ŧ
	걸	Š		PTH .	щ	1		VS O		Ь삤		CLASSI	FICA	HON O	MATERIA	L	
	METHOD OF ADVANCE	SAMPLE NO.		IF IPLE	SAMPLE		PE	R 6"	•	DEPTH OF CHANGE						and - 35-50%	1
	P	NA.] & ⊤			O.D. PLER	1	필공	I - fine m - medium					some - 20-35% Lttle - 10-20%	1
			From	То]	<u> </u>					c - coarse					trace - 0-10%	Ţ
_		1	0.0	2.0	ss \	3	4	9	32						race SILT; trace		L
	Ğ														oist, non-plastic)		Ĺ
	E R	2	2.0	4.0	SS	35	29	23	22				ome m	GRAVEL	trace SILT (mo	oist,	
	S										non-pl	asiic)					
		3	4.0	6.0	SS	50	52	18	14		Similar	r Soil (moist, i	non-pla	stic)			
																	Ĺ
		4	6.0	8.0	S\$	17	19	23	21				ome cr	nf GRAVE	L; trace SILT (m	noist,	
											non-pla						
	$oxed{oxed}$	5	8.0	10.0	SS	10	12	14	17				race cm	f GRAVEL	; trace SILT (m	oist.	Ĺ
					<u> </u>						non-pla	·					L
		6	10.0	12.0	SS	17	19	22	22			-	ttle mf	GRAVEL: (race SILT (mois	st,	
	L I				\	•					non-pla	asuc)					
																	Ĺ
																	Ĺ
	$oxed{oxed}$																Ĺ
	<u> </u>	7	15.0	17.0	SS	14	19	19	17				ttle cmi	GRAVEL;	trace SILT; (m	oist,	Ĺ
	<u> </u>				<u>`</u>						non-pla	adu <i>u </i>					Ĺ
																	Ĺ
	igsqcut]								Ĺ
_																	Ĺ
		8	20.0	22.0	SS	16	16	17	22					of GRAVE	.; trace SILT; tr	ace CLAY	Ĺ
					\\						(111015€,	very slightly	piastic)				L
																	Ĺ
						_											

					<u>ATI</u>	LAN	TIC			LABORATORIES, Limited e Investigation	·
	Boring I	No.:	B-15			F	Report	No.:		CD3443-01-10-12 Sheet <u>2</u> of <u>2</u>	
DEPTH	METHOD OF ADVANCE	SAMPLE NO.	SAM	PTH)F IPLE	SAMPLE		LOWS SAMP PER 2" O. SAMP	LER 6" .D.	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL and - 35-50% some - 20-35% m - medium the - 10-20%	RECOVERY (inches)
26 — 27 — 28 — 29 — 30 — 31 — 32 — 33 — 34 — 35 — 38 — 37 — 40 — 41 — 42 — 43 — 45 — 46 — 47 — 48 — 50 — 51 — 52 — 55 — 55 — 55 — 55 — 55 — 55		9	25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0	To 27.0	SS	10	12	14 17	27.0	Brown cmf SAND; some mf GRAVEL; trace SILT; trace CLAY; (moist, very slightly plastic) Boring terminated at 27 feet. Notes: 1. Boring backfilled with on-site soil.	14
59 — 60 — 61 — 62 —											

								5	Subs	surface	e In	vesti	gation						
													Report No.:			CD3443-01-1	0-12		_
	Client:	<u>c</u>	limans G	reen Lia	ng Arci	hitect	s, In	c.					Boring Loca	ition:	See Bo	ring Location P	lan		_
	Project:	<u></u> S	ubsurfac	e Invest	igation								Parking G	arag	8				_
			ioga Dow	ns Casi	no and	Hotel	I Exp	ansi	on										_
		_ <u>N</u>	ichols, N	ew York									Start Date:	10	/31/2012	Finish Date:	10/3	1/2012	
	Boring I	No.: _	B-16			Shee	et _	1	of _	2			Date		Groundwate Time	r Observations Depth	C	asing	
		Coordi	nates				San	npler	Ham	ner			10/31/2012		PM_	DRY	_	25'	-
	Northing	·				Weig	ght:	1	40	_ lbs.							_		-
	Easting						all:	_	30	in.							_		-
					Hamm	er Ty	pe:	Auto	omati	<u>c</u>							_		_
	Ground	Elev.:	8	20.3	_	I	Borir	ng Adi	vanc	By:			Borehole	cave	d at 22 feet.				_
							4	1/4" .	Auge	r									_
_		==	T		 	1 -					Н								Ŧ
	METHOD OF ADVANCE	ġ	DEI	РТН	w			NS O		ᄯᇜ			CLASS	IFIC	CATION O	F MATERIA	L		l
	ONA	SAMPLE NO	0	F IPLE	SAMPLE			PLEF R 6"	₹	DEPTH OF CHANGE									l
	ADV	Ž	SAIT	IPLE	% ⊢	Ι.	2"	O.D. PLEF	•	黃종		fino					and -	35-50% 20-35%	
	≥ `	Ñ	From	То	1	1	SAM	IFLER	`	_		- course					trace -	10-20% 0-10%	
	Α	1	0.0	0.9	SS \	13	100)/5"				Brown	cmf SAND; a	and r	nf GRAVEL;	trace SILT; trace	3		Ť
	G				†	1						ORGA	NIC MATER	IALS	(roothairs) (wet, non-plastic)			ŀ
-	E	2	2.0	4.0	SS \	54	22	10	10			Brown	cmf SAND; a	and r	nf GRAVEL;	trace SILT (wet,			t
	S				1	lacktriangledown						non-pl	astic)						ŀ
		3	4.0	6.0	SS	16	16	13	15			Simila	r Soil (wet, no	on-pl	astic)				ŀ
			_	-		┢	-												ŀ
_	 	4	6.0	8.0	SS \	10	11	7	6			Brown	cmf SAND; t	race	f GRAVEL; t	race SILT; trace	ı		ŀ
						┢										et, non-plastic)			ŀ
		5	8.0	10.0	SS	11	11	13	15			Similar	r Soil (wet, no	n-ol	astic)				ŀ
					-								(,				ŀ
		6	10.0	12.0	SS	12	10	15	18			Brown	cmf SAND: I	ittle !	SII Ti trana C	LAY; trace ORG	ANIC		ŀ
	\vdash	_	10.0	,	100								RIAL (roothai				, , , , ,		ŀ
					<u> </u>	1													ŀ
					-	_													ŀ
_					<u> </u>	\vdash													ŀ
	<u> </u>	7	15.0	17.0	SS \	9	9	7	13		l	Brown	cmf QANID:	and -	of CDAVEL.	little SILT (wet,			ŀ
		'	13.0	17.0	33	_	3	•	13			non-pi		anių f	III GRAVEL,	mua oili (MGI,			ŀ
_]		<u> </u>	—						,	•						ŀ
	 		<u> </u>		<u> </u>	 						COBB	LES encount	ered	at approxima	ately 15 feet			ļ
					<u> </u>	<u> </u>													ļ
		_		60.5	66	40						0:*	0-94						ļ
			20.0	22.0	SS	10	ъ ——	9	13			Similar	r Soil (wet, no	on- p i	asucj				1
					<u> </u>														1
	$\sqcup \sqcup$				<u> </u>	_													ļ
					<u> </u>	$oxed{oxed}$					l								1
				<u></u>	<u> </u>	L					L								1

					<u>AT</u>	LAN	TIC '			LABORATORIES, Limited e Investigation	
	Boring I	No.:	B-16			R	teport i	Na.:		CD3443-01-10-12 Sheet 2 of 2	
ОЕРТН	METHOD OF ADVANCE	SAMPLE NO.	1 0	PTH)F 1PLE	SAMPLE	S	LOWS IAMPLI PER 6 2" O.D IAMPLI	ER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL and . 35-50% some . 20-35% title . 10-20% c . course trace . 0-10%	RECOVERY (inches)
26-		9	25.0	27.0	SS	7	7 10	3 12		Similar Soil (wet, non-plastic)	12
27 —					'				27.0	Boring terminated at 27 feet.	
29—											
30-			<u> </u>							Notes: 1) Boring backfilled with on-site soils.	
31 —											
33—						<u> </u>				<u> </u>	
34—										<u> </u>	
35—										<u></u>	
37 —					_					 	
38 —										<u> </u>	
39											
41 —			-							-	
42 —										ļ	
43 —											
45 —											
46 —				<u> </u>	ļ					<u> </u>	
47-										 	
48										 -	
49 —											
51 —											
52 —					-					-	
53										<u> </u>	
54 — 55 —											
56											
57 —										 -	
58										 	
59											
60											
62											
\ '		'	'		' '	'					

								Su	bsurfa	ce	e Investigation
	Client: Project	S	limans G ubsurfac	e Invest	Igation						Report No.: CD3443-01-10-12 Boring Location: See Boring Location Plan Parking Garage
			oga Dov ichols, N			Hote	Exp	ansion			- Start Date: 10/31/2012 Finish Date: 10/31/2012
			ciiois, iv	W IOIK	<u> </u>						Groundwater Observations
	Boring	No.: _	B-17	_		Shee	et _	<u>1</u> 0		•	Date Time Depth Casing
	Morthin	Coordi				Weig		npler Ha 140		lbs.	10/31/2012 PM 30' 35'
	Northin Easting					_	all:	30		in.	
	•				Hamm	ner Ty	pe:	Autom	atic		
	Ground	Elev.:	8	13.3	_	ı	Borin	ig Adva	nce By:		Borehole caved at 37 feet.
							4	1/4" Au	ger		·
	<u> </u>	ó				١.	או טי	vs on	1		CLASSIFICATION OF MATERIAL
DEPTH	METHOD OF ADVANCE	SAMPLE NO.	_ C	PTH)F !PLE	SAMPLE		SAM	PLER R 6"	DEPTH OF	NG	
8	A	AMP	JAN	IPLE	A& L		2"	O.D. PLER	DEP.	1 2	nd - 35-50% f - frio some - 20-35% m - medium title - 10-20%
			From	To 2.0				7 /	_		c - coarse trace - 0-10%
1—	 û	1	0.0	2.0	ss \	6	6	7 9			Brown SILT; little cmf SAND; little mf GRAVEL; trace ORGANIC MATERIAL (grass, root hairs) (wet, non-plastic)
2-	G E	2	2.0	4.0	SS	7	12	26 1	9		Brown SILT; some cmf SAND; some mf GRAVEL (wet.
3—	S				\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \				4.0)	non-plastic)
4 — 5 —	ļ	3	4.0	6.0	SS	15	10	12 1	0		Brown cmf SAND; and mf GRAVEL; little SILT (wet, non-plastic)
6		4	6.0	8.0	SS	14	14	16 1	B		Brown cmf GRAVEL; some cmf SAND; little SILT (wet,
7—						\			_		non-plastic)
8 — 9 —		5	8.0	10.0	SS	10	15	14 1	0		Similar Soil
o —				100	20						
1 —	 	6	10.0	12.0	SS \	11	11	16 1	<u>-</u>		Brown cmf SAND; some mf GRAVEL; little SILT (wet, non-plastic)
2—					<u> </u>	}					
3 — 4 —									J		
4 — 5 —			45.5	1==-	95						0.7.0.1
6 —		7	15.0	17.0	ss	8	8	8 1	<u> </u>		Similar Soil
7—	┼			 		-			\dashv		
e —	†					\vdash			\dashv		
			_								
9	Į –	8	20.0	22.0	SS	11	10	12 1	2		Brown cmf SAND; and mf GRAVEL; little SILT (saturated, non-plastic)
9 — 0 —	 				<u> </u>	1_			\dashv		
9 0 1				1	P .						
1-2-3-									-		

					<u>A11</u>	<u> AI</u>	1110			ABORATORIES, Limited Investigation	
	Boring I	4o.: _	B-17			1	Repo	rt No.:		CD3443-01-10-12 Sheet <u>2</u> of <u>2</u>	-
DEPTH	METHOD OF ADVANCE	SAMPLE NO.	SAM		SAMPLE	:	SAMF PEF 2" C		DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL	
		9	From 25.0	To 27.0	SS	16	16	13 15	 	Brown cmf GRAVEL; some cmf SAND; little SILT (saturated,	-
6		_							1	non-plastic)	\vdash
7		_			 				1		r
8					1				1		
9— 0—]	¥	
ı—		10	30.0	32.0	ss \	11	13	11 13	1	Similar Soll	L
· 2—					<u> </u>	_			1		-
3					-	<u> </u>			1		\vdash
	\vdash			<u> </u>	 	\vdash		-	1		\vdash
5—		11	35.0	37.0	SS \	14	12	12 11	-	Brown mf GRAVEL; and cmf SAND; little SILT (saturated,	卜
5 						_			37.0	non-plastic)	r
7 —								••	·····	Boring terminated at 37 feet.	L
8 9											L
»— o—										Notes:	L
1—					ļ				1	Boring backfilled with on-site soils.	L
2—			ļ		├				-		\vdash
3 —			-	<u> </u>		_			1		\vdash
4			-		 	┢			1		\vdash
5	 				 	\vdash			1		\vdash
6		_	 	 	 				1		Γ
7]		
8 — 9 —											L
o—								,	_		L
· -	ļ				<u> </u>	_			4		-
2—				 	-	├-			-		\vdash
з —				 	1	┝			1		\vdash
4 —	-			 -	 	\vdash			1		\vdash
5 —						T			1		十
6 					1]		
7— 8—]		
9—											L
o—				<u> </u>	<u> </u>	<u> </u>			4		-
· —						ļ			4		F
2	ļ.,		 	<u> </u>		ļ			1		L

