SESI CONSULTING ENGINEERS

PRELIMINARY SUBSURFACE INVESTIGATION AND REPORT

FOR

PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT

45 TOMPKINS AVENUE
CITY OF BEACON
DUTCHESS COUNTY, NEW YORK

PREPARED FOR:

Beacon Terminal Associates
18 East 22nd Street
New York, NY 10010

PREPARED BY

SESI Consulting Engineers PC
12A Maple Avenue
Pine Brook, NJ 07058

Job No.: P-6934

DATE:

October 3, 2006

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INTRODUCTION

We have completed our preliminary engineering review, field investigation and evaluation of the subsurface soil conditions as they pertain to establishing foundation design criteria and site preparation procedures for the proposed Multi-Family Residential Development to be located at 45 Tompkins Avenue in the City of Beacon, New York. The site is located to the southwest of the intersection of Tompkins Avenue and Bank Street. It is bounded to the east by Bank Street and to the south by Branch Street. An apartment complex borders the site to the north and the Metropolitan Transportation Authority Railroad and the Hudson River border the site to the west.

Existing residential apartment buildings and homes with paved parking areas, roads and driveways are found throughout the site. Grassed lawn areas surround the existing buildings. The rear of the property is wooded with some significant undergrowth. Some of the existing buildings onsite are boarded up and are no longer in use. Stockpiles containing construction debris were found in the wooded area in the rear of the site while surface debris could be found throughout the property. Photographs of the site are included in the Appendix.

The site topography slopes from a high point of elevation 120.5 feet above mean sea level in the northeast downwards in all directions to a low point of elevation 4.0 feet above mean sea level in the northwest. The majority of the site is moderately sloped with some steeper areas located throughout the site. Rock ledge is visible in the north and south portions of the site.

Based on a review of the plan entitled "Concept Plan" prepared by Lessard Group Inc., dated June 16, 2006, we understand that the proposed construction will consist of three (3) multi-family residential buildings (156,400S.F.; 137,200S.F.; and 60,000 S.F. with a 15,000 S.F. parking garage), three (3) multi-unit townhouses (totaling 16 units @ 2,376 S.F. each), a 100,800 S.F. parking garage and associated roadways and utilities.

We do not have a proposed grading plan, but it should be anticipated that significant cuts and fills would be required to grade the project site. After the proposed grades have been established, we should review our recommendations as they pertain to the proposed construction.

FIELD AND LABORATORY INVESTIGATIONS

Our engineering study included of a site reconnaissance, a review of existing soils and geologic data, a review of the "Concept Plan", prepared by Lessard Group Inc., dated June 16, 2006, a review of the "Map of Survey for Beacon Terminal Associates, L.P. Prizzi Property", prepared by Peter R. Hustis, L.S., P.C., dated March 31, 2006, and a field investigation consisting of the excavation of thirteen (13) test pits and eight (8) soil borings. The test pits were excavated to depths of 2.5 feet to 14.0 feet below existing grade using a trackhoe. The soil borings were advanced to depths of 10 to 18 feet below existing grade using a track-mounted drill rig.

The locations of the test pits and soil borings are shown on Figure 1. Individual test pit and soil boring logs, which describe the materials encountered, are presented in Figures 2 through 22. A key to soil terminology is included as Figure 23.

Soil samples suitable for identification purposes were extracted from the borings at various intervals in accordance with the procedures of the Standard Penetration Test (ASTM D1586). For this test, a standard split-spoon sampler (2 inches outside diameter, one and three-eighths inches inside diameter) is driven into the soil by a 140-pound weight falling 30 inches.

After discounting the initial six inches of penetration due to possible disturbance of the material resulting from the drilling operation, the number of blows required to drive the sampler a distance of 12 inches is recorded and designated as the standard penetration resistance or "N" value. The "N" value is an indication of the relative compactness of the soil in-situ. All soil samples extracted in the field were brought to our office where they were further examined in our soil mechanics laboratory.

A 5-foot rock core was drilled in borings B-1 and B-3 and two 5-foot rock cores were drilled for borings B-5, B-7, and B-8 with recoveries of: (B-1: 71.7); (B-3: 100.0); (B-5: 100.0, 100.0); (B-7: 66.7, 48.3) and (B-8: 70.0, 100.0) and RQD values (Rock Quality Designation) of: (B-1: 23.3); (B-3: 73.3); (B-5: 71.6, 56.7); (B-7: 35.4, 23.3) and (B-8: 26.7, 13.3). The percent recovery and RQD is an indication of the condition of the rock and the amount of weathering and fractures present within the rock mass. The results of the rock cores indicate a very poor to fair rock quality as shown in the following Table.

RELATIONSHIP OF RQD AND ROCK QUALTIY:

ROCK QUALITY DESIGNATION (RQD)[1]	DESCRIPTION OF ROCK QUALITY
0 – 25	VERY POOR
25 – 50	POOR
50 – 75	FAIR
75 – 90	GOOD
90 – 100	EXCELLENT

[1] **"Rock Quality Designation"** is defined as a modified core recovery ratio that considers only pieces of the core that are at least 4 inches long. Obvious fractures caused by drilling are ignored in this system.

All fieldwork was performed under the direct technical observation of a geotechnical technician/engineer from SESI Consulting Engineers, PC. Our representative maintained continuous logs of the explorations as work proceeded and supervised the soil sampling operations in order to develop the required subsurface information.

Laboratory classification testing consisted of 7 water content determinations, 2 percent minus No. 200 sieve tests and 2-grain size analyses. The results of the water contents and the percent minus No. 200 sieve tests are presented on the individual test pit and soil boring logs. The results of the grain size distribution analyses are presented in graphical form as Figures 24 and 25.

GENERALIZED SUBSURFACE CONDITIONS

Geology and Site Conditions

Geologically, the site soils are mapped as Dutchess- Cardigan complex, comprised of undulating, rocky Channery silt loam/gravelly loam to Channery very fine sandy loam/very gravelly sandy loam. The site soils are in general agreement with the geological mapping.

Rock ledge was visible in the south and north areas of the property.

Subsurface Conditions

Topsoil was encountered in most of the test pits and borings and ranged in thickness from 1-inch to 24 inches with a typical thickness of 2 to 10 inches.

Existing uncontrolled fill was encountered in a few locations on the site, primarily around the existing buildings. Since the site has had previous construction, there may be some other areas of uncontrolled fill encountered during the proposed construction where material was buried. The fill encountered during our investigation ranged in depth from 3.5 to 5.5 feet below existing grade. Fill was present in test pits TP-5, TP-6, and TP-13 and in boring B-6. The fill material consisted of miscellaneous debris such as ash, cinders, coal, plastic, glass, brick, metal, porcelain, shingles, etc. with varying amounts of sand, silt, gravel and fractured rock. It should be noted that there were other piles of miscellaneous fill present at the surface throughout the site.

Beneath the topsoil in the majority of the site is a brown medium to fine sand, trace to some silt, trace to some gravel to depths of 1 to 8 feet below existing grade. Beneath this sand stratum is a yellow-brown clayey silt layer with trace to some sand (hardpan) that extends to the bedrock. Some fractured rock was present in the soils immediately above the bedrock. The upper portions of the bedrock were highly weathered and could be excavated with the trackhoe.

Sandstone and shale bedrock was encountered in all of the borings and most of the test pits, (except for TP-1, TP-6, TP-7, and TP-14) at depths ranging from 2.5 to 18.0 feet below existing grade. It should be anticipated that blasting or other mechanical means of removal will be required for the deeper cuts into rock. The rock core done at boring B-7 appears to be through boulders and not bedrock.