								S	ubs	urface	In	vestig	gation				
													Report No.:			CD3443-01-1	0-12
	Client:	C	limans G	reen Lla	ng Arci	itect	s, Inc	C					Boring Loca	ion:	See B	oring Location I	Plan
	Project:		ubsurface	<u>Investi</u>	gation								Parking Ga	rage			**
		TI	oga Dow	ns Casi	no and	Hotel	Exp	ansio	n								
		N	ichols, No	w York									Start Date:				10/31/2012
	Boring N	lo.: _	B-18	_		Shee	et _	1_	of _	2			Date	G	Time	er Observations Depth	Casing 25'
		Coordi	nates			Weig		npler i		ner lbs.			10/31/2012 10/31/2012	-	AM AM	DRY DRY	CAVED
	Northing Easting						all:		40 10	_			10/3 //2012	-			<u> </u>
	casuny				Hamm					_				-			
	Ground	Flev ·	91	08.7				ig Adv					Borehole o	 beye:	at 17 feet		-
	Jiound	¥			-			1/4" /							1045		
	METHOD OF ADVANCE	SAMPLE NO.	DEF O SAM	F	SAMPLE		SAM	NS OF		DEPTH OF CHANGE			CLASS	FICA	ATION (OF MATERIA	and - 35-50%
l	MET	SAMP	From	To	SA.			O.D. PLER	ł	OEP CH/	m -	fino medium coarse					some - 20-35% kitle - 10-20% trace - 0-10%
	A	1	0.0	2.0	SS \	7	7	9	7		_		cmf SAND; s	ome S	SILT; som	e mf GRAVEL; tr	ace
_	U G					\vdash						ORGA	NIC MATER	AL (gi	rass, root	hairs) (wet, non-p	olastic)
	Ē	2	2.0	4.0	SS	10	10	11	8			Brown	cmf SAND; a	nd mi	GRAVEL	; some SILT (we	1,
	R S				\	_						non-pl	astic)				
_		3	4.0	6.0	SS	8	8	8	8			Simila	r Soil				
_					1					1							
		4	6.0	8.0	SS	6	5	6	7					nf SA!	ND; trace	mf GRAVEL (we	t.
_					\'							non-pl	asuc) LES encount	ered fi	rom 6 to 2	7 feet	
		5	8.0	10.0	SS	7	8	10	7			NO R	ECOVERY				
_												_					
		6	10.0	12.0	SS	4	4	5	4			Brown	f SAND; trac	e SIL	T; trace f (GRAVEL (wet, no	n-plastic)
			<u> </u>	<u> </u>	<u> </u>	_				ļ							
			ļ			╄											
	<u> </u>		ļ	<u> </u>		₩											
_		7	15.0	17.0	SS	7	8	7	7	-		Simila	r Soil				
			13.0	17.0	33	Ľ	<u> </u>		<u> </u>	-		Cirtilla	. 5011				
_	 			 	+-	1				-							
_				-	-	╁				1							
				-	+	+-	-			1	1						
_	 	8	20.0	22.0	SS \	8	10	8	7	1		Brown	mf SAND; tr	ace f (GRAVEL;	trace SILT (satur	ated,
-	 		 		1	lacksquare				1		non-p	lastic)				
_			 	 -	t	1				1							
			 		 	\dagger		-		1							
	+		 	 	 	†				1							
_																	

					<u>ATI</u>			LABORATORIES, Limited e Investigation	
	Boring !	No.: _	B-18	_		Report No.:		CD3443-01-10-12 Sheet 2 of 2	
ОЕРТН	METHOD OF ADVANCE	SAMPLE NO.	l c	PTH OF SPLE	SAMPLE	BLOWS ON SAMPLER PER 6" 2" O.D. SAMPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL and - 35-50% some - 20-35% m - medium c - course and - 15-50% some - 20-35% to - process to - 10-20%	RECOVERY (inches)
26 — 27 — 28 — 29 — 30 — 31 — 32 — 33 — 35 — 36 — 37 — 40 — 41 — 42 — 43 — 44 — 45 — 48 — 47 — 50 — 51 — 52 — 53 — 55 — 56 — 57 — 58 — 59 — 60 — 60 — 60		9	25.0	27.0	SS	11 9 9 7	27.0	Brown mf GRAVEL; some cmf SAND; little SILT (saturated, non-plastic) Boring terminated at 27 feet. Notes: 1) Boring backfilled with on-site soils.	12
61 — 62 —									

								Sı	ıbsı	urface	· In	vestig	gation					
	Client: Project:		limans G ubsurfac				ts, in	c			1		Report No.: Boring Location Water Slide		CD3443 Boring Locat			<u>-</u> -
		Ti	ioga Dov	yns Çasi	ino and	Hote	l Exp	ansior	1									_
		<u> </u>	ichols, N	lew York							,		Start Date:		Finish D	_	11/1/2012	
	Boring N	No.: _	B-19			She	et _	1 0	of	2			Date	Time	iter Observati Depi	th	Casing	
	Northing	Coordi				Wei		ıpler H 141		er Ibs.			11/1/2012	AM			25'	-
	Easting						giil. Fall:	30		- 103. in.					- —	_		-
					Hamm			Auton		-								-
	Ground	Elev.:	8	01.5	_		Borin	g Adva	ance (_ Ву:			Borehole ca	ved at 16 fee	t			_
							4	1/4" A	uger									-
	METHOD OF ADVANCE	SAMPLE NO.		PTH OF MPLE	SAMPLE		SAM PE	VS ON PLER R 6" O.D.		DEPTH OF CHANGE			CLASSIF	FICATION	OF MATE	a	nd - 35-50%	
	MEI	SAN		r <u>-</u>	3,			PLER		범호	m ·	fine medium				e	anto - 20-35% Blo - 10-20%	٠Т
	Α	1	From 0.0	7o	Iss	9	11	11	<u> </u>		с.	Brown	SILT; some cr	nf SAND: little	mf GRAVFI		aço - 0-10%	ᅥ
_	- Û G		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		-	Ť			\dashv	2.0		non-pla	•			. (ŀ
	E	2	2.0	4.0	SS	10	10	10	13	2.0		Brown	cmf SAND; so	me SILT; son	ne mf GRAVE	EL (wet,		┪
	R S				1							non-pla	astic)					ı
		3	4.0	6.0	SS	7	7	5	7			NO RE	COVERY					
_					\													
_		4	6.0	8.0	SS	4	4	5	6			Brown	cmf SAND; litt	le SILT; trace	f GRAVEL (v	vet, non-	plastic)	ŀ
		5	8.0	10.0	SS	5	5	5	8			Brown	f SAND; trace	mf GRAVEL	trace SILT (v	vet non.	nlastic)	ŀ
		<u> </u>		10.0	100	<u> </u>	<u> </u>		~				LES encounter		-	701, 71011	picono,	ŀ
_		6	10.0	12.0	SS	8	9	8	9				cmf GRAVEL;			T (wet,		ŀ
					1				┪			non-pla	astic)					Ì
																		İ
			15.0	17.0	ee •		42	0	10			Cimil	Coil teaturat	d non electri	,			
	ļ	7	15.0	17.0	SS	9	13	0	10			Similar	Soil (saturate	u, rion-piasüc	ı			ŀ
			ļ	ļ	+	-			\dashv									-
_			 	 	+	\vdash			_									+
		•	 -	 	1	+			\dashv									
_		8	20.0	22.0	SS	8	7	7	7			NO RE	COVERY					ŀ
_									_									
_				ļ	 	<u> </u>	-		\dashv									-

					ATI	ANTIC TES	ring i	LABORATORIES, Limited	
						Sub	surface	e Investigation	
	Boring N	lo.: _	B-19			Report No.:		CD3443-01-10-12 Sheet 2 of 2	
НТӨЭО	METHOD OF ADVANCE	SAMPLE NO.	DEF O SAM	F	SAMPLE TYPE	BLOWS ON SAMPLER PER 6" 2" O.D. SAMPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL and - 25-50% some - 20-35% and - 10-20% and	RECOVERY (inches)
26		9	25.0	27.0	ss \	8 11 11 5		Brown cmf GRAVEL; some cmf SAND; little SILT (saturated,	6
27							27.0	non-plastic)	
28						<u> </u>	-	Boring terminated at 27 feet.	
29 —	\vdash				<u> </u>		4	Natas	
30	\vdash			-	 	-	1	Notes: 1) Boring backfilled with on-site soils.	
31 —					1		1	· ·	
32						-	1		
33 — 34 —]		
35									
36			ļ			-	-		
37	_				ļ <u>.</u>		-		
38 —							┨		
39 —							1		
40							1		
41 —							1		
42 —]		
3-44-]		
45 —							4		
46	ļ			<u> </u>			-		
47	-			-			-		
48				 			1		
49 —				 			1		
50									
51 — 52 —									
53							_		
54 —			ļ	<u> </u>	ļ]		
55 —							-		
56 —	\square		 	 	 		-		
57	$\vdash\vdash\vdash$		 	 	 		-		-
58 —	\vdash		 		 		1		
59 —	\vdash	-	 			_	1		
60-			<u> </u>				1		
61 —]		
62—			1	1		1		I	

												Report No.:	_		CD3443-01-1	0-12	_
	Client:	_ <u>c</u>	limans G	reen Lia	ng Arci	hiteci	ts, In	c.				Boring Loca	ition: Se	e Bo	ring Location P	lan	_
	Project:		ubsurfac	e Investi	igation							Casino Ex	pansion				_
			oga Dov	ns Casi	no and	Hote	I Exp	ansi	on							· ·	_
		N	ichols, N	ew York								Start Date:	11/1/2012	_	Finish Date:	11/1/2012	
	Boring f	No.: _	B-20	_		She	et _	1	of _	2		Date	Ground Time		Observations Depth	Casing	
	Northing	Coordi				Wei		•	Hami 140	mer lbs.		11/1/2012	AM		DRY	25'	_
	Easting				Hamm		Fall: 7pe:		30 omati	in.				_			-
	Ground	Elev.:	8	22.2	-		Borin	ng Ad	vance Auge	— ∋ By:		Borehole (caved at 15.	2 feet.			-
								1/4	Muge								_
	METHOD OF ADVANCE	SAMPLE NO.	0	PTH)F IPLE	SAMPLE		SAM PE 2"	NS O PLEF R 6" O.D.	₹	DEPTH OF CHANGE	f - fine	CLASS	IFICATIO	N O	F MATERIA	and - 35-50% some - 20-35%	
	₹*	Š	From	То	"		SAM	PLEF	₹		m - mediun	•				little - 10-20% trace - 0-10%	1
	Α	1	0.0	2.0	SS	7	8	9	11		Brow	n cmf GRAVE	L; and cmf S	AND,	trace SILT (wel	,	t
	G G					\vdash					non-p	lastic)					\vdash
	E	2	2.0	4.0	SS	9	9	9	6		Brow	n cmf SAND; a	and mf GRA	/EL; li	ittle SILT (wet,		\vdash
	R S				-	\vdash					non-p	lastic)					\vdash
_		3	4.0	6.0	SS \	11	13	10	12			BLES encounte				•	\vdash
	$\mid - \mid \mid$			<u> </u>								n cmt SAND; 8 ANIC MATERI			f GRAVEL; trac t, non-plastic)	8	\vdash
_		4	6.0	8.0	SS	10	10	11	10				•		; some SILT (we	et,	
						\vdash					non-p	lastic)			•		
_		5	8.0	10.0	SS	100	0/3"				NO F	ECOVERY					-
				 -		T											\vdash
	$\vdash \vdash$	6	10.0	12.0	SS	21	19	17	13		Rock	s in shoe					\vdash
						\vdash											1
																	-
					 	†											\vdash
					 	t											\vdash
		7	15.0	17.0	SS	12	8	13	17		Brow	n cmf SAND; s	some SILT; li	ttle m	f GRAVEL (wet	•	+
-											non-t	lastic)					\vdash
																	卜
						\vdash											-
					\vdash	\vdash											\vdash
	1	8	20.0	22.0	SS	11	12	11	16		Simila	ar Soil					\vdash
Ħ					-	\vdash											F
						┪		-									\vdash
				<u> </u>		\vdash											F
					\vdash	\vdash											F