Groundwater

Groundwater was present in boring B-4 at a depth of 10.0 feet during the short period of time that the boring was left open. No other test pits or borings encountered groundwater. It should be anticipated that water seepage from recent precipitation will be encountered when completing the rock cuts. There may also be water encountered at the soil-rock interface.

EVALUATION AND RECOMMENDATIONS

General

From a soils and foundation support standpoint, this site can be considered good with respect to providing satisfactory support of the planned buildings. The natural soils and/or competent bedrock will provide suitable bearing for conventional shallow foundations and a slab-on-grade. The primary negative aspects of the site are the high silt/clay content of some of the site soils and the presence of some areas of existing uncontrolled fill.

Generalized Site Preparation Procedures

In general, the site preparation procedures should consist of stripping the surface vegetation and asphalt from within the building, parking and roadway areas, and then cutting and filling the site to grade. Where more than 4 feet of fill is required to reach finished subgrade elevation in parking or roadway areas, the topsoil need not be stripped. Any existing fill should be removed from within and 10 feet beyond the proposed building lines and any old foundations and slabs removed to a minimum of 2 feet below the new footings and floor slab. Any existing utilities within the new building footprint should either be removed or filled completely with a concrete slurry.

Prior to placing any fill material in the building areas, the entire area should be proofrolled with a heavy vibratory roller. The proofrolling should consist of making 4 complete coverages of the area. Any soft areas disclosed should be excavated to stable material and backfilled in compacted lifts to achieve 95 percent of Modified Proctor Density as determined by ASTM D1557.

If any footing excavations encounter existing uncontrolled fill at the subgrade, the excavation should continue through the existing fill to the natural soils and be backfilled with ¾ inch clean crushed stone to subgrade elevation or backfilled with suitable material placed in compacted lifts under full-time engineering inspection. The excavation should be widened one foot beyond the edge of footing for every foot of over-excavation. (i.e. for 4 feet of over-excavation, the excavation should be an additional 2 feet beyond all sides of the footing).

The cut soils beneath the topsoil may be used as structural fill; however, some of these materials possess a significant silt/clay content and cannot be worked or compacted when significantly over optimum water content, and once wet, will require a long period of time to dry. The ease with which soil fills can be constructed on this site will, to a high degree, depend on the time of year in which construction takes place and the construction procedures

utilized by the earthwork contractor. Boulders may be used as backfill in non-structural areas as long as they do not interfere with utility construction.

For ease of construction, we recommend that the silty soils and soils containing boulders be placed in the deeper portions of the non-building fill areas, at least 3 feet below proposed finished grade. If the silty soils become too wet to compact, they can either be air-dried or mixed with lime to lower the water content.

Fill should be placed in maximum 12-inch thick lifts, with each layer compacted to the required density using a large vibratory roller (minimum 10-ton static drum weight). Building area fills should be compacted to a minimum of 92 percent and average of 95 percent of the maximum Modified Proctor Density (ASTM D 1557). Offsite borrow material, if required, should have a maximum particle size of 8 inches and the maximum amount of fines (percentage passing a No. 200 mesh sieve) should be 15% to help facilitate construction during wet weather. The "fines" should be non-plastic.

Backfill in confined areas such as utility trenches and foundations within load bearing or paved areas should be placed in maximum 6-inch thick layers and compacted to a minimum of 92 percent and average of 95 percent density as described above.

As previously indicated, some of the onsite soils contain significant percentages of silt and will readily soften during wet weather and from construction activity. Wetting or drying of the fill material should be accomplished as necessary to achieve the required density. The subgrade should be graded to drain and tight-rolled at the end of the day, if wet weather is anticipated.

Permanent soil cut and fill slopes should be limited to a maximum of 2.5 horizontal to 1 vertical for slopes up to 15 feet high.

All excavations should be performed in accordance with OSHA requirements as interpreted by a competent person, including but not limited to, temporary shoring, trench boxes and benching.

Depending on the soil encountered at subgrade elevation for the slab-on-grade, it may be prudent to place a filter fabric and 6 inches of clean granular fill to provide a stable working surface.

Rock Excavation

It should be anticipated that the upper portions of the rock are fractured and highly weathered and will be able to be ripped by a large trackhoe or a D8

with ripper. In any areas that require cuts into rock of more than a few feet, hammering or drilling and blasting will likely be necessary. Where blasting is done, the rock face should be pre-split to provide a more uniform rock face and reduce over-blasting and excessive fracturing.

Blasting should be done in accordance with applicable State and Local regulations.

The blasted shotrock may be used in the deeper building and parking area fills, provided there is a sufficient gradation such that no significant voids are created. The shotrock should be kept a minimum of 2.0 feet below finished bottom floor grade in the building areas and a minimum of 1.0 foot below the pavement subgrade elevation. The maximum lift thickness of the shotrock fill should be limited to 18 inches and should be compacted with a heavy vibratory roller.

Depending on the gradation of the shotrock, it may be necessary to place filter fabric on the top of the last lift of shotrock prior to placing soil fill, in order to prevent the migration of "fines".

FOUNDATION DESIGN CRITERIA

Footings may be placed on the compacted structural fill or the natural inorganic soils and be designed for a maximum net allowable bearing pressure of 2.5 tsf (5,000 psf). Footings founded on competent rock can be designed for an allowable bearing pressure of 6.0 tsf (12,000 psf).

It should be noted that the above design pressures are higher than allowed by the Building Code of the State of New York and may require approval of the appropriate regulatory agencies.

Regardless of the loads, the minimum plan dimension of isolated footings should be 36 inches and the minimum width of continuous footings should be 20 inches. Exterior footings and those footings potentially exposed to frost action should be founded a minimum of 4.0 feet below adjacent exterior finished grade. Interior footings can be founded at conventional depths below the slab. Footings founded on hard/ sound rock need not be placed below frost depth.

All temporary excavations greater than 4 feet in depth should have the sides sloped back to a maximum slope of 1 horizontal to 1 vertical or be appropriately sheeted and braced in accordance with OSHA requirements and all applicable codes as interpreted by a competent person.

Because some of the site soils are moisture sensitive, they will readily degrade under construction traffic and if left open to the weather. Footing excavations should therefore be left open for as short a time as practical to avoid excessive disturbance to the exposed subgrade. We recommend that a 6 to 12 inch thick layer of ¾ inch clean crushed stone be placed or a concrete mud-mat poured in the bottom of footing excavations that fall within the natural silty soils to provide a stable working surface in those footing locations that will be left open for more than one day.

Because groundwater seepage may be encountered in some of the footing excavations, over-excavation may be required along with placement of 6 to 12 inches of ¾ inch clean crushed stone. Any groundwater seepage should be directed to a sump for pumping.

The floor slab should be designed using a subgrade modulus of 175 pci, assuming that a 4-inch thick layer of granular material with a maximum particle size of 1.5 inches and a maximum percent passing the No. 200 mesh sieve of 12 percent is placed beneath the floor slab.

The site soils have been classified as Site Class C for seismic design purposes in accordance with The Building Code of The State of New York.

All retaining walls, including foundation walls, should be provided with positive drainage behind the walls to preclude hydrostatic pressures from developing.

After satisfactory completion of the outlined building area preparation procedures, footings and floor slabs founded on the compacted structural fill/natural soils/rock should have post-construction total settlements of less than 3/4-inch and maximum differential settlements in a 30 foot span of less than ½ inch.