					<u>ATI</u>			LABORATORIES, Limited a Investigation	
	Boring f	No.: _	B-20	_		Report No.:			
DEPTH	METHOD OF ADVANCE	SAMPLE NO.	l c	PTH OF IPLE	SAMPLE	BLOWS ON SAMPLER PER 8" 2" O.D. SAMPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL ond - 35-50% some - 20-35% m - medium c - 500/150 trice - 0-10%	RECOVERY (inches)
_		9	25.0	27.0	SS	15 10 13 9	<u> </u>	Brown cmf SAND; and SILT; some mf GRAVEL (wet,	12
26				\vdash				non-plastic)	
27 —	\vdash		-		<u> </u>		27.0	Boring terminated at 15.2 feet.	-
28 —					 		ł		
29-	$\vdash \vdash \vdash$			 	 	 	-		ļ
30-					 	 	-	Notes: 1) Boring backfilled with on-site soils.	
31—	\vdash				 		1	., Toring Susmines will original solls.	
32	\vdash		-		 		ł		
33					-		-		
34					 		4		
35							4		
36 —							1		
37									
38			ļ	ļ					
39 —								:	
40 —									
41									
42							1		
43									
44—							ļ		
45-]		
46 —]		
47—]		
48 —]		
49]		
50									
51									
52 —]		
53 —							1	ļ	
54-							1		
55 —							1		
56-							1		
57 —							1		
58 —					 		1		
59					_				
60—							1		
61 —					\vdash	<u> </u>	1		
€2					\vdash		<u>L</u>		

											Investig	Report No.:				CD3443-01-1	0-12		
	Client:	С	limans G	reen Lla	ang Arci	hitec	ts. In	c.				Boring Loca		See		g Location F			-
	Project:		ubsurfac									Casino Ex				<u>,</u>			-
	•		ioga Dov				el Exp	oansi	on										-
			ichols, N						-			Start Date:	10/2	25/2012		Finish Date:	10/	25/2012	-
	Boring f		B-21		·	She	et _	1	of _	2		Date				bservations Depth		Casing	
	Northing	Coordi 1	nates			Wei	San	npler 1	Hami 140	mer Ibs.		10/25/2012	-	PM	-	29.3'	-	45'	-
	Easting				Hamm		Fall: ype:		30 omati	in.			-		-		-		-
	Ground	Elev.:	8	21.0	_			ng Ad 1/4"	vance	— э Ву:		Borehole	caved	at 25 fee	 et.				_
	<u>г</u> п	ó	<u> </u>		1			ws o				CLASS	IFIC	ATION	OF	MATERIA	L		<u>-</u>
	METHOD OF ADVANCE	SAMPLE NO.	_ c	PTH)F MPLE	SAMPLE		SAM PE 2"	IPLEF R 6" O.D.	₹	DEPTH OF CHANGE	I - fune						and some	· 35-50% • 20-35%	
	²	Ŝ	From	То	1		JAN	IPLEF	` ;		m - modium c - coanso						imo Dece	- 10-20% - 0-10%	
_	A	1	0.0	2.0	SS	7	15	27	36		non-pla					,	oist,		Ť
	G E	2	2.0	4.0	ss \	11	7	14	14	2.0		LES encount							+
_	R	_		 	+	H					Brown non-pla	SILT; some (cmf S	AND; little	e mf (RAVEL (wei	ì,		ŀ
		3	4.0	6.0	ss	7	7	10	13	4.0		cmf SAND; s	some	SILT; sor	ne mi	GRAVEL (w	et,		t
	-	4	6.0	8.0	SS	8	9	7	12		Similar	-							ŀ
	-	-	0.0	0.0	33	ů		<u> </u>	12		Similar	3011							ŀ
_		5	8.0	10.0	SS	9	10	12	•		Rrown	cmf SAND; s	ome	mf GRAV	/E1 · Ii	tio SII T (wat			ŀ
_	-				100	Ľ			Ť		non-pla			iiii with	, EL, 11	ING CILI (HCI	•		-
_		6	10.0	12.0	SS	11	7	9	12		Brown	cmf GRAVE	L: and	l cmf SAN	ND: so	me SILT (wa	et.		ŀ
_	-		10.0	12.0	100	Ë	•	<u> </u>			non-pla		L. 0110	- Cana C/ 1	10, 5	and Ole I (we	•••		ŀ
_					 	╁													ŀ
_	+		 	 	 	\vdash													}
			 		 	†													t
	+	7	15.0	17.0	ss	13	23	16	16		Similar	Soil (mf GR	AVEL)					r
	+					lacktriangledown													t
-	†					1													t
	1 1				1	t													t
	\Box				l –	T													t
	1 1	8	20.0	22.0	ss	6	18	22	19			cmf SAND; a	and SI	LT; some	e mf G	RAVEL (wet			r
						lacksquare					non-pla	astic)							T
						1													1
						1													ľ
	1 1					Î													Ī

					AT	LAN	NTIC				BORATORIES, Limited	
L.	Boring I	No.:	B-21	_		I	Repo	rt No.:			CD3443-01-10-12 Sheet 2 of 2	
ОЕРТН	METHOD OF ADVANCE	SAMPLE NO.	0	PTH OF IPLE	SAMPLE		BLOW SAMF PER 2" C SAMF	R 6" D.D.	DEPTH OF CHANGE	m.	CLASSIFICATION OF MATERIAL and - 35-50% tone - 20-35% tone - 10-20% trace - 10-20% trace - 0-10%	RECOVERY (inches)
26		9	25.0	27.0	SS	11	12	11 11			Similar Soil	16
27 —					'						<u> </u>	
29—										¥	:	
30 —		10	30.0	32.0	SS	11	15	16 23			Brown cmf SAND; some SILT; some cmf GRAVEL (wet,	16
31 —											non-plastic)	
33—					_	_						
34 —											<u> </u>	
36—		11	35.0	37.0	SS	38	100/	2*			Similar Soll	6
37 —			-		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	-					-	
38 —												
40-		12	40.0	42.0	SS \	17	100/	3.			Brown mf GRAVEL; and cmf SAND; some SILT (saturated,	6
41			10.0	, <u></u>		Ë					non-plastic)	_
42—								×				
44—											-	
45—		13	45.0	47.0	SS	62	100/	1"			Similar Soil	2
47—									47.0	<u> </u>	Boring terminated at 47 feet.	
48												
49											Notes: 1) Boring backfilled with on-site soils.	
51 —					<u> </u>	_						
52						\vdash					<u></u>	
53 — 54 —							-,					
55—					<u></u>	_					-	
56 — 57 —												
58 —		-										
59-						\vdash					<u> </u>	
61 —												
62—						<u> </u>						
					-							

												Report No.:			CD3443-	<u>01-10</u> -	12	
	Client:		limans G	reen Lla	ing Arch	nitect	s, Inc.					Boring Loca	ition	See I	Boring Locati			_
	Project	: <u>_s</u>	ubsurfac	e Invest	igation					,		Casino Ex	pan	sion				_
			loga Dov	vns Casi	no and	Hotel	I Expa	nsion										
		N	lichols, N	ew York	l .							Start Date:	10	/25/2012	Finish Da	ite: _	10/25/2012	
	Boring I	No.:	8-22			Shee	et	<u>1</u> of _	2			Date		Groundwa Time	ter Observatio Depth		Casing	
	Northin	Coord	inates			Weig	•	er Ham 140	mer lbs.			10/25/2012		MA	DRY	_	25'	-
	Easting				Hamm		all: _ pe: _	30 Automati	in. ic_						<u> </u>	_		-
	Ground	Elev.;	8	22.2	-		-	Advance /4" Augs	•			Borehole	cave	d at 15 fee	<u>. </u>			-
	METHOD OF ADVANCE	SAMPLE NO.	C	PTH)F IPLE	SAMPLE	!	SLOW SAMP PER 2" 0	LER 6" .D.	DEPTH OF CHANGE	f - fn	.0	CLASS	IFIC	CATION	OF MATER		and - 35-50% some - 20-35%	
	₹ `	Š	From	То	1		SAMP	LER	"	m · m							Lille - 10-20% trace - 0-10%	ι,
	Α		 	25	ss T	Ī		40 44	0.5	6	'ASP	HALT PAVE	MEN	IT				肀
_	G		0.5	25_	- NS	<u> </u>	<u>. H</u>	12 14					ome	SILT; som	e mf GRAVEL	. (wet,		
	E		25	45	ss	.9	_10_	11 13	1		on-pla	•						r
	S		13		22		_10	11 13		Si	imilar	' S011						H
		3	4.5	6.5	ss	9	13	1415_			rey cr		me :	SILT; some	mf GRAVEL	(wet,		-
		4	6.5	8.5	ss	10_	13	1312_		Si	imilar	Soil						F
_		5	8.5	10.5	ss.	7	10	13 9			rown o		ind r	nf GRAVEL	.; some SILT (wet,		F
		6	10.5	12.5	ss	9	9	8 13		Ві		cmf GRAVE	.; an	d cmf SAN	D; some SILT	(wet,		F
												,						F
																		-
		7	15.0	17.0	SS	11	22	47 31		Si	milar	Soil						F
_					<u> </u>													F
	\vdash		-															-
	\vdash		 			_												-
_		8	20.0	22.0	SS \	12	14	14 17		Br	own •	cmf SAND: s	ome	cmf GRAV	EL; little SILT	(wet		F
_		;				_	•				n-pla			GIWIT	, 0121	1		\vdash
					\ 													-
				_	\vdash													-
							_											\vdash
					لـــــا	L												┸

							Sub	surface	e Investiga	ation			
	Boring I	No.: _	B-22			Re	port No.:		CD3443-0	01-10-12	Sheet _	2 of 2	_
DEPTH	METHOD OF ADVANCE	SAMPLE NO.	DEF O SAM	F	SAMPLE	SA P 2	OWS ON MPLER ER 6" " O.D. MPLER	DEPTH OF CHANGE	f - fino m - medium c - course	CLASSIFICATION	OF MATERIA	and - 35-50% seme - 20-35% time - 10-25% trace - 0-10%	:
		9	25.0	27.0	SS	13 13	3 11 18	<u> </u>	Similar S	Soil			t
26 —								27.0					H
27 —								27.0	Boring to	erminated at 27 feet.			+
28 —								1	I -				+
29 —					 			1	Nata:				\vdash
30	\vdash				 			1	Notes: 1) Boring	g backfilled with on-site so	ils.		\vdash
31 —								1	'				\vdash
32 —	 							1					}
33 —	-				 			1					+
34 —					 								H
35					├								ŀ
36 —					<u> </u>			1					ŀ
37 —					 			1					ŀ
38 —	-							-					┝
39 —								-					┝
40					<u> </u>			-					ŀ
41	 							-					┝
42	-				 			-					\vdash
43 —	-		-					1					F
44 —	ļ				-			4					H
45 —					 		· · · · ·	-					\vdash
46	ļ				 			4					F
47 —	 -				 	<u></u>		-					-
48 —								-					-
49	 				 			-					F
50 —	ļ							4					F
51 —								-					-
52 —	 				 			-					-
53 —	 				 			4					L
54 —					<u> </u>			-					
55								1					L
56 —	\square							1					L
57 —	$\sqcup \sqcup$							1					L
 58 —							-	1					L
 59 —]					L
50 —	Ш												L
 31								1					L
 52 —	L l				1								

							Su	ıbsur	face	In	vestig	gation					
												Report No.:			CD3443-01-1	0-12	_
	Client:		limans G	reen Lla	ng Arch	itects, In	16.					Boring Loca	tion:	See B	oring Location P	lan	_
	Project:		ubsurfac					-				Casino Ex	pansion	1			_
			ioga Dow			Hotel Ex	pansion	1									_
			lichols, N	ew York								Start Date:				10/25/2012	
	Boring N	No.:	B- <u>23</u>			Sheet _	1 0	of <u>2</u>	_			Date		Time	er Observations Depth	Casing	
		Coord					mpler H					10/25/2012	_	AM	DRY	25'	-
	Northing					Weight:	140		lbs.				_				-
	Easting				Hamm	Fall: er Type:	30		in.				_			-	_
	A								_				 				_
	Ground	Elev.:	8	20.5	_		ing Adva		y .			Borehole (raved g	. 20 198L			-
							4 1/4" A	uger									_
	METHOD OF ADVANCE	SAMPLE NO.	DEF O SAM	F	SAMPLE	SAN PE	WS ON MPLER ER 6"	2010	CHANGE			CLASS	IFICA	TION C	OF MATERIA	and - 35-50%	
2	MET	SAM			່ຊູ		O.D. VIPLER	2	길 다		medium					some - 20-35% ittle - 10-20%	×
		0,	From	То							совляе	NIAL T BALE	*******			trace - 0-10%	4
_	~	1	0.4	2.4	ss	4 4	15	21	0.4			CMI SAND:		nf GRAV	EL; little SILT (we		7
_	Ğ				1			_			non-pl	•			, ,		-
	R	2	2.4	4.4	ss l	10 16	13	13			NO RE	COVERY					ŀ
_	s							_									ŀ
_		3_	4.4	6.4	ss \	7 12	18	12			Brown	cmf SAND;	some m	f GRAVE	L; little SILT (wel	l,	ŀ
						<u> </u>		_			non-pi	astic) LES encount	arad fro	m 5 to 21) foot		ŀ
_		4	6.4	8.4	SS	10 7	7	9			Simila		erea no	111 3 10 20	, 1601		ŀ
_								_									ŀ
_		5	8.4	10,4	SS	6 7	8.	7				-	and mf (GRAVEL	little SILT (wet,		ŀ
_			-		1			_			non-pl	astic)					ŀ
_		6	10.4	12.4	SS	79	9	6					L; some	cmf SAI	ND; little SILT (w	et,	ŀ
_			 		\ <u>\</u>			\dashv			non-p!	astic)					ŀ
_			 -	 	├			_									ŀ
_	<u> </u>		1	_		-	-	\dashv									ŀ
_	 	7	15.0	17.0	ss \	11 13	13	13			Brown	cmf GRAVE	L; some	cmf SAI	ND; some SILT (wet,	ŀ
_		<u> </u>	+	-							non-pl				•		ŀ
_	\vdash		1	_	 	}		\dashv									1
_	 		 	 	╂	 		\dashv		ĺ							1
	<u> </u>		1		 	╁──		\dashv		Ì							-
_	 	8	20.0	22.0	SS	6 15	1 8	15			Brown	cmf GRAVE	L; some	cmf SAI	ND; little SILT (w	et,	
	\vdash	<u> </u>	+	_	1			\dashv			non-pl				•		
			 		\vdash	 		\dashv									
	<u> </u>		1	 	 	 		\dashv									1
				\vdash	-	1		\dashv		ı							١
_				l													•

								LABORATORIES, Limited e Investigation	
	Boring i	No.: _	B-23	_		Report No.:		CD3443-01-10-12 Sheet 2 of 2	-
DEPTH	METHOD OF ADVANCE	SAMPLE NO.	DEF O SAM	F IPLE	SAMPLE	BLOWS ON SAMPLER PER 6" 2" O.D. SAMPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL and . 35-50% some . 20-35% time . 10-20% time . 10-20%	200000
		9	From 25.0	To 27.0	SS	19 11 13 10		c - course trace - 0-10% Similar Soil	L
26 —			25.0	27.0	33	19 11 13 10		Similar Soil	L
27 —	 						27.0	Boring terminated at 27 feet.	┞
28 —	\vdash							Some terrinated at 27 root.	_
29 —		-			-			Notes:	H
30—								Borehole filled with on-site soils.	H
31 —					 				一
32 —									Г
33 —									Г
34 — 35 —									
35 — 36 —									
37									Ĺ
38 —									L
39 —									L
40 —	\vdash				 				\vdash
41 —	\vdash								\vdash
4 2 —					-				\vdash
1 3 —									\vdash
44	 								⊢
45									H
+6									\vdash
47 —	11			-					Н
18 									Г
19 —									Г
50 — 51 —									
52 									
и и —	igsquare								L
~ 54					ļ				L
55—									L
6—									L
77 —		_							<u> </u>
ia —					 				\vdash
9	 								\vdash
ю —					\vdash				\vdash
i1 —	\vdash				 				

	Client:	,	Climans G	ireen Lis	ana Arci	hitects	s. Inc				nvestigation Repor Boring	t No.:		See B	CD3443-01-1	
	Project:		Subsurfac	e invest	igation						•		pansio	-	Orang Economic	(dit
	Boring I		Tioga Dow Nichols, N B-24	lew York						2	Start D	Date:	<u>10/12</u>		Finish Date: er Observations	10/12/2012
	Northing	Coord	linates			Weig	Sam	ıpler H	_		Dai 10/12/ 10/24/	<u> 2012</u>	_	Time	Depth DRY DRY	Casing
	Easting			40.5	Hamm	er Typ		Auto			10/26/	2012	_		DRY	TOW@25'
	Ground	Elev.:	8	19.5	_			g Adv <u>1/4" A</u>		-		_				
	METHOD OF ADVANCE	SAMPLE NO.	0	PTH OF MPLE	SAMPLE	'	SAMI PEF 2" (VS ON PLER R 6" O.D. PLER		DEPTH OF CHANGE	CL/	ASS	IFICA	TION C	OF MATERIA	and - 35-50% some - 20-35% kmo - 10-20%
_	I A	1	From 0.0	To 2.0	SS	2	4	4	6		Brown cmf SA	ND: t	race f (GRAVEL:	trace SILT; trace	trace - 0-10%
	G G	2	2.0	4.0	SS		14		26		ORGANIC MA	TER	AL (roc	othairs) (n	noist, non-plastic)
_	R S		1.0	7.0		Ë			-		non-plastic), w			OWNE	L. HECO OIL I (IIIO	
_		3	4.0	6.0	SS	17	21	23	33		Brown cmf GR non-plastic), w			e cmf SAN	ND; little SILT (m	oist,
		4	6.0	8.0	ss	12	21	28	29		Similar Soil (m	oist,	non-pla	ıstic), w=4	1.1%	
		5	8.0	10.0	SS	16	15	19	18		Brown cmf SA non-plastic), w			GRAVE	L; trace SILT (mo	ist.
		6	10.0	12.0	SS	19	22	26	20	:	Brown cmf SA non-plastic), w			if GRAVE	L; trace SILT (me	oist,
		7	15.0	17.0	SS	17	25	20	16		Brown cmf SA	ND; I	ittle cm	f GRAVE	L; trace SILT (mo	pist,
_											non-plastic), w	/=6.89	%			
_		8	20.0	22.0	SS	35	51	77	63		Similar Soil (m	oist,	non-pla	istic), w=5	5.2%	
_					1	1										

						<u>ATI</u>			LABORATORIES, Limited e Investigation	
		Boring I	No.: _	B-24			Report No.:		CD3443-01-10-12 Sheet 2 of 2	-
	DEPTH	METHOD OF ADVANCE	SAMPLE NO.	0	PTH OF IPLE	SAMPLE	BLOWS ON SAMPLER PER 6" 2" O.D. SAMPLER	DEPTH OF CHANGE	CLASSIFICATION OF MATERIAL I . tne some - 20-33% tme - 10-20% tree - 0-10%	RECOVERY (Inches)
F		 	9	25.0	27.0	SS	14 17 19 10	3	Brown cmf SAND; some mf GRAVEL; trace SILT (moist,	12
	6 — -		-	<u> </u>				27.0	non-plastic), w≂6.4%	
1	7 — 8 —]	Boring terminated at 27 feet.	
2										
31		ļ	<u> </u>					_	Notes:	
3		<u> </u>						4	Temporary observation well was installed to a depth of 25 feet.	
3:	2 —	ļ						4		<u> </u>
3:	3—							4		
3-	4—							┥		<u> </u>
3:	5—							-		
34	6							-		
3								1		_
31								_		
31								1		
4	-]		
4										
4	3—							4		
4	4							4		<u> </u>
4	5 —		_							
4	6 —					<u> </u>		4		
4	7							\dashv		
4	B					-		┪		
4			-		_			1		
5	0	-						1		
5 5										
52 53]		
5 5								╛		
50 50 50 50 50 50 50 50 50 50 50 50 50 5								4		
56								4		
57	-							-		
56	-							┨		
59	-							\dashv		
e e	-							1		
1								1		
63	<u>'</u>									$\vdash \vdash$

											Report No.: CD3443-0	1-10-12	_
	Client:	_	Climans G	reen Liz	ing Arc	hiteç	ts, In	c.		-10	Boring Location: See Boring Location	n Plan	_
	Project:	_	Subsurfac								Paddock		_
		_	Tloga Dow			Hote	I Exp	ensio	n				_
		_	Nichols, N	ew York							Start Date: 10/24/2012 Finish Date		;
	Boring N	lo.:	B-27	_		She	et _	1_	of _	_1_	Groundwater Observation Date Time Depth	is Casing	
			dinates					npler H			10/24/2012 AM DRY	OUT	_
	Northing	' —				Wei	_			_ lbs			-
	Easting				Hamm		all: De:	Auto:		in.			-
	Ground	Flev ·	79	95.7				ng Adv		_	Borehole caved at 10 feet.	_	-
	Ciodila	_107		JU.,				1/4" A		•	Boranois caved at 10 lear.		_
=					+	-							_ =
	ᅜ뱅	Š.	DEF	тн	w			VS ON	1	P.	CLASSIFICATION OF MATER	IAL	ł
	METHOD OF ADVANCE	SAMPLE NO.	SAM	F IPLE	SAMPLE		PE	PLER R 6"		DEPTH OF CHANGE		and - 35-50%	ا۔
	AET	SAM			å⊦			O.D. PLER		무장	Ene madium	some - 20-35% fittle - 10-20%	١,
			From	To		<u> </u>		-10			CORING	trace - 0-10%	
	A	1	0.0	2.0	SS	6	10	13	12		Brown cmf SAND; some mf GRAVEL; trace SILT non-plastic)	moist,	ļ
_	G	2	2.0	4.0	ss \	7	14	21	10		COBBLES encountered from 2 to 22 feet		ŀ
	Ř		2.0	4.0	33	<u>′</u>	14		18		Brown cmf SAND; little mf GRAVEL; trace SILT (v non-plastic)	et,	ŀ
_	•	3	4.0	6.0	SS	13	15	22	24		Brown cmf SAND; and mf GRAVEL; trace SILT (n	inist	ŀ
_			-			Ë			_		non-plastic)	~	ŀ
		4	6.0	8.0	ss \	27	17	17	17		Brown cmf SAND; some mf GRAVEL; trace SILT	moist,	ŀ
					1	┖		•			non-plastic)		ŀ
		5	8.0	10.0	SS	32	25	14	19		Similar Soil (moist, non-plastic)		Ì
					\								Ī
		6	10.0	12.0	SS	18	15	15	17		Brown cmf SAND; and mf GRAVEL; trace SILT (n non-plastic)	ioist,	
			\downarrow		. '				_		non-plasuc)		
_	 		 			_			_				
_					-	-			_				ŀ
-		7	15.0	17.0	SS V	19	21	16	15		Brown cmf SAND: some mf GRAVEL: little SILT (noist.	ŀ
-	\vdash	-	 	2		Ë			\dashv		non-plastic)	,	ŀ
-			+		<u> </u>	1			\dashv				ŀ
7						T							ŀ
1			1 1	<u> </u>					\dashv				ŀ
		8	20.0	22.0	SS	22	28	19	22		Brown cmf SAND; some mf GRAVEL; trace SILT	moist,	ľ
										22.0	non-plastic)	. 	_[
											Boring terminated at 22 feet.		1
						_					Notes:		
						<u> </u>					1) Boring backfilled with on-site soils.		

												Report No.:			CD3443-01-1	0-12
	Client:	_ c	limans G	reen Lia	ng Arci	nitect	s, Inc	C.				Boring Loca	ition:	See Bo	ring Location P	lan
	Project:	S	ubsurfac	e invest	gation							Paddock				
		T	ioga Dow	ıns Casi	no and	Hotel	l Exp	ansi	on							
		N	ichols, N	ew York								Start Date:	10/24	/2012	Finish Date:	10/24/2012
	Boring f		B-27			Shee	et _	1	of _	1		Date		oundwater Time	Observations Depth	Casing
	Northing	Coordi				Weig		•	Hamı 140	mer lbs.		10/24/2012	. —	AM	DRY	OUT
	Easting				Hamm	F	all:	_	30	in.			_			
	Ground	Elev.:	7	95.7	_		Borin	ıg Ad	vance	By:		Borehole	caved a	t 10 feet.		
							- 4	1/4"	Auge	!r						
	METHOD OF ADVANCE	SAMPLE NO.	0	PTH OF IPLE	SAMPLE TYPE			PLEI R 6" O.D.	R	DEPTH OF CHANGE	I · fine		IFICA	TION O	F MATERIA	and - 35-50% semo - 20-35% title - 10-20%
	2 '	Ŋ	From	То	<u></u>				•	<u> </u>	m - medium c - ceanso					trace - 0-10%
	A	1	0.0	2.0	SS	6	10	13	12				some m	I GRAVEL	; trace SILT (m	oist.
	G]		ilastic) BLES encount	ered fro	m 2 to 22	feel	
	E R	2	2.0	4.0	SS	7	14	21	19	1					trace SILT (wet	
	S									[lastic)			•	
		3	4.0	6.0	SS	13	15	22	24			n cmf SAND; a elastic)	and mf (GRAVEL;	trace SILT (moi:	st,
_		4	6.0	8.0	ss	27	17	17	17			n cmf SAND; :	some m	f GRAVEL	; trace SILT (mo	oist,
_		5	8.0	10.0	SS	32	25	14	19		Simila	ar Soll (moist,	non-pla	stic)		
		6	10.0	12.0	SS	18	15	15	17			n cmf SAND; a	and mf (GRAVEL;	trace SILT (mois	st,
_					·											
											_					
_		7	15.0	17.0	SS	19	21	16	15			n cmf SAND; s lastic)	some m	f GRAVEL	; little SILT (mo	ist.
_																
_	 				ļ	 				İ						
	$\sqcup \sqcup$	•	20.0	20.0	60		^^				_					
_		8	20.0	22.0	SS	22	28	19	22			n cmf SAND; s lastic)	ome m	GRAVEL	; trace SILT (mo	DiSt.
					<u> </u>					22.0	•	•				
											Boring	terminated a	t 10 fee	t.		
					ļ	<u> </u>					Notes	:				
	<u> </u>				<u> </u>							ring backfilled	with on-	site soils.		