TESTING REQUIREMENTS

During the placement of all fill, visual observations and density tests should be performed to determine the adequacy of the fill. Density testing should be done in accordance with the following minimum frequency requirements:

- **Building Areas:** Minimum of 4 tests per 12-inch lift; spacing not to exceed 50 feet between test locations.
- **Parking/Roadway Areas:** Minimum of 3 tests per 12-inch lift; spacing not to exceed 100 feet between test locations.

Minimum density requirements are outlined in the previous sections of this report.

UTILITY LINES

The site soils will provide suitable support for utility lines. Cobbles greater than 4 inches in diameter should be removed from the utility line subgrade or a minimum 4-inch thick sand layer placed beneath the utility lines.

Backfill material placed around utility lines to 6 inches above the utility line should have a maximum particle size of 1.5 inches. Backfill of utility trenches that fall within load-bearing areas should be placed in maximum 8-inch thick lifts and compacted to a minimum of 92 percent and average of 95 percent of Modified Proctor Density (ASTM D-1557).

PAVEMENT AREAS

The cut soils may be used as fill in paved areas; however, as previously discussed, some of these soils possess a high percentage of silt/clay, and cannot be worked or compacted when wet. In order to reuse these soils, they may need to be spread out to let dry or treated with lime/cement to reduce the moisture content and make them workable. For ease of construction, the more silty soils should be used in the lower portion of the deeper fills (a minimum of 3 feet below proposed finished subgrade elevation).

The compaction criteria for fills in parking and roadway areas may consist of 92 percent (ASTM D-1557), except in the uppermost 2 feet where 95 percent should be achieved to provide for good pavement support. Visual observations and in-place field density tests should be made to determine the adequacy of the compaction.

Soils that will be encountered at subgrade elevation in paved areas that require only small cuts may be near or slightly over optimum moisture content in their natural state. These soils will rut and weave under construction traffic and may require partial removal and replacement or stabilization using lime/cement prior to constructing a pavement section.

Because some of the site soils have a high silt content, it may be necessary to undercut the proposed construction roads, place a layer of filter fabric and 12 inches of 3± inch stone in order to prevent these roads from becoming soft and unsuitable for construction traffic.

Specifications for using lime, cement or fly ash can be provided if required. In general, using pulverized limestone to treat the soils will consist of mixing sufficient quantities of pulverized limestone (approximately 5% by dry weight into the top 12± inches) with a backhoe/dozer as the material is being moved

and placed. This operation should not be done on windy days and after the soil is treated, placed and compacted, it should not be disturbed after wet weather.

PAVEMENT DESIGN CRITERIA

We estimate that the subgrade soils will have a CBR value (California Bearing Ratio) ranging from 8 to 15. A conservative value of 8 was used for our design recommendations. We should inspect the pavement subgrade prior to the placement of the pavement section in order to determine if it is in accordance with our estimated design criteria. The recommended minimum pavement sections are provided below:

Light Duty Pavement (Driveways and Parking Areas)

Top Course, 1.5 inches of Type 6F Asphalt Concrete Top Course, NYSDOT Item 403.1701

Binder Course, 3.0 inches of Type 1 Asphalt Concrete Base Course, NYSDOT Item 403.11

Subbase Course, 8 inches of Type 4 Subbase, Item 304.05

Heavy Duty Pavement (Roadways)

Top Course, 2.0 inches of Type 6F Asphalt Concrete Top Course, NYSDOT Item 403.1701

Binder Course, 4.0 inches of Type 1 Asphalt Concrete Base Course, NYSDOT Item 403.11

Subbase Course, 8.0 inches of Type 4 Subbase Item 304-2.02

The above minimum pavement sections are based on the subgrade soils being compacted to a firm and unyielding condition to achieve 95 percent of Modified Proctor density (ASTM D 1557). The materials to be used in the proposed pavement sections are described within the NYSDOT Standard Specification for Construction Materials. It should be noted that the town may have minimum pavement thickness requirements that differ from those above.

INSPECTION

The recommendations presented in the previous sections of this report are based on the assumption that the site preparation procedures will be done under engineering inspection by a qualified soils engineer. They should inspect the excavation operations, the placement of the compacted fill and the bottom of the footing excavations prior to the placement of concrete and/or stone. Visual observations and in-place density testing should be done throughout fill construction to determine that the work is done in accordance with our recommendations.

LIMITATIONS

The subsurface investigation performed identifies the subsurface conditions only at the locations of the test holes and at the depths where the samples were taken. SESI Consulting Engineers, PC reviews the published geologic data and the field and laboratory data and uses their professional judgment and experience to render an opinion on the subsurface conditions throughout the site. Since the actual subsurface conditions may differ, we recommend that SESI be retained to provide construction inspection in order to minimize the risks associated with unanticipated conditions.

TABLE 1
SUMMARY OF SOIL DESIGN PARAMETERS

PARAMETER	VALUE
1. Allowable Bearing Capacity (net)	
a) Natural Soil/Compacted Fill	5,000 psf
b) Competent Bedrock	12,000 psf
2. Total Unit Weight	125 pcf
3. Angle of Internal Friction - Backfill Against Structures	28 degrees
4. Earth Pressure Coefficient (See Note 1)	
Active Earth Pressure (Ka)	0.33
Earth Pressure @ Rest (Ko)	0.50
Passive Earth Pressure (Kp)	3.00
5. Coefficient of Sliding (concrete over soil)	0.40
6. Subgrade Modulus for Floor Slab Design (Granular Fill)	175 pci
7. Slopes (Above Groundwater)	
Maximum Cut Slope in Soil	2.5H:1V
Maximum Fill Slope in Soil	2.5H:1V
8. Seismic Design Criteria – Site Class	C
9. Footing Depth for Frost Protection	4.0 ft

Notes:

1. A drainage medium should be installed along all retaining walls to avoid hydrostatic pressures from developing.

2. Compaction equipment used within 5± feet permanent walls should not weigh more than 5,000 pounds.

APPENDIX


Tompkins Ave.
Edgewater Pl
Branch St
© 2006 Europa Technologies
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Google
Pointer 41°30'34.25" N 73°58'57.51" W elev 92 ft
Streaming 100%
Eye alt 1424 ft

PROJECT NO. 6934	INSPECTED BY JN	TEST PIT NO.	TP-1
LOCATION See Figure 1	APPROX. ELEV. 90±		
WATER OBSERVATION NONE		DATE EXCAVATED 9/19/2006	

DEPTH FT.	DESCRIPTION / SOIL CLASSIFICATION	RELATIVE DENSITY OR CONSISTENCY
0	1" Topsoil	
1	Brown medium to fine SAND, trace Silt	Loose
8	Yellow-Brown clayey SILT, trace Sand	Stiff
10	Brown medium to fine SAND, trace Silt	Medium Dense
11	Yellow-Brown clayey SILT, trace Sand	Very Dense
14	TEST PIT COMPLETE AT 14 FEET	

NOTE:

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Fig. 2

PROJECT NO. 6934 INSPECTED BY JN TEST PIT NO. TP-2

LOCATION See Figure 1 APPROX. ELEV. 86'±

WATER OBSERVATION NONE DATE EXCAVATED 9/19/2006

DEPTH FT.	DESCRIPTION / SOIL CLASSIFICATION	RELATIVE DENSITY OR CONSISTENCY
0	2" Topsoil Brown medium to fine SAND, trace Silt	Loose
1	Yellow-Brown SILT, trace fine Sand with thick Roots W.C. = 31.6% (-200) = 93.8%	Medium Dense
4	Brown medium to fine SAND, trace Silt with Root to 5.0 Feet	Loose
9	Yellow-Brown clayey SILT, trace Sand	Firm to Stiff
10	REFUSAL ON BEDROCK AT 10.0 FEET TEST PIT COMPLETE AT 10.0 FEET	
14		

NOTE:

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Fig. 3

PROJECT NO. 6934	**INSPECTED BY** JN	**TEST PIT NO.**	**TP-3**
LOCATION See Figure 1	**APPROX. ELEV.** 95±		
WATER OBSERVATION NONE		**DATE EXCAVATED**	9/19/2006

DEPTH FT.	DESCRIPTION / SOIL CLASSIFICATION	RELATIVE DENSITY OR CONSISTENCY
0	3" Topsoil and Roots, debris	
1	Brown coarse to fine GRAVEL, some coarse to medium Sand, some Silt with fractured Shale and Boulders	Dense
4	W.C. = 8.7% (-200) = 20.4%	
7	REFUSAL ON BEDROCK AT 7.0 FEET TEST PIT COMPLETE AT 7.0 FEET	

NOTE:

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Fig. 4

PROJECT NO. 6934 INSPECTED BY JN TEST PIT NO. TP-4

LOCATION See Figure 1 APPROX. ELEV. 110'±

WATER OBSERVATION NONE DATE EXCAVATED 9/19/2006

DEPTH FT.	DESCRIPTION / SOIL CLASSIFICATION	RELATIVE DENSITY OR CONSISTENCY
0	10" Topsoil and fine Roots	
1	Orange-Brown coarse to fine SAND, some Silt, little coarse to fine Gravel with fractured Shale	Medium Dense
2		
3		
4	REFUSAL ON BEDROCK AT 4.0 FEET	
5	TEST PIT COMPLETE AT 4.0 FEET	
6		
7		
8		
9		
10		
11		
12		
13		
14		

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NOTE:

Fig. 5

PROJECT NO. 6934 INSPECTED BY JN TEST PIT NO. TP-5

LOCATION See Figure 1 APPROX. ELEV. 105'±

WATER OBSERVATION NONE DATE EXCAVATED 9/19/2006

DEPTH FT.	DESCRIPTION / SOIL CLASSIFICATION	RELATIVE DENSITY OR CONSISTENCY
0	FILL: Brown medium to fine SAND and clayey Silt, trace Gravel, with fractured Shale, Brick, Shingles, Porcelain, Glass, Ash	Medium Dense
3	------ 2" layer of Ash/Cinders	
5	Yellow-Brown clayey Silt/silty Clay, little fine Sand W.C. = 21.4%	Firm
7	REFUSAL ON BEDROCK AT 6.5 FEET TEST PIT COMPLETE AT 6.5 FEET	

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NOTE:

Fig. 6

PROJECT NO. 6934 INSPECTED BY JN TEST PIT NO. TP-6

LOCATION See Figure 1 APPROX. ELEV. 116'±

WATER OBSERVATION NONE DATE EXCAVATED 9/19/2006

DEPTH FT.	DESCRIPTION / SOIL CLASSIFICATION	RELATIVE DENSITY OR CONSISTENCY
0	1" Topsoil	
1	FILL: Brown coarse to fine SAND, little Silt, little coarse to fine Gravel with fractured Shale	
2		
3	FILL: Tan fractured Shale and medium to fine Sand, little Silt, with Plastic, Porcelain, and Brick	
4		
5	Orange-Brown coarse to fine SAND, little Silt with fractured Shale	Medium Dense
6		
7		
8		
9		
10	TEST PIT COMPLETE AT 10.0 FEET	
11		
12		
13		
14		

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NOTE:

Fig. 7

PROJECT NO. 6934 INSPECTED BY JN TEST PIT NO. TP-7

LOCATION See Figure 1 APPROX. ELEV. 112'+

WATER OBSERVATION NONE DATE EXCAVATED 9/19/2006

DEPTH FT.	DESCRIPTION / SOIL CLASSIFICATION	RELATIVE DENSITY OR CONSISTENCY
0 — 3	Brown coarse to fine SAND, little coarse to fine Gravel, little Silt, with fractured Shale, trace Roots	Medium Dense
4 — 6	Orange-Brown coarse to fine Gravel, some coarse to medium Sand, some Silt with fractured Shale W.C. = 9.0% (-200) = 28.0%	Medium Dense
7 — 10	Brown coarse to fine SAND, some coarse to fine Gravel, little Silt, with fractured Shale	Dense
11	TEST PIT COMPLETE AT 11.0 FEET	
12 — 14		

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NOTE:

Fig. 8

PROJECT NO. 6934	**INSPECTED BY** JN	**TEST PIT NO.**	**TP-8**
LOCATION See Figure 1	**APPROX. ELEV.** 119'±		
WATER OBSERVATION NONE		**DATE EXCAVATED**	9/19/2006

DEPTH FT.	DESCRIPTION / SOIL CLASSIFICATION	RELATIVE DENSITY OR CONSISTENCY
0	12" Topsoil with fractured Shale	
1	Fractured Shale/Sandstone	Very Dense
2		
3	REFUSAL ON BEDROCK AT 3.0 FEET	
4	TEST PIT COMPLETE AT 3.0 FEET	
5		
6		
7		
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13		
14		

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NOTE:

Fig. 9

PROJECT NO. 6934 INSPECTED BY JN TEST PIT NO. TP-9

LOCATION See Figure 1 APPROX. ELEV. 113'±

WATER OBSERVATION NONE DATE EXCAVATED 9/19/2006

DEPTH FT.	DESCRIPTION / SOIL CLASSIFICATION	RELATIVE DENSITY OR CONSISTENCY
0	24" Topsoil	
2	Orange-Brown medium to fine SAND, little Silt	Medium Dense
3	Yellow-Brown Silt and fine Sand	Medium Dense
5	REFUSAL ON BEDROCK AT 5.0 FEET TEST PIT COMPLETE AT 5.0 FEET	
14		

NOTE:

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Fig. 10

PROJECT NO. 6934	INSPECTED BY JN	TEST PIT NO.	TP-10
LOCATION See Figure 1	APPROX. ELEV. 84'±		
WATER OBSERVATION NONE		DATE EXCAVATED	9/19/2006

DEPTH FT.	DESCRIPTION / SOIL CLASSIFICATION	RELATIVE DENSITY OR CONSISTENCY
0	7" Topsoil	
1	Yellow-Brown clayey Silt/silty Clay, trace Sand	Firm
2	Fractured Shale/Sandstone	Dense
3	REFUSAL ON BEDROCK AT 2.5 FEET TEST PIT COMPLETE AT 2.5 FEET	
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		

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NOTE:

Fig. 11

PROJECT NO. 6934 INSPECTED BY JN TEST PIT NO. TP-11

LOCATION See Figure 1 APPROX. ELEV. 90'±

WATER OBSERVATION NONE DATE EXCAVATED 9/19/2006

DEPTH FT.	DESCRIPTION / SOIL CLASSIFICATION	RELATIVE DENSITY OR CONSISTENCY
0	10" Topsoil	
1	Brown coarse to fine SAND, some Silt, trace Gravel	Medium Dense
3	Yellow-Brown/Tan clayey SILT, trace Sand W.C. = 26.6%	Stiff
6	Fractured Shale/Sandstone	Very Dense
7	REFUSAL ON BEDROCK AT 7.0 FEET TEST PIT COMPLETE AT 7.0 FEET	

SESI CONSULTING ENGINEERS, PC

NOTE:

Fig. 12

PROJECT NO. 6934 INSPECTED BY JN TEST PIT NO. TP-12

LOCATION See Figure 1 APPROX. ELEV. 96'±

WATER OBSERVATION NONE DATE EXCAVATED 9/19/2006

DEPTH FT.	DESCRIPTION / SOIL CLASSIFICATION	RELATIVE DENSITY OR CONSISTENCY
0	10" Topsoil	
1	Brown/Gray mottled silty Clay/clayey Silt, little fine Sand	Stiff
2		
3	W.C. = 26.5%	
4	Brown clayey Silt, little fine Sand	Stiff
5		
6		
7	REFUSAL ON BEDROCK AT 6.5 FEET	
	TEST PIT COMPLETE AT 6.5 FEET	
8		
9		
10		
11		
12		
13		
14		

NOTE:

SESI CONSULTING ENGINEERS, PC

Fig. 13

PROJECT NO. 6934 INSPECTED BY JN TEST PIT NO. TP-13

LOCATION See Figure 1 APPROX. ELEV. 86'±

WATER OBSERVATION NONE DATE EXCAVATED 9/19/2006

DEPTH FT.	DESCRIPTION / SOIL CLASSIFICATION	RELATIVE DENSITY OR CONSISTENCY
0	2" Topsoil	
	Fill: Ash, Cinders, Coal, Glass, Clay pots, Porcelain	
2	Brown coarse to fine SAND, trace Gravel, trace Silt, with Roots	Medium Dense
5	Tan SILT, trace Sand, trace Organic	Hard
6	Brown/Tan SILT, trace Sand	Stiff
10	REFUSAL ON BEDROCK AT 10.0 FEET TEST PIT COMPLETE AT 10.0 FEET	
14		

NOTE:

SESI CONSULTING ENGINEERS, PC

Fig. 14

SESI CONSULTING ENGINEERS	LOCATION NAME:45 Tompkins Ave Beacon, NY	BORING NO.	B-1
		JOB NO.	6934
		GROUND ELEVATION:	65'±
BORING BY: GBI	DATE STARTED	9/19/2006	GROUNDWATER TABLE DEPTH None
INSPECTOR: Ankit Shah	DATE COMPLETED	9/19/2006	0 Hr. Date 24 Hr. Date

DEPTH (ft)	METHOD	SAMPLE No.	DEPTH FROM (ft)	DEPTH TO (ft)	Blows on Spoon 0/6	6/12	12/18	18/24	REC (in)	SOIL DESCRIPTION AND STRATIFICATION	SYMBOL
0											
	ss	1	0	2	7	14	6	12	1/2	1" Topsoil	
										Brown fine Sand and medium to fine Gravel, some Silt	
	ss	2	2	4	13	25	50/4"		5		
5											
	core	3	5	6		2:29					
			6	7		2:07				Rock Core: RUN#1 (5'-10')	
			7	8		2:32				REC= 43"/60"=71.7%	
			8	9		2:41				RQD= 14"/60"=23.3%	
10			9	10		2:54					
										BORING COMPLETE AT 10.0 FEET	
15											
20											
25											
30											
35											
40											

Nominal I.D. of Hole	in
Nominal I.D. of Split Barrel Sampler	1⅜ in
Weight/type of Hammer on Drive Pipe	300 lb
Weight/type of Hammer on Split Barrel	140 lb
Drop of Hammer on Drive Pipe	in
Core Size	

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Pp: Pocket Penetrometer; WOH: Weight of Hammer; WOR: Weight of Rod

Approximate Change in Strata: _____ Inferred Change in Strata: _____

Soil descriptions represent a field identification after D. M. Burmister unless otherwise noted.

N:\DOC-POOL\SESI Boring log

FIG. 15

SESI CONSULTING ENGINEERS	LOCATION NAME:45 Tompkins Ave Beacon, NY	BORING NO. B-2 JOB NO. 6934 GROUND ELEVATION: 73'±
BORING BY: GBI	DATE STARTED 9/19/2006	GROUNDWATER TABLE DEPTH None
INSPECTOR: Ankit Shah	DATE COMPLETED 9/19/2006	0 Hr. Date 24 Hr. Date

DEPTH (ft)	METHOD	SAMPLE No.	DEPTH FROM (ft)	DEPTH TO (ft)	Blows on Spoon 0/6	6/12	12/18	18/24	REC (in)	SOIL DESCRIPTION AND STRATIFICATION	SYMBOL
0											
	SS	1	0	2	13	8	11	16	11	Tan SILT, little fine Sand	
	SS	2	2	4	20	50/2"			6		
5											
	SS	3	5	7	50/3"				2	Fractured Shale	
10											
	SS	4	10	12	50/3"				3		
15											
	SS	5	15	17	50/2"				6		
20										BORING COMPLETE AT 17.0 FEET	
25											
30											
35											
40											

Nominal I.D. of Hole	in
Nominal I.D. of Split Barrel Sampler	1¾ in
Weight/type of Hammer on Drive Pipe	300 lb
Weight/type of Hammer on Split Barrel	140 lb
Drop of Hammer on Drive Pipe	in
Core Size	

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Pp: Pocket Penetrometer; WOH: Weight of Hammer; WOR: Weight of Rod

Approximate Change in Strata: _____ Inferred Change in Strata: _ _ _ _ _ _ _ _ _ _ _ _

Soil descriptions represent a field identification after D. M. Burmister unless otherwise noted.

N:\DOC-POOL/SESI Boring log.

FIG. 16

SESI CONSULTING ENGINEERS	LOCATION NAME:45 Tompkins Ave Beacon, NY	BORING NO.	B-3
		JOB NO.	6934
		GROUND ELEVATION:	75'±
BORING BY: GBI	DATE STARTED	9/19/2006	GROUNDWATER TABLE DEPTH None
INSPECTOR: Ankit Shah	DATE COMPLETED	9/19/2006	0 Hr. Date 24 Hr. Date

DEPTH (ft)	METHOD	SAMPLE No.	DEPTH FROM (ft)	DEPTH TO (ft)	Blows on Spoon 0/6	6/12	12/18	18/24	REC (in)	SOIL DESCRIPTION AND STRATIFICATION	SYMBOL
0											
	ss	1	0	2	3	6	8	9	11	Brown SILT, trace Sand W.C. = 17.4% (-200) = 94.6%	
	ss	2	2	4	10	27	25	43	14		
5										Gray fine SAND,some fine Gravel, some Silt, with fractured Shale	
	ss	3	5	7	28	45	50/2"		14		
10	core		9	10		2:19					
			10	11		2:23				Rock Core: RUN#1 (9'-14') Recovery = 60"/60" = 100% RQD = 44"/60" = 73.3%	
			11	12		2:14					
			12	13		2:53					
			13	14		2:57					
15										BORING COMPLETE AT 14.0 FEET	
20											
25											
30											
35											
40											

Nominal I.D. of Hole	in
Nominal I.D. of Split Barrel Sampler	1⅜ in
Weight/type of Hammer on Drive Pipe	300 lb
Weight/type of Hammer on Split Barrel	140 lb
Drop of Hammer on Drive Pipe	in
Core Size	

Pp: Pocket Penetrometer; WOH: Weight of Hammer; WOR: Weight of Rod

Approximate Change in Strata: _____ Inferred Change in Strata: _____

Soil descriptions represent a field identification after D. M. Burmister unless otherwise noted.