								S	ub:	surface	Investi	gation				
												Report No.:		CD3443-01-1	0-12	_
	Client:		limans G	ireen Lia	ng Arc	hitec	ts, In	с				Boring Loca	tion: See E	oring Location P	lan	_
	Project	<u>s</u>	ubsurfac	e Invest	igation							Paddock				_
			ioga Dov	vns Casi	ino and	Hote	l Exp	ansio	n							_
		_N	ichols, N	ew York	<u> </u>							Start Date:	10/24/2012	Finish Date:	10/24/2012	
	Boring (No.:	B-28	_		She	et _	1_	of _	1		Date	Groundwat Time	er Observations Depth	Casing	
	Northin	Coordi	inates			Wei		npler 1- 14		mer lbs.		10/24/2012	PM	19.7'	OUT	_
	Easting						Fall:	30		in.						_
					Hamm											-
	Ground	Flev ·	7	96.5				ng Adv				Bombole (aved at 15.4 fe			-
	J. Junu				_			1/4" A		-		DO: GITOIS (<u> </u>		-
								174 24	uge	31						_
DEPTH	METHOD OF ADVANCE	SAMPLE NO.	0	PTH OF IPLE	SAMPLE TYPE		SAM	NS ON IPLER R 6" O.D.		DEPTH OF CHANGE		CLASS	IFICATION (OF MATERIA	and - 35-50%	
u	E A	SAN		,	∫ છે.			PLER		범호	f · fino m · medium				some - 20-35% title - 10-20%	١,
	<u> </u>		From	To	00		40		40		с - соплае	754115	(004)/51		trace - 0-10%	<u></u>
1-	A D	1	0.0	2.0	SS	7	10	14	16		non-p	-	race i GRAVEL;	trace SILT (wet,		L
2 —	G	2		40	66	9	_		45			•				L
3	R		2.0	4.0	SS	9	7	11	15	ļ	non-pi		iome mi GRAVE	EL; trace SILT (mo	DIST,	L
4—	S		10		20	\	- 10				-		ered 2 to 22 feet			L
5 —		3	4.0	6.0	SS	11	12	19	21				ind mf GRAVEL	; little SILT (moist	t .	L
6—	<u> </u>				,					ļ	non-pl	•				L
7 —		4	6.0	8.0	SS	26	24	38	32		non-pi		ome mf GRAVE	L; little S!LT (moi	ist,	L
6 					,	\					-	•				L
9 —		5	8.0	10.0	ss	100	3/3"				Grey r non-pi		race cmf SAND	trace SILT (mois	it,	L
o—					<u>'</u>						·	•				L
1—		6	10.0	12.0	SS	17	14	23	31				ome mf GRAVE	L; trace SILT (mo	oist,	
2—					\ \	_					non-pl	asucj				
- з—																
4 —	igsqcup				ļ	$oxed{igspace}$										
· -					-											L
· -		7	15.0	17.0	SS	11	18	21	21		Simila	r Soil (wet, no	n-plastic)			
· —					\	\										
· 	L															
9																
, 											Ţ					
		8	20.0	22.0	SS \	14	19	23	26					L; little SILT; trac	e CLAY	Г
					\					22.0	(Wet, v	ery slightly pla	951(C)			
_											Boring	terminated at	22 feet.	-· - ·		T
_											Notes:					
													with on-site soils	i.		
																_

												Report No.:			CD3443-01-1	0-12
	Client:	_ <u>c</u>	limans G	reen Lia	ng Arci	hitect	s, Ind	c.				Boring Loca	tion:	See Bo	ring Location P	Plan
	Project:		ubsurfac	e Invest	lgation							Paddock				
		T	loga Dow	ns Casi	no and	Hotel	Exp	ansid	on							
		N	ichols, N	ew York								Start Date:	10/24	/2012	Finish Date:	10/24/2012
	Boring N	ło.: _	B-29			Shee	et _	1_	of _	1_		Date	Gı	roundwate Time	r Observations Depth	Casing
		Coordi	nates				Sam	npier	Hami	mer		10/24/2012	_	AM	20'	OUT
	Northing	·				Weig	jht:	1	40	lbs.		10/24/2012	_	PM	16.7'	TOW@22
	Easting	_					ali:	$\overline{}$	30	in.		10/25/2012	_	PM_	16.7'	<u>TOW@22</u>
					Hamm	ier Tyj	pe:	Auto	mati	<u>c</u>		10/26/2012	_	PM	<u> 17.2'</u>	TOW@22
	Ground	Elev.:		96.4	_	ŧ	Borin	ıg Ad	vance	By:						
							4	1/4" .	Auge	<u>r</u>						
						+										
	METHOD OF ADVANCE	Ŏ.	DEI	РТН	<u></u>			VS O		뉴罒		CLASSI	IFICA	TION O	F MATERIA	L
	ᇢ	SAMPLE		F IPLE	SAMPLE	'		PLEF R 6"	ł	DEPTH OF CHANGE						and - 35-50%
		A	57.11		S ⊢	١,		O.D. PLEF		팀	f - fine					somo - 20-35%
	-	Ø	From	То	1				•		m - medium c - coarse					trace - 0-10%
	A	1	0.0	2.0	SS	13	24	38	31				ome m	I GRAVEL	; trace SILT (mo	oist,
	Ğ			-	1						non-pi	astic)				
	E R	2	2.0	4.0	SS	17	26	29	30		NO RI	COVERY				
	ŝ										COBE	LES encounte	ered fro	m 2 to 22	feet	
		3	4.0	6.0	SS	7	8	7	7		Brown	cmf SAND; s	ome m	f GRAVEL	.; trace SILT (mo	oist,
					1						non-p!	astic)				
		4	6.0	8.0	SS	14	19	29	36		Simila	r Soil (moist, i	non-pla	stic)		
					1											
		5	8.0	10.0	ss \	50/2)**				Brown	cmf SAND; a	ind mf (GRAVEL;	trace SILT (mois	st,
						-					non-pl	astic)				
_		6	10.0	12.0	SS	14	11	17	23		Brown	cmf SAND; li	tile mf	GRAVEL;	trace SILT (moi:	st,
			-			\vdash					non-pl	astic)			-	
						-										
					 	 										
						\vdash		-	_							
		7	15.0	17.0	SS	17	19	16	23		Brown	cmf SAND; a	nd mf (GRAVEL:	race SILT (wet,	
_									—	į	non-pl			•	4	
					 '	\vdash			\dashv		Ţ					
_						\vdash										
_					-	\vdash			\dashv							
		8	20.0	22.0	SS	14	17	21	27		Brown	cmf SAND: s	ome m	f GRAVFI	; trace SILT (we	et.
_	-+					· ·			$\stackrel{-}{-}$		non-pi				, (110	
_					 				\dashv	22.0	Borina	terminated at	22 100	·-·	·-·-·-	· • · • · • · • · • · • · • · • · • · •
	\longrightarrow				 	 			\dashv			accu at	,00	••		
				_	-		_		\dashv		Notes:					
-					i	1			- 1		1) Ten	iporary obsen	vation v	vell installe	ed to a depth of :	77 foot

								Sub	surface	Investi	gation				
	ilient: 'roject:		imans G				s, Inc.				Report No.: Boring Loca Road Real	tion: See	CD3443-01-1		<u>-</u> -
		Ti	oga Dow	ns Casi	no and	Hotel	Expa	nslon							_
		_N	chols, N	ew York							Start Date:	10/25/2012	Finish Date:	10/25/2012	
8	oring N	_	B-30	_				of _			Date	Groundw Time PM	ater Observations Depth DRY	Casing OUT	
	lorthing asting	Coordin	nates			Weig		ler Ham 140 30	mer lbs. in.		10/25/2012				-
		Elev.:	8:	20.3	Hamm —	er Typ	e: <u>A</u>	Advanc	ic						- - -
							4 1	4" Auge	3 r						-
	METHOD OF ADVANCE	SAMPLE NO.	SAM	PTH OF IPLE	SAMPLE	S	LOWS SAMP PER 2" O	LER 6" .D.	DEPTH OF CHANGE	f - fine m - modum c - coarse	CLASS	FICATION	OF MATERIA	and - 35-50% sorno - 20-35% kittle - 10-20% troco - 0-10%	ا ا
+	A	1	From 0.0	2.0	SS T	7	7	9 7			cmf SAND; t	race f GRAVE	L; trace SILT; trace		+
+	U G					\vdash			1	ORGA	NIC MATERI	AL (roothairs)	(wet, non-plastic)		H
コ	E R	2	2.0	4.0	ss \	11	13	12 16]	Brown non-p		ittle mf GRAV	EL; little SILT (mois	t ,	
\dashv	S	3	4.0	6.0	SS	12	12	13 11			·	illo Sil T: Ima	e f GRAVEL (moist,		L
+		-	4.0	6.0	33	12	13	13 11		uau-b		illie Sili, liaci	BI GRAVEL (IIIOISI,		F
十						1			<u> </u>	Boring	terminated a	t 6 feet.			t
]						L
_					ļ	<u> </u>				Notes			•		L
\dashv					<u> </u>	├—				1) 80	ing backilled	with on-site so	DIIS.		ŀ
\dashv	-				1				1						H
T		<u>-</u>		<u> </u>		<u> </u>	•		İ						r
Ţ															
+			-		ļ	<u> </u>			-						F
+						\vdash			1						-
ight floor]						t
Ţ]						
+						 									-
+	-					-									F
\dagger		-				\vdash	-		1						\vdash
\perp]						
															\prod

								S	ubs	surface	Investig	gation				
												Report No.:		CD3443-01-	10-12	_
	Client:	_ c	limans G	reen Lia	ng Arch	nitec	ts, Inc	c.				Boring Loca	tion: <u>S</u> e	e Boring Location	Plan	_
	Project:	3	ubsurfac	e Invest	lgation							Parking Lo	ot			_
			oga Dow	ms Casi	no and	Hote	l Exp	ansio	n							_
		_N	ichols, N	aw York	·							Start Date:	10/3/2012	_ Finish Date:	10/3/2012	
	Boring t	No.:	B-31			She	et	1	of _	1_		Date	Ground	water Observations Depth	Casing	
		•										10/3/2012	Tillie	DRY	_	
	Northing	Coordi				Wei		npler I 1	Hami 40	mer lbs.		10/0/2012				-
	Easting						Fall:		0						· -	-
	Easung				Hamm			$\overline{}$		_						-
	G	Elev-	.	03 A		• •		<u>Auto</u> 19 Adı		_						-
	Ground	CIBA";	8	03.0	_			-		-						-
								Split	Spo	on		-				_
	Υ	o.			l		BLOV	NS OI	N.	u.,		CLASS	IFICATIO	N OF MATERIA	AL	
:	METHOD OF ADVANCE	SAMPLE NO.	0	PTH OF	SAMPLE		SAM	PLER R 6"		DEPTH OF CHANGE						l
:	H A	₽	SAN	APLE	₹		2"	O.D.		FF	1 - Eno				and - 35-50% some - 20-35%	Н
	₹ <	S	From	То	┤"	İ	SAM	PLER		"	m - medium				traco - 0-10%	
_	i A	1	0.0	2.0	SS	10	7	7	5		Brown	cmf SAND; t	race mf GR	AVEL; trace SILT (m	noist,	Ť
-	U G		 		1	┖					non-pl	astic)				r
_	E	2	2.0	4.0	SS \	7	10	12	15	i	Brown	cmf GRAVE	L; some cmf	SAND; some SILT	(moist,	r
_	R S		 	 		\vdash		-		1	non-pl	astic), w=7.9°	%			r
_		3	4.0	6.0	SS \	6	6	7	7	j	Simila	r Soil (moist,	non-plastic)			r
_	-		_		1	\vdash				6.0						r
_				 	+	-				<u> </u>	Boring	terminated a	it 6 feet.			t
_	+ -		 	 	\vdash	╁		-		1						r
-	+	-	 			${\dagger}$			_	1	Notes	•				ŀ
	_				 	╁				1		ing backfilled	with on-site	soil.		ŀ
_				 	-	+		_		1						r
_	+	-	├	 	ł-	╁				1						r
	+-		+	-	 	\vdash				1						f
_	+	 	 		t	+				1						t
	+-		 	\vdash	1	\vdash										t
-	+	-	 		\vdash	+			_	1						t
_	+-	<u> </u>	 	 	+-	十	-			1						t
_	+	<u> </u>	-	 	\vdash	╁				1						ŀ
_	+	 	 		 	+				1						ŀ
_	+	 			 	+				1						t
_	+	_	 		\vdash	十				1						ł
_	+				\vdash	╁		-		1						t
	 		 	 	+	\vdash				1						ŀ
_	 		<u> </u>	 	+	+			_	1						ł
_			 	 	+	+				1						ŀ
	1		<u> </u>	Щ.	ь					<u> </u>						ᆚ