FIG.17

SESI CONSULTING ENGINEERS

LOCATION NAME:45 Tompkins Ave		BORING NO.	B-4
Beacon, NY		JOB NO.	6934
		GROUND ELEVATION:	77'±
BORING BY: GBI	DATE STARTED	9/19/2006	GROUNDWATER TABLE DEPTH
INSPECTOR: Ankit Shah	DATE COMPLETED	9/19/2006	0 Hr. 10'± Date 9/19/2006 24 Hr. Date

DEPTH (ft)	METHOD	SAMPLE No.	DEPTH FROM (ft)	DEPTH TO (ft)	Blows on Spoon 0/6	6/12	12/18	18/24	REC (in)	SOIL DESCRIPTION AND STRATIFICATION	SYMBOL
0											
	ss	1	0	2	2	4	5	6	11	Brown medium to fine Sand and fine Gravel, some Silt	
	ss	2	2	4	6	6	13	46	14	Brown medium to fine SAND and coarse Gravel, some Silt	
5											
	ss	3	5	7	17	27	37	36	22	Brown fine SAND and coarse to fine Gravel, little Silt	
10											
	ss	4	10	12	37	50	50/1"		11		
15										REFUSAL ON BEDROCK AT 14.0 FEET	
										BORING COMPLETE AT 14.0 FEET	
20											
25											
30											
35											
40											

Nominal I.D. of Hole	in
Nominal I.D. of Split Barrel Sampler	1⅜ in
Weight/type of Hammer on Drive Pipe	300 lb
Weight/type of Hammer on Split Barrel	140 lb
Drop of Hammer on Drive Pipe	in
Core Size	

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Pp: Pocket Penetrometer; WOH: Weight of Hammer; WOR: Weight of Rod

Approximate Change in Strata: _____ Inferred Change in Strata: _____

Soil descriptions represent a field identification after D. M. Burmister unless otherwise noted.

N:\DOC-POOL/SESI Boring log.

FIG. 18

SESI CONSULTING ENGINEERS				LOCATION NAME:45 Tompkins Ave Beacon, NY					BORING NO. JOB NO. GROUND ELEVATION:		B-5 6934 115'±	
BORING BY: GBI				DATE STARTED			9/18/2006		GROUNDWATER TABLE DEPTH None			
INSPECTOR: Ankit Shah				DATE COMPLETED			9/19/2006		0 Hr. Date		24 Hr. Date	
DEPTH (ft)	METHOD	SAMPLE No.	DEPTH FROM (ft)	DEPTH TO (ft)	Blows on Spoon 0/6	6/12	12/18	18/24	REC (in)	SOIL DESCRIPTION AND STRATIFICATION		SYMBOL
0												
	ss	1	0	2	5	10	14	25	11	Brown fine Sand and coarse Gravel, some Silt		
	ss	2	2	4	20	12	10	6	6			
5												
	core		5	6		2:39				Rock Core: Run#1 (5'-10')		
			6	7		2:17				REC= 60"/60"=100%		
			7	8		2:19				RQD= 43"/60"=71.6%		
			8	9		2:14						
10			9	10		2:19						
	core		10	11		2:27				Rock Core: Run#2 (10'-15')		
			11	12		2:00				REC=60"/60"=100%		
			12	13		2:00				RQD=34"/60"= 56.7%		
			13	14		2:19						
15			14	15		2:29				BORING COMPLETE AT 15.0 FEET		
20												
25												
30												
35												
40												

Nominal I.D. of Hole	in
Nominal I.D. of Split Barrel Sampler	1⅜ in
Weight/type of Hammer on Drive Pipe	300 lb
Weight/type of Hammer on Split Barrel	140 lb
Drop of Hammer on Drive Pipe	in
Core Size	

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Pp: Pocket Penetrometer; WOH: Weight of Hammer; WOR: Weight of Rod

Approximate Change in Strata: _____ Inferred Change in Strata: _____

Soil descriptions represent a field identification after D. M. Burmister unless otherwise noted.

N:\DOC-POOL/SESI Boring log.

FIG.19

SESI CONSULTING ENGINEERS

LOCATION NAME: 45 Tompkins Ave		BORING NO.	B-6
Beacon, NY		JOB NO.	6934
		GROUND ELEVATION:	111'±
BORING BY: GBI	DATE STARTED	9/18/2006	GROUNDWATER TABLE DEPTH None
INSPECTOR: Ankit Shah	DATE COMPLETED	9/18/2006	0 Hr. Date 24 Hr. Date

DEPTH (ft)	METHOD	SAMPLE No.	DEPTH FROM (ft)	DEPTH TO (ft)	Blows on Spoon 0/6	6/12	12/18	18/24	REC (in)	SOIL DESCRIPTION AND STRATIFICATION	SYMBOL
0											
	SS	1	0	2	5	9	13	12	14	FILL: Brown coarse to fine SAND and coarse to fine Gravel, little Silt	
	SS	2	2	4	12	17	11	9	12		
5											
	SS	3	5	7	10	7	7	24	19	Brown PEAT	
	SS	4	7	9	15	17	50/5"		11	Yellow-Brown SILT, little coarse to fine Gravel, trace Sand	
10											
	SS	5	10	12	46	45	56	52/4"	24	Gray-Brown SILT, some coarse to fine Gravel, trace Sand	
15											
	SS	6	15	17	29	37	50/4"		8		
20										REFUSAL ON BEDROCK AT 18.0 FEET BORING COMPLETE AT 18.0 FEET	
25											
30											
35											
40											

Nominal I.D. of Hole	in
Nominal I.D. of Split Barrel Sampler	1⅜ in
Weight/type of Hammer on Drive Pipe	300 lb
Weight/type of Hammer on Split Barrel	140 lb
Drop of Hammer on Drive Pipe	in
Core Size	

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Pp: Pocket Penetrometer; WOH: Weight of Hammer; WOR: Weight of Rod

Approximate Change in Strata: _____ Inferred Change in Strata: _____

Soil descriptions represent a field identification after D. M. Burmister unless otherwise noted.

N:\DOC-POOL\SESI Boring log

FIG. 20

SESI CONSULTING ENGINEERS					LOCATION NAME:45 Tompkins Ave Beacon, NY					BORING NO. JOB NO. GROUND ELEVATION:	B-7 6934 109'±
BORING BY: GBI INSPECTOR: Ankit Shah					DATE STARTED 9/18/2006 DATE COMPLETED 9/18/2006					GROUNDWATER TABLE DEPTH None 0 Hr. Date 24 Hr. Date	
DEPTH (ft)	METHOD	SAMPLE No.	DEPTH FROM (ft)	DEPTH TO (ft)	Blows on Spoon 0/6	6/12	12/18	18/24	REC (in)	SOIL DESCRIPTION AND STRATIFICATION	SYMBOL
0											
	ss	1	0	2	8	12	13	9	12	Brown coarse to fine Sand and coarse to fine Gravel, some Silt	
	ss	2	2	4	3	3	6	44	14		
5											
	ss	3	5	7	13	19	23	50/4"	11		
										BOULDERS	
	core		7	8		2:00				Rock Core: Run #1 (7'-11') Recovery = 32"/48" = 66.7% RQD= 17"/48" = 35.4%	
			8	9		2:20					
10			9	10		2:35					
			10	11		2:45					
	core		11	12		1:40				Rock Core: Run #1 (11'-16') Recovery = 29"/60" = 48.3% RQD= 14"/60" = 23.3%	
			12	13		1:53					
			13	14		2:19					
15			14	15		1:58					
			15	16		2:10				BORING COMPLETE AT 16.0 FEET	
20											
25											
30											
35											
40											

Nominal I.D. of Hole	in
Nominal I.D. of Split Barrel Sampler	1⅜ in
Weight/type of Hammer on Drive Pipe	300 lb
Weight/type of Hammer on Split Barrel	140 lb
Drop of Hammer on Drive Pipe	in
Core Size	

Pp: Pocket Penetrometer; WOH: Weight of Hammer; WOR: Weight of Rod

Approximate Change in Strata: _____ Inferred Change in Strata: _ _ _ _ _ _ _ _ _ _ _ _

Soil descriptions represent a field identification after D. M. Burmister unless otherwise noted.

N:\DOC-POOL/SESI Boring log

FIG. 21

SESI CONSULTING ENGINEERS

LOCATION NAME:45 Tompkins Ave		BORING NO.	B-8
Beacon, NY		JOB NO.	6934
		GROUND ELEVATION:	104'±
BORING BY: GBI	DATE STARTED	9/18/2006	GROUNDWATER TABLE DEPTH None
INSPECTOR: Ankit Shah	DATE COMPLETED	9/18/2006	0 Hr. Date 24 Hr. Date

DEPTH (ft)	METHOD	SAMPLE No.	DEPTH FROM (ft)	DEPTH TO (ft)	Blows on Spoon 0/6	6/12	12/18	18/24	REC (in)	SOIL DESCRIPTION AND STRATIFICATION	SYMBOL
0											
	ss	1	0	2	2	6	10	14	12	Yellow-Brown coarse to fine Sand and coarse to fine Gravel, some Silt	
	ss	2	2	3	18	30			7		
	core		3	4		1:27				Rock Core: Run#1 (3'-8')	
5			4	5		2:19				Recovery = 42"/60"= 70.0%	
			5	6		2:07				RQD= 16"/60"= 26.7%	
			6	7		2:23					
			7	8		3:19					
	core		8	9		3:00				Rock Core: Run#2 (8'-13')	
10			9	10		3:17				Recovery = 60"/60" = 100.0%	
			10	11		2:54				RQD= 8"/60"= 13.3%	
			11	12		3:09					
			12	13		3:15					
15										BORING COMPLETE AT 13.0 FEET	
20											
25											
30											
35											
40											

Nominal I.D. of Hole	in
Nominal I.D. of Split Barrel Sampler	1⅜ in
Weight/type of Hammer on Drive Pipe	300 lb
Weight/type of Hammer on Split Barrel	140 lb
Drop of Hammer on Drive Pipe	in
Core Size	

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Pp: Pocket Penetrometer; WOH: Weight of Hammer; WOR: Weight of Rod

Approximate Change in Strata: _____ Inferred Change in Strata: _____

Soil descriptions represent a field identification after D. M. Burmister unless otherwise noted.

N:\DOC-POOL\SESI Boring log.

FIG. 22

Definitions of Identification Terms for Granular Soils

Our experience has shown that the following field identification system, which is patterned somewhat after the Burmister System, permits a more detailed breakdown of the components within a soil sample than other identification systems allow. It also compels the supervising technician to examine a sample quite closely in order to accurately describe the components within the sample.

Principal Component (All Capitalized)

- GRAVEL — More than 50% of the sample by weight is Gravel
- SAND — More than 50% of the sample by weight is Sand
- SILT — More than 50% of the sample by weight is Silt

Minor Component (Proper Case)

- Gravel — Less than 50% of the sample by weight is Gravel
- Sand — Less than 50% of the sample by weight is Sand
- Silt — Less than 50% of the sample by weight is Silt

Proportion Terms

- and — Component ranges from 35% to 50% of the sample by weight
- some — Component ranges from 20% to 35% of the sample by weight
- little — Component ranges from 10% to 20% of the sample by weight
- trace — Component ranges from 0% to 10% of the sample by weight

Size of Soil Components

- Gravel
  - Coarse gravel ranges from 3 inches to 1 inch
  - Medium gravel ranges from 1 inch to 3/8 inch
  - Fine gravel ranges from 3/8 inch to No. 10 sieve
- Sand
  - Coarse sand ranges from No. 10 sieve to No. 30 sieve
  - Medium sand ranges from No. 30 sieve to No. 60 sieve
  - Fine sand ranges from No. 60 sieve to No. 200 sieve
- Silt
  - Material which passes the No. 200 sieve
- Clay
  - Material which passes the No. 200 sieve
  - Exhibits varying degrees of plasticity

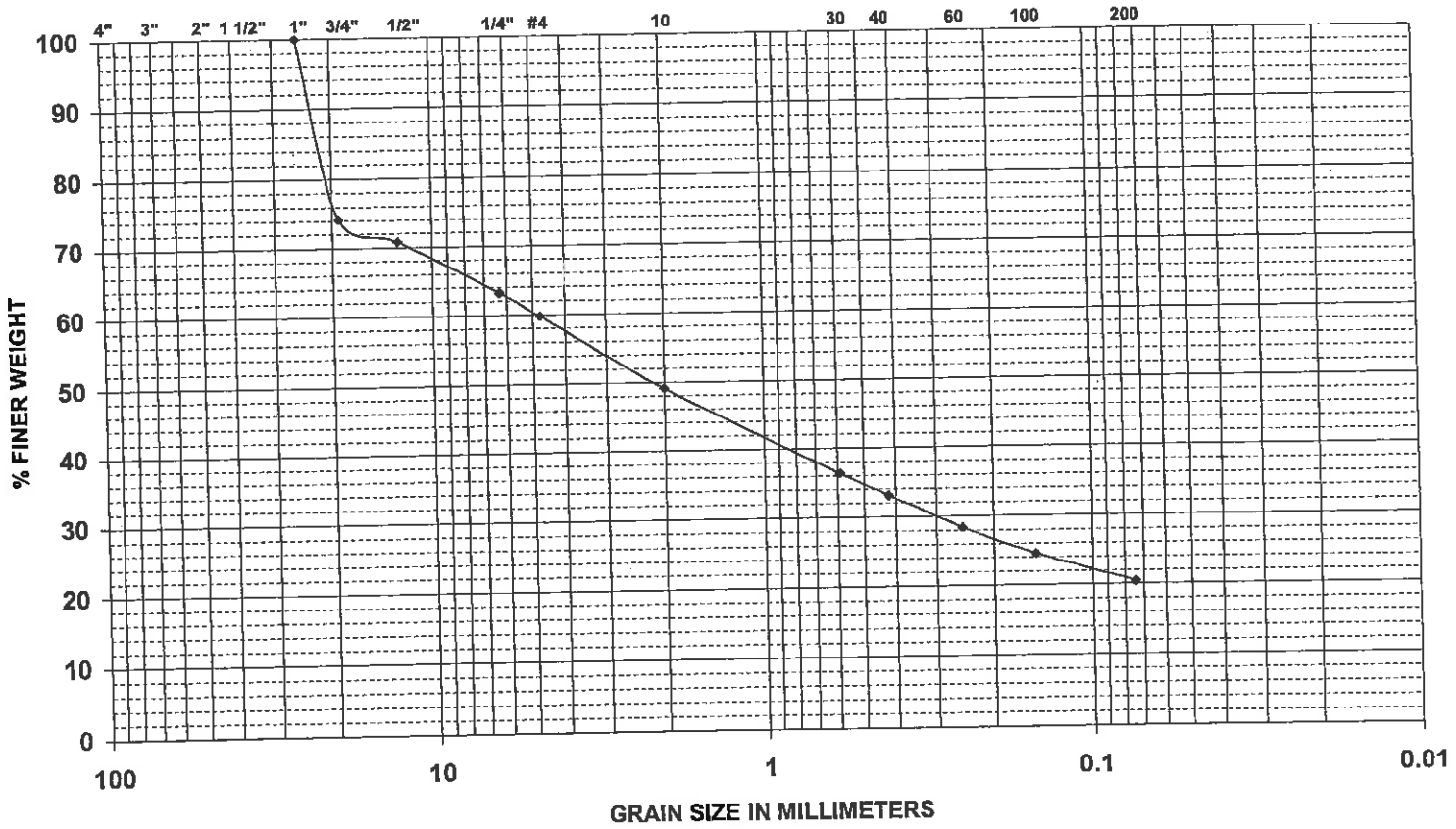
Gradation Designations

- Coarse to fine (c-f) — All fractions greater than 10%of the component
- Coarse to medium (c-m) — Less than 10% of the component is fine
- Medium to fine (m-f) — Less than 10% of the component is coarse
- Coarse (c) — Less than 10% of the component is medium and fine
- Medium (m) — Less than 10% of the component is coarse and fine
- Fine (f) — Less than 10% of the component is coarse and medium