						Subs	surface	Investi	gation				
	Client:	CI	imans G	reen Lia	na Arch	iltects, Inc.			Report No.: Boring Location	on: See Bo	CD3443-01-10		•
	Project:	Sı	ıbsurface	nvesti	lgation				Parking Lot				•
						Hotel Expansion					MI I I Bank	401010040	•
		_ Ni	chois, No	ew York					Start Date:		Finish Date: r Observations	10/3/2012	
	Boring N	ło.: _	B-32	_		Sheet1_ of _	1		Date	Time	Depth	Casing	
		Coordi				Sampler Ham			10/3/2012		DRY	6.0'	-
	Northing Easting	' —				Weight: 140 Fall: 30	lbs. .in.						-
	Casting				Hamm	er Type: Automat	_						•
	Ground	Elev.:	79	99.6	_	Boring Advanc							_
						2" Split Spo	on	•				·- ·-	-
=					1	<u> </u>			CI ASSIE	ICATION O	F MATERIAL		F
:	METHOD OF ADVANCE	SAMPLE NO.	DEF		2,0	BLOWS ON SAMPLER	DEPTH OF CHANGE	<u> </u>	CLAGGII	TOATION O	IMAILMA	-	1
	DVA	R PL	SAM		SAMPLE	PER 6" 2" O.D.	HAH	1 - fino				and - 35-50% seme - 20-35%	
	Y	SA	From	То	⊣ ‴	SAMPLER		m - međum c - coanso				trace - 0-10%	١
_	A	1	0.0	2.0	SS	12 15 22 27	ĺ	I	· ·	ce cmf GRAVE	L; trace SILT (mo	oist,	Ī
_	G							l '	lastic)				
_	R	2	2.0	4.0	SS	15 17 17 20		I	n cmf SAND; so lastic)	me cmf GRAVI	EL; trace SILT (m	oist,	Ļ
_	S	3	4.0	6.0	SS	6 7 6 7	ł	·	ar Soil (moist, n	on-clastic)			\vdash
					-		6.0			,			ŀ
_					 			Borin	g terminated at	6 feet.			t
_													
					<u> </u>		4	Notes		lian alia an dhi			L
_							}	1. 80	ring backfilled w	nun on-site soii.			F
_					+		1						H
-				-	+-		1						-
_]						L
_													F
_			<u> </u>				-						F
_			<u> </u>				-						+
_					+	 	1	}					F
_					 		1						r
_]						
_							_						ŀ
							1						ŀ
_			<u> </u>	<u> </u>	+	 	}	1					-
_	l		L	l		L		1					1

											_	Report No.:		CD3443-01-1	0-12	_
	Client:	CI	limans G	reen Lia	ng Arch	nitect	s, Inc					Boring Local	ion: See B	oring Location P	lan	-
	Project:	Sı	ubsurfac	e Invest	gation							Parking Lo	t		_	_
		Ti	oga Dow	ns Casl	no and	Hotel	Ехра	nsio	n				<u></u>			_
		Ni	ichols, N	ew York								Start Date:	10/3/2012	Finish Date:	10/3/2012	
	Boring N	lo.: _	B-33			Shee	et	1	of _	1_		Date	Groundwat Time	er Observations Depth	Casing	
	Northing	Coordi	nates			Weig		pler H		ner Ibs.		10/3/2012		DRY	6.0'	-
	Easting	_	_		Hamm		all: pe:	3 Auto		in.					-	-
	Conved	Clau.	7	98.1			Borin								-	-
	Ground	Elev.:		38.1	-			Split :		-						-
	<u>u</u>					Ι.	011			•		CLASSI	FICATION (OF MATERIA	L	T
	METHOD OF ADVANCE	SAMPLE NO.		PTH)F 1PLE	SAMPLE		SLOW SAMI PEF 2" (PLER R 6" D.D.		DEPTH OF CHANGE	f - tine				and - 33-50% some - 20-35%	
	\$ 4	ð	From	То	∤ ‴	-	SAMI	PLER		٥٥	m - medum c - coarse				Rttle - 10-20% trace - 0-10%	1
_	A	1	0.0	2.0	ss	12	21	22	15				ome cmf SAND	; trace SILT (moi:	st,	t
_	Ğ				\				-		•	•		10 1941 - 011 - 1		L
	R_	2	2.0	4.0	SS	14	14	15	25			mf GRAVEL; astic), w=5.3%		ID; little SILT (mo	ISI,	L
	S	3	10	-	ee -	29	10	17	22		•			/EL; trace SILT (n	noiet	H
_			4.0	6.0	SS		16	17	23		non-pk	-	one uni GRAV	ree, vace oili (fi	10/31,	F
			ļ		<u> </u>	!				. <u>6.</u> 0	·	terminated a				+
_					ļ	<u> </u>					Boring	terminateu a	(O 1661.			F
_			 _	_		-										F
					-	₽					Notes:		with on-site soil			H
					-	⊢					1, 5011	ing backingo	Milli Oli-alto aoli	•		\vdash
_					 	╀										ŀ
	-			-	<u> </u>	╄										F
					-	╁										F
_			-	 	 	├										}
		<u> </u>	-		╁	╁┈										+
					 	-										-
	\vdash					┰										+
_	 		 	-	┼	\vdash										-
					 	+		-								\vdash
				 	┼	╁										\vdash
	\vdash			-	 	+-										\vdash
	$\vdash\vdash\vdash$			-	+	\vdash										+
_	$\vdash\vdash\vdash$		 -		+	+-										+
	L		-	\vdash	\vdash	+										ŀ
_	'															

					<u>AT</u>	<u>Lan</u>	VTI (C TEST	ring i	LABOR	ATORIES	<u>S, Li</u>	mited			
								Sub	surface	Investi	gation					
											Report No.:			CD3443-01-1	0-12	
	Client:	_ <u>c</u>	limans G	reen Lia	ng Arci	hitect	s, Inc	.		•	Boring Loca	ation:	See B	oring Location F	Plan	
	Project	: <u>s</u>	ubsurfac	e Invest	lgation						Parking Lo	ot				-
			ioga Dov	vns Casi	ino and	Hote	Exp	ansion		•						-
		_ <u>N</u>	lichols, N	ew York	t						Start Date:	10/	3/2012	Finish Date:	10/3/2012	
	Boring I	No.:	B-34			Shee	et	1 of _	1_		Date	(Groundwate Time	er Observations Depth	Casing	
		Coordi	inates				Sam	pler Ham	mer		10/3/2012	_		DRY	6.0'	-
	Northin	g				Weig	ght:	140	(bs			-				
	Easting						ali:	30	in			_				-
					Hamm	er Ty	pe:	Automat	ic_			_				-
	Ground	Elev.:		97.7		-	Borin	g Advanc	e By:							-
							2"	Split Spo	on	•						
	-	T	ī		1					i				<u>_</u>		-
DEPTH	METHOD OF ADVANCE	SAMPLE NO.	0	PTH)F 1PLE	SAMPLE		SAMI	VS ON PLER R 6" D.D.	DEPTH OF CHANGE		CLASS	IFIC	ATION C	OF MATERIA	and • 35-50%	Recovery
	물	S A	<u> </u>	T	ď		SAMI		E0	f - fno m - medium					some - 20-35% Ettle - 10-20%	ء م
1—	A	1	From 0.0	2.0	SS	9	11	15 27	<u> </u>			and cr	nf GRAVEI	L; trace SILT (mo	elst,	18
2—	G				\					non-pl						
ъ з—	E R	2	2.0	4.0	SS	45	39	43 22				some	mf GRAVE	L; trace SILT (m	oist,	20
4—	S				\	1				non-pl						
5—		3	4.0	6.0	SS	19	10	15 15		1		little m	f GRAVEL	; trace SILT (wet	,	20
					,	\			6.0	non-pl	astic)					
6—									[Boring	terminated a	at 6 fee	et.			
7																
8 									1	Notes:						
9										1. Bori	ing backfilled	with o	n-site soll.			
10									1							
11 —							-									
12																
13 —				·					1							
14									1							
15									1							
16 —						T			1							
17 —									1							
18—									1							
19 —		i .		· · · · · ·	1	T			1							
20 —			-		1	T			1							
21-						T			1							
22						1			1							
23	\vdash					t			1							
24					†	t			1							
25—				·	<u> </u>				L	l				_		
	00 0	O														
	NX Rock									Drillers:		To	ny Mallory	; Tyler Weston		
•		sturbed Sar rated Grou	mple (Shelby	1000)						Inspector:						

					AT	L A I	NTI	C TI	EST	ring i	ABOR	ATORIES	S, Limite	<u>d</u>		
								s	ubs	surface	Investig	gation				
												Report No.:	_	CD3443-01	-10-12	-
	Client:	CI	imans G	reen Lia	ng Arci	itec	ts, inc	c.				Boring Loca	tion: S	ee Boring Location	Plan	-
	Project:	: <u>S</u> ı	ubsurfac	e Invest	lgation							Parking Lo	ot			-
			oga Dow			Hote	l Exp	anslo	n					<u></u>		_
		Ni	chols, N	ew York								Start Date:	10/3/2012	Finish Date	: <u>10/3/2012</u>	
	Boring I	No.: _	B-35	_		She	et _	1_	of _	1_		Date	Ground Time	dwater Observation Depth	casing	
	Northin	Coordii g				Wei		npler H	lamı 10	mer lbs.		10/3/2012		DRY		-
	Easting				Hamm		Fall: /pe:		0 mati	_				<u> </u>		-
	Ground	Elev.:	79	96.5		•		g Adv								-
					_	_		Split		•						-
ОЕРТН	METHOD OF ADVANCE	SAMPLE NO.	DEF O SAM	F	SAMPLE		SAM PEI 2"	VS ON PLER R 6" O.D.		DEPTH OF CHANGE	í - Ana	CLASS	IFICATIO	N OF MATERI	and - 35-50% some - 20-35%	Recovery
	2	SS	From	To	"		SAM	PLER		60	m - modium c - coarso				trace - 0-10%	-
1-	Â	1	0.0	2.0	SS	7	9	14	22		Brown non-pla		some cmf G	RAVEL; trace SILT	(moist,	14
2-	G E	2	2.0	4.0	ss \	34	24	27	33		Brown	cmf SAND: s	ome mf GR	AVEL; trace SILT (moist.	10
з	R S				-			<u></u> -			non-pla					<u> </u>
5—		3	4.0	6.0	SS	20	26	20	22		Brown non-pla		and cmf GR	AVEL; trace SILT (n	noist,	16
6 	ļ				<u> </u>	_				<u>.6.0</u>	-	terminated a				<u> </u>
7-	 				<u> </u>	<u> </u>					Boring	terminated a	t o teet.			
8						┝										
9					<u> </u>	┡				1	Notes:		with an aite	anii		
10					<u> </u>	ļ.,					1. Вол	ng backfilled	With On-site	SOII.		-
11-					<u> </u>	┡										
12					1	┡										
13					<u> </u>	<u> </u>										<u> </u>
14	-				<u> </u>	<u> </u>										<u> </u>
15	 				ļ	╙										<u></u>
16	┞				ļ	<u> </u>										L_
17	<u> </u>					\vdash										_
18		_			<u> </u>	<u>L</u>										
19-					<u> </u>	L										<u></u>
20			_		<u> </u>	<u> </u>										
21 —	<u> </u>					L										$ldsymbol{le}}}}}}$
22						L										_
23																
24-																
25												<u> </u>				
		Spoon Som	plo			-					Drillers:		Tony Ma	llory; Tyler Westor	<u> </u>	
	SH Und:		nple (Shelby 1 dwater	Tubo)							Inspector:					

						Sub	surface	Invest	igation				
	Client: Project:		ubsurfac	e Invest	igation				Report No.: Boring Locatio Parking Lot	n: See Bo	CD3443-01-10 oring Location Pi		- -
			ioga Dow Ichols, N			Hotel Expansion		•	Start Date:	10/3/2012	Finish Date:	10/3/2012	-
	Boring I		B-36			Sheet 1 of	1_		Date		r Observations Depth	Casing	
	Northing Easting				Hamm	Sampler Ham Weight: 140 Fall: 30 er Type: Automati	lbs. in.		<u>10/3/2012</u>		DRY	OUT	-
	Ground	Elev.:	7	95.8	_	Boring Advance 2" Split Spo	e By:						- -
	METHOD OF ADVANCE	SAMPLE NO.	0	PTH OF MPLE	SAMPLE	BLOWS ON SAMPLER PER 6" 2" O.D. SAMPLER	DEPTH OF CHANGE	i fine m · medium c · coarse		CATION O	F MATERIAL	and - 35-50% some - 20-35% Line - 10-20% trace - 0-10%	ı
_	A	1	0.0	2.0	SS	15 22 27 32	l	<u> </u>	n cmf SAND; and	cmf GRAVEL	; trace SILT (mois		t
	G							non-p	lastic)				ľ
	HR S	2	2.0	4.0	SS	52 42 27 33			n cmf+ SAND; an lastic), w=9.5%	id SILT; trace i	nf GRAVEL (moi	st,	ļ
		3	4.0	6.0	SS	28 9 10 12			n cmf SAND; trac	e f GRAVEL; f	race SILT (moist,		-
					<u> </u>		<u> </u>	Boring	terminated at 6				\dagger
												i	t
				<u> </u>	<u> </u>								
		_			ļ								L
													ŀ
				 	 								F
7				 	 								H
٦													
													r
					<u> </u>								r
													L
					 								-
				l	1	I							1
													H

TIOGA DOWNS RACETRACK, LLC

Exhibit VIII.C.1.f. (cont.)

APPENDIX D PARTICLE SIZE DISTRIBUTION CURVES

Particle Size Distribution Report

Project: Tioga Downs Casino & Hotel Expansion

Report No.: CD3443SL-01-10-12

Client: Climans Green Liang Architects, Inc.

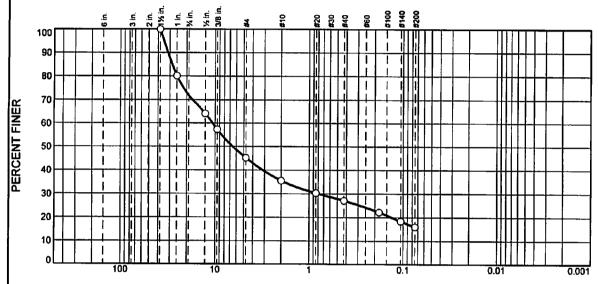
Date: 10/30/12

Sample No: B-1; S-2

Location:

Source of Sample: Boring Sample

Elev./Depth: 2.0 - 4.0'



 GRAIN SIZE - mm.

 % Gravel
 % Sand
 % Fines

 Coarse
 Fine
 Coarse
 Medium
 Fine
 Slit
 Clay

 0
 28
 27
 9
 9
 11
 16

SIEVE	PERCENT	SPEC.*	OUT OF
SIZE	FINER	PERCENT	SPEC. (X)
1-1/2"	100		
1"	80		
1/2"	64	•	
3/8"	57		ļ
#4	45		
#10	36		
#20	30		
#40	27	1	
#80	22	ţ	
#140	18		
#200	16		
1			
		1	

VEL; some cmf SAN	ID; little SILT							
Atterberg I imits								
LL=	PI=							
Coefficients								
D ₆₀ = 10.6702	D ₅₀ = 6.5645							
D15=	D ₁₀ =							
O _C -								
) <u>=</u>							
_	,_							
Remarks Moisture content 4.2%								
4.2%								
	Coefficients D60= 10.6702 D15= Cc= Classification AASHTO							

(no specification proyided)

-ATLANTIC TESTING LABORATORIES, LIMITED-

Figure

Reviewed by

Particle Size Distribution Report

Project: Tioga Downs Casino & Hotel Expansion

Report No.: CD3443SL-02-10-12

Client: Climans Green Liang Architects, Inc.

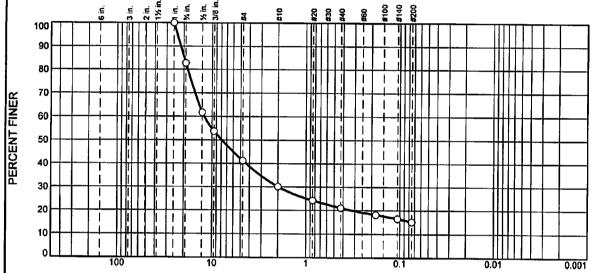
Date: 10/30/12

Sample No: B-1; S-9

Location:

Source of Sample: Boring Sample

Elev./Depth: 25.0 - 27.0



SIEVE	PERCENT	SPEC.*	OUT OF
SIZE	FINER	PERCENT	SPEC. (X)
1"	100		
3/4"	83		
1/2"	62		
3/8"	54		
#4	41	l	
#10	30	1	
#20	24		
#40	21		
#80	18		
#140	17		
#200	15		
	ı	1	

Brown mf GRA	Soil Description VEL; some cmf SANI	O; little SILT
PL=	Atterberg Limits LL=	PI=
D ₈₅ = 19.7854 D ₃₀ = 1.9766 C _u =	Coefficients D ₆₀ = 12.1075 D ₁₅ = C _c =	D ₅₀ = 7.9141 D ₁₀ =
USCS= GM	Classification AASHTC)=
Moisture conten	Remarks at 5.0%	

* (no specification provided)

ATLANTIC TESTING LABORATORIES, LIMITED-

Figure

Reviewed by:

Particle Size Distribution Report

Project: Tioga Downs Casino & Hotel Expansion

Report No.: CD3443SL-03-10-12

Client: Climans Green Liang Architects, Inc.

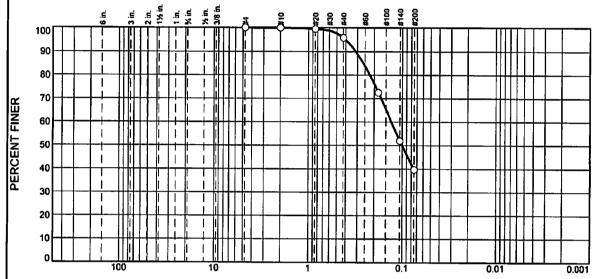
Date: 10/30/12

Sample No: B-2; S-12

Location:

Source of Sample: Boring Sample

Elev./Depth: 40.0 - 42.0'



 GRAIN SIZE - mm.

 %+3"
 % Gravel
 % Sand
 % Fines

 Coarse
 Fine
 Coarse
 Medium
 Fine
 Slit
 Clay

 0
 0
 0
 4
 56
 40

SIEVE	PERCENT	SPEC.*	OUT OF
SIZE	FINER	PERCENT	SPEC. (X
#4	100		
#10	100		
#20	99	1	
#40	96		
#80	73		
#140	52		
#200	40		
	ŀ	1	
	#4 #10 #20 #40 #80 #140	#4 100 #10 100 #20 99 #40 96 #80 73 #140 52	#4 100 #10 100 #20 99 #40 96 #80 73 #140 52

Soil Description Brown mf+ SAND; and SILT					
PL=	Atterberg Limits	PI=			
D ₈₅ = 0.2606 D ₃₀ = C _u =	Coefficients D60= 0.1305 D15= C _C =	D ₅₀ = 0.1006 D ₁₀ =			
USCS= SM	Classification AASHT	O=			
Remarks Moisture content 29.9%					

(no specification provided)

-ATLANTIC TESTING LABORATORIES, LIMITED-

Figure

Reviewed by

Particle Size Distribution Report

Project: Tioga Downs Casino & Hotel Expansion

Report No.: CD3443SL-04-10-12

Client: Climans Green Liang Architects, Inc.

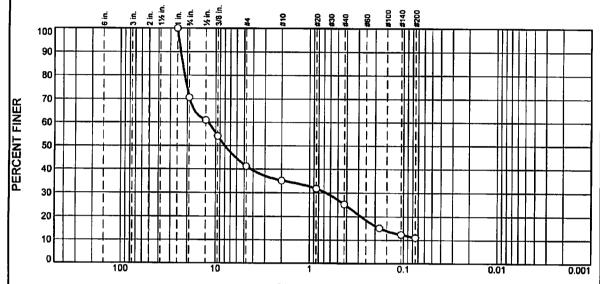
Date: 10/30/12

Sample No: B-6; S-6

Location:

Source of Sample: Boring Sample

Elev./Depth: 10.0 - 12.0'



GRAIN SIZE - mm. % Gravel % Fines % +3" Coarse Fine Coarse Medium Fine Silt Clay 0 29 10 14 11

SIEVE	PERCENT	SPEC.*	OUT OF
SIZE	FINER	PERCENT	SPEC. (X)
1"	100		
3/4"	71		
1/2"	61		
3/8"	54		
#4	41		l
#10	35		
#20	32		
#40	25	ļ	
#80	15		
#140	12		
#200	11		
		ŀ	
			1
		I	

Soil Description Brown mf GRAVEL; some cmf SAND; little SILT					
PL=	Atterberg Limits LL=	PI=			
D ₈₅ = 22.3294 D ₃₀ = 0.6669 C _u =	Coefficients D60= 12.0189 D15= 0.1756 Cc=	D ₅₀ = 8.0561 D ₁₀ =			
USCS= GM	Classification AASHT0)=			
Remarks Moisture content 6.6%					
Figure					

(no specification proyided)

-ATLANTIC TESTING LABORATORIES, LIMITED-

Date: 11/26/12

Reviewed by:

Particle Size Distribution Report

Project: Tioga Downs Casino & Hotel Expansion

Report No.: CD3443SL-05-10-12

Client: Climans Green Liang Architects, Inc.

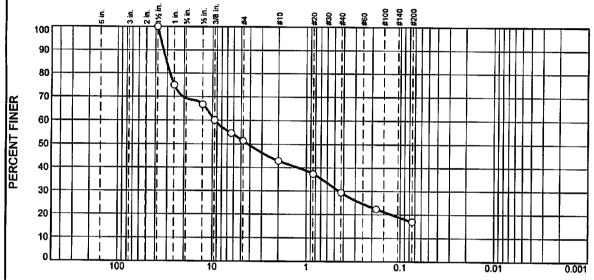
Date: 10/30/12

Sample No: B-14; S-3

Location:

Source of Sample: Boring Sample

Elev./Depth: 4.0 - 6.0'



GRAIN SIZE - mm.							
% +3"	% G	ravel	% Sand		d	% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	31	18	8	14	12	17	

SIEVE	PERCENT	SPEC.*	OUT OF
SIZE	FINER	PERCENT	SPEC. (X)
1-1/2"	100		
1"	75		
1/2"	67	ļ	
3/8"	60	l	ĺ
1/4"	55		
#4	51		
#10	43		
#20	37		
#40	29	1	
#80	22		
#200	17		!
		1	

Soil Description Brown cmf GRAVEL; some cmf SAND; little SILT					
Brown cmi GKA	AVEL; some cmi SAN	iD; little SILT			
-	Atterberg Limits				
PL=	LL=	PI=			
5 20 - 10 1	Coefficients				
D ₈₅ = 30.7404 D ₃₀ = 0.4487	D ₆₀ = 9.4681	D ₅₀ = 4.2093			
Cu ⁼	C _C =	510-			
	Classification				
USCS= GM	AASHTO)=			
Remarks					
Moisture content 6.0%					

* (no specification provided)

-ATLANTIC TESTING LABORATORIES, LIMITED-

Figure

Reviewed by:,

TIOGA DOWNS RACETRACK, LLC

Exhibit VIII.C.1.f. (cont.)

Particle Size Distribution Report

Project: Tioga Downs Casino & Hotel Expansion

Report No.: CD3443SL-06-10-12

Client: Climans Green Liang Architects, Inc.