Figure 23

GRAVEL			SAND			SILT OR CLAY
COARSE	MEDIUM	FINE	COARSE	MEDIUM	FINE	
3/4"			2mm		.74mm	

U.S STANDARD SIEVE SIZES



Symbol	◆
Boring	TP-3
Sample	
Depth	4.0'
% +3"	
% Gravel	50.93
% Sand	28.71
% Fines	20.35
% Silt	
% Clay	
Sp.G	
LL	
PL	
PI	
W (%)	8.7

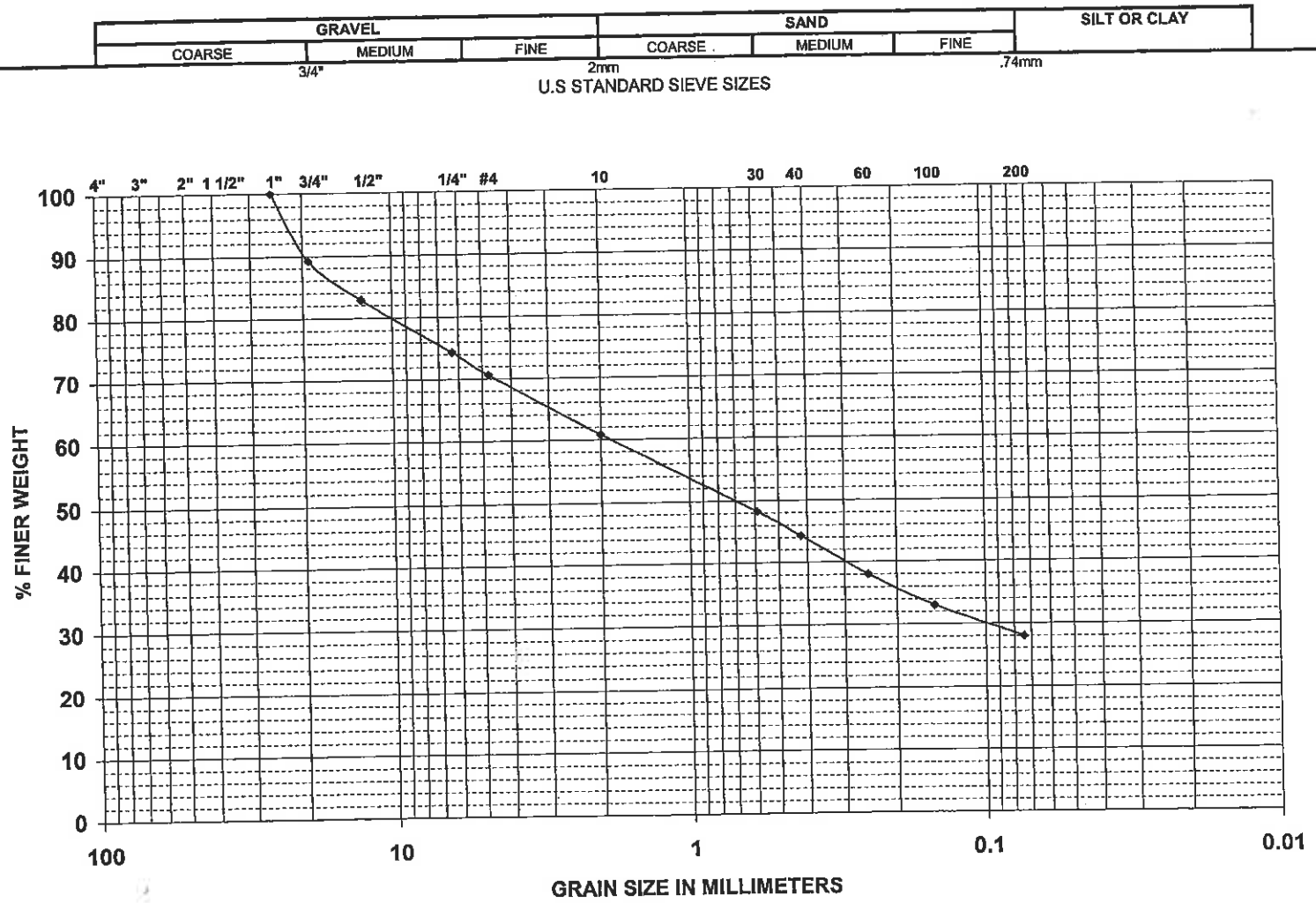
Particle Size Sieve #	Percent Finer Than
3"	-
1 1/2"	-
1"	100.00
3/4"	74.15
1/2"	70.79
1/4"	63.19
4	59.76
10	49.07
30	36.28
40	33.08
60	28.38
100	24.55
200	20.35

PARTICLE SIZE DISTRIBUTION

CLIENT: Beacon Terminal Associates
PROJECT: 45 Tompkins Ave., Beacon, NY
DATE: September 26, 2006
JOB NO. N-6934 FIGURE No 24

SYMBOL	DESCRIPTION AND REMARKS
◆	Brown coarse to fine GRAVEL, some coarse to medium Sand, some Silt with fractured Shale and Boulders

SESI CONSULTING ENGINEERS



Symbol	◆
Boring	TP-7
Sample	
Depth	5.0'
% +3"	
% Gravel	39.19
% Sand	32.86
% Fines	27.95
% Silt	
% Clay	
Sp.G	
LL	
PL	
PI	
W (%)	9

Particle Size Sieve #	Percent Finer Than
3"	-
1 1/2"	-
1"	100.00
3/4"	89.17
1/2"	82.88
1/4"	74.32
4	70.56
10	60.81
30	48.27
40	44.29
60	38.03
100	32.97
200	27.95

PARTICLE SIZE DISTRIBUTION

CLIENT: Beacon Terminal Associates
PROJECT: 45 Tompkins Ave. Beacon, NY
DATE: September 26, 2006
JOB NO. N-6934 FIGURE No 25

SYMBOL	DESCRIPTION AND REMARKS
◆	Orange-Brown coarse to fine Gravel, some coarse to medium Sand, some Silt with fractured Shale

SESI

APPENDIX

Photograph looking northeast along 2-story brick building towards Tompkins Ave.

Photograph looking southwest along 2-story frame building

Photograph looking along 2-story brick building from Tompkins Ave.

Photograph looking southwest along 2-story frame building

Photograph looking northeast at rock ledge behind house off of Branch Street

Photograph looking north from house off of Branch Street

Photograph looking north at existing house off of Branch Street

Photograph looking north at existing house off of Branch Street