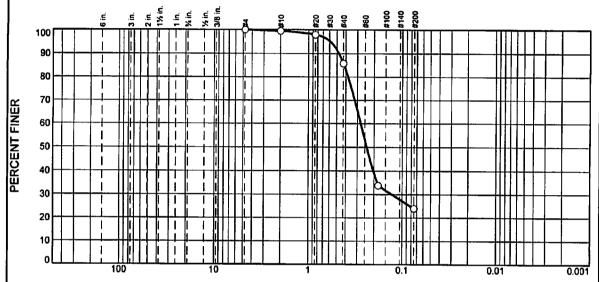
Date: 10/30/12

Sample No: B-14; S-8

Location:

Source of Sample: Boring Sample

Elev./Depth: 20.0 - 22.0'



GRAIN SIZE - mm % Sand % Gravel % Fines % +3" Coarse Clay Fine Coarse Medium Fine Silt 0 13 62 24

SIEVE	PERCENT	SPEC.*	OUT OF
SIZE	FINER	PERCENT	SPEC. (X)
#4	100		
#10	99		
#20	98		i
#40	86		
#80	34		
#200	24		
		ľ	

Soil Description Brown cmf+ SAND; some SILT				
PL=	Atterberg Limits	Pl=		
D ₈₅ = 0.4180 D ₃₀ = 0.1280 C _u =	Coefficients D60= 0.2775 D15= C _c =	D ₅₀ = 0.2394 D ₁₀ =		
USCS= SM	Classification AASHT	O=		
Remarks Moisture content 12.5%				

(no specification provided)

ATLANTIC TESTING LABORATORIES, LIMITED-

Reviewed by:

Date: 11/24/, 2

Figure

Particle Size Distribution Report

Project: Tioga Downs Casino & Hotel Expansion

Report No.: CD3443SL-07-10-12

Client: Climans Green Liang Architects, Inc.

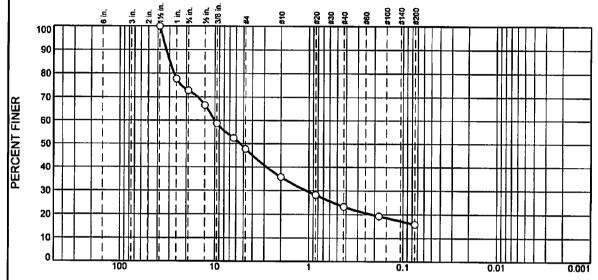
Date: 10/30/12

Sample No: B-24; S-3

Location:

Source of Sample: Boring Sample

Elev./Depth: 4.0 - 6.0'



GRAIN SIZE - mm. % Gravel % Sand % Fines % +3" Coarse Fine Coarse Medium Fine Silt Clay 0 27 25 12 7 13 16

SIEVE	PERCENT	SPEC.*	OUT OF
SIZE	FINER	PERCENT	SPEC. (X)
1-1/2"	100		
1"	78		
3/4"	73		
1/2"	67		
3/8"	59		
1/4"	52		
#4	48		
#10	36		
#20	28		
#40	23		
#80	19		
#200	16		
1		I	ı

Soil Description Brown cmf GRAVEL; some cmf SAND; little SILT								
PL=	Atterberg Limits LL=	PI=						
D ₈₅ = 29.9242 D ₃₀ = 1.0701 C _u =	<u>Coefficients</u> D ₆₀ = 10.0296 D ₁₅ = C _c =	D ₅₀ = 5.4447 D ₁₀ =						
USCS= GM	USCS= GM Classification AASHTO=							
Remarks Moisture content 4.5%								

* (no specification provided)

ATLANTIC TESTING LABORATORIES, LIMITED

Figure

Reviewed by:.

Particle Size Distribution Report

Project: Tioga Downs Casino & Hotel Expansion

Report No.: CD3443SL-08-10-12

Client: Climans Green Liang Architects, Inc.

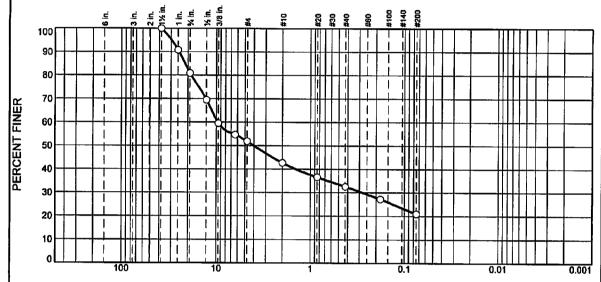
Date: 10/30/12

Sample No: B-31; S-2

Location:

Source of Sample: Boring Sample

Elev./Depth: 2.0 - 4.0'



 GRAIN SIZE - mm.

 % +3"
 % Gravel
 % Sand
 % Fines

 Coarse
 Fine
 Coarse
 Medium
 Fine
 Slit
 Clay

 0
 19
 29
 9
 10
 12
 21

	SIEVE	PERCENT	SPEC.*	OUT OF
	SIZE	FINER	PERCENT	SPEC. (X)
	1-1/2"	100		
i	1"	91		
	3/4"	81		ļ
	1/2"	69		
	3/8"	60		
	1/4"	55		
	#4	52		
	#10	43		ŀ
	#20	37		
	#40	33	•	
	#80	27	İ	
	#200	21		
			į	
i				
		ľ	I	l

Brown cmf GRA	Soil Description Brown cmf GRAVEL; some cmf SAND; some SILT					
PL=	Atterberg Limits LL=	PI=				
D ₈₅ = 21.4994 D ₃₀ = 0.2773 C _u =	Coefficients D60= 9.6784 D15= C _C =	D ₅₀ = 4.0279 D ₁₀ =				
USCS= GM	Classification AASHTC)=				
Remarks Moisture content 7.9%						

(no specification provided)

-ATLANTIC TESTING LABORATORIES, LIMITED-

Figure

Reviewed by;

Particle Size Distribution Report

Project: Tioga Downs Casino & Hotel Expansion

Report No.: CD3443SL-09-10-12

Client: Climans Green Liang Architects, Inc.

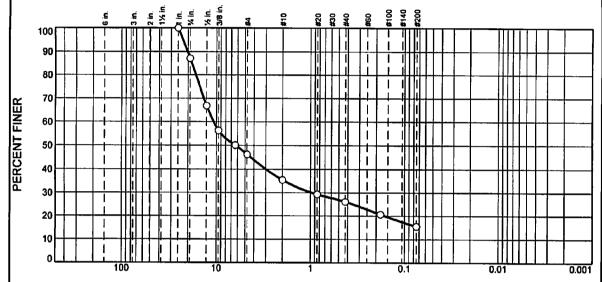
Date: 10/30/12

Sample No: B-33; S-2

Location:

Source of Sample: Boring Sample

Elev./Depth: 2.0 - 4.0'



 GRAIN SIZE - mm.

 % +3"
 % Gravel
 % Sand
 % Fines

 Coarse
 Fine
 Coarse
 Medium
 Fine
 Silt
 Clay

 0
 13
 41
 11
 9
 11
 15

SIEVE	PERCENT	SPEC.*	OUT OF
SIZE	FINER	PERCENT	SPEC. (X)
1"	100		
3/4"	87		
1/2"	67		
3/8"	56		
1/4"	50		
#4	46		
#10	35		
#20	29		
#40	26		
#80	21		
#200	15	1	
		1	l

	Soil Description	
Brown mf GRAV	EL; some cmf SAN	D; little SILT
	Adda wha may 1 Jun 14-	
PL=	Atterberg Limits LL=	PI=
D ₈₅ = 18.2693 D ₃₀ = 0.9634 C _u =	Coefficients D60= 10.7554 D15= Cc=	D ₅₀ = 6.3128 D ₁₀ =
	Classification	
USCS= GM	AASHT)=
	Remarks	
Moisture content	5.3%	

(no specification provided)

-ATLANTIC TESTING LABORATORIES, LIMITED

Figure

Reviewed by:

Particle Size Distribution Report

Project: Tioga Downs Casino & Hotel Expansion

Report No.: CD3443SL-10-10-12

Client: Climans Green Liang Architects, Inc.

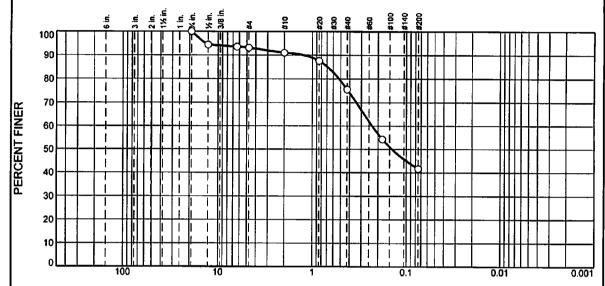
Date: 10/30/12

Sample No: B-36; S-2

Location:

Source of Sample: Boring Sample

Elev./Depth: 2.0 - 4.0'



GRAIN SIZE - mm. % Gravel % Sand % Fines % +3" Coarse Fine Coarse Medium Fine Silt Clay 0 15 42 34

SIEVE	PERCENT	SPEC.*	OUT OF
SIZE	FINER	PERCENT	SPEC. (X)
3/4"	100		
1/2"	94		[
1/4"	94		
#4	93		
#10	91		
#20	88		
#40	76		
#80	54		
#200	42	İ	
]	İ		
-			
		ŀ	
		ł	
		Ì	İ
ł			
	ľ	1	ı

Brown cmf+ SA	Soil Description AND; and SILT; trace	mf GRAVEL
PL=	Atterberg Limits LL=	Pl=
D ₈₅ = 0.6917 D ₃₀ = C _u =	Coefficients D ₆₀ = 0.2308 D ₁₅ = C _c =	D ₅₀ = 0.1426 D ₁₀ =
USCS= SM	Classification AASHT0)=
Moisture conter	Remarks at 9.5%	

(no specification provided)

-ATLANTIC TESTING LABORATORIES, LIMITED-

Figure

Reviewed by:

TIOGA DOWNS RACETRACK, LLC

Exhibit VIII.C.1.f. (cont.)

APPENDIX E TABLE OF SUBSURFACE CONDITIONS

TIOGA DOWNS RACETRACK, LLC Exhibit VIII.C.1.f. (cont.)

ATLANTIC TESTING LABORATORIES, Limited Proposed Tioga Downs Expanison ATL No. CD3443E-01-11-12

Boring	Location	Surface Elevation (ft)	Depth of Boring Termination (ft)	Elevation of Termaintion (ft)	Depth of Groundwater (ft)	Elevation of Groundwater (ft)	Finish Floor Elevation (ft)	Depth of (Cut)/Fill to Slab Subgrade (ft)	Depth of (Cut)/Fill to Bottom of Footing (ft)
B-1	Hotel	800.5	32.0	768.5	29.6	770.9	802.0	0.3	(3.0)
B-2	Hotel	799.9	52.0	747.9	32.3	767.6	802.0	0.0	(2.4)
B-3	Hotel	802.6	32.0	770.6	-	•	802.0	(1.9)	(5.1)
B-4	Hotel	803.0	32.0	771.0	29.8	773.2	802.0	(2.3)	(5.5)
8-5	Hotel	803.1	27.0	776.1	24.3	778.8	802.0	(2.4)	(5.6)
B-6	Amenities	802.5	27.0	775.5	24.2	778.3	802.0	(1.8)	(2.0)
B-7	Amenities	802.2	27.0	775.2	23.4	778.8	804.0	0.5	(2.7)
8-8	Amenities			Boring w	Boring was not advnaced due to exisitng slope	due to exisitng	slope :		
8 -9	Amenities	823.3	27.0	796.3		1	804.0	(20.6)	(23.8)
B-10	Amenities	811.6	27.0	784.6	26.8	784.8	804.0	(8.9)	(12.1)
B-11	Amenities	808.4	27.0	781.4			802.0	(2.6)	(10.9)
B-12	Amenities	805.7	27.0	778.7	:	;	802.0	(2.0)	(8.2)
B-13	Parking Garage	806.7	27.0	779.7	1	1	802.0	(1.0)	(4.2)
B-14	Parking Garage	814.5	27.0	787.5	1		807.0	(8.8)	(12.0)
B-15	Parking Garage	824.0	27.0	797.0		1	812.5	(12.8)	(16.0)
B-16	Parking Garage	820.3	27.0	793.3	-	-	812.5	(0.6)	(12.3)
B-17	Parking Garage	813.3	37.0	776.3	30.0	783.3	0.708	(2.5)	(10.8)
B-18	Parking Garage	808.7	27.0	781.7	1	1	0.708	(3.0)	(6.2)
B-19	Water Slide	801.5	27.0	774.5	25.0	776.5	1	1	-
B-20	Casino Expansion	822.2	27.0	795.2	1	-	824.0	0.5	(2.7)
B-21	Casino Expansion	821.0	47.0	774.0	29.3	791.7	824.0	1.8	(1.5)
B-22	Casino Expansion	822.2	27.0	795.2	:	1	824.0	0.5	(2.7)
B-23	Casino Expansion	820.5	27.0	793.5	:	-	824.0	2.3	(1.0)
B-24	Casino Expansion	819.5	27.0	792.5		1	824.0	3.3	0.0
B-25	Plyon Sign	821.3	27.0	794.3	24.0	797.3	-	:	1
B-26	Paddock	795.5	22.0	773.5	:	-	796.5	(0.3)	(3.5)
B-27	Paddock	795.7	22.0	773.7	:	1	796.5	(0.5)	(3.7)
B-28	Paddock	796.5	22.0	774.5	19.7	776.8	796.5	(1.3)	(4.5)
B-29	Paddock	796.4	22.0	774.4	16.7	7.677	796.5	(1.1)	(4.4)