REPORT
SUBSURFACE INVESTIGATION

PROPOSED RESORT ENTRY ROAD
TOWN OF THOMPSON, SULLIVAN COUNTY, NEW YORK
EPT CONCORD RESORT

March 5, 2013

Prepared By:
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MTA Project No.: 8979-004*1D

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March 5, 2013

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Attention: Ms. Jennilee Harrison
Project Engineer

Report
Subsurface Investigation
Proposed Resort Entry Road
Town of Thompson, Sullivan County, New York
EPT Concord Resort

Introduction

This report presents the results of a subsurface investigation performed by Melick-Tully and Associates, P.C. (MTA) for the proposed new Resort Entry Road and stormwater management basins to be constructed to service the proposed EPT Concord Resort development in the Town of Thompson, Sullivan County, New York.

Background Data

MTA previously performed a subsurface investigation for the resort, as well as a subsequent study for wetland mitigation sites. The results of those studies were presented in our reports dated May 1 and September 28, 2012. Borings were performed along the western section of Thompsonville Road as part of our May 1, 2012 report.

Proposed Construction

Based on information AKRF, Inc. provided to us, we understand the improvements would include approximately 8,400 linear feet of new roadway from the area near the intersection

of Joyland Road and Route 17 to the north and east where Resort Entry Road reconnects to Joyland Road. The improvements to Thompsonville Road and Joyland Road will consist of widening the north end of Joyland Road and re-grading and re-paving Thompsonville Road. A stream crossing along Resort Entry Road is planned to consist of either a pre-engineered "Contech" type bridge or bottomless culvert. Cuts and fills of approximately five feet or less would typically be required along the roadways. A sanitary sewer will be installed below portions of Joyland and Thompsonville Roads, reportedly at depths of less than 15 feet below the existing surface grades.

We further understand that bio-retention basins would be constructed along Resort Entry Road in currently heavily wooded portions of the site, and along Joyland Road and Thompsonville Road. The basins would be established at depths varying from three to five feet below the current grades.

This study presents the results of our testing along the new Resort Entry Road alignment in the undeveloped areas west of Joyland Road, the northern portion of Joyland Road south of its intersection with Thompsonville Road, and Thompsonville Road to the west of its intersection with Joyland Road, as shown on the "Site Location Map", Plate 1 and the "Key Plan", Plate 2-0.

Purpose and Scope of Work

The purpose of our services was to:

1) explore the subsurface soil, rock and groundwater conditions within the proposed roadway alignments, at the stream crossing, and at numerous locations which may be developed as stormwater management basins;

2) estimate the relevant geotechnical engineering properties of the encountered materials;

3) initiate field permeability tests at or near locations and depths identified by AKRF;

4) recommend an appropriate type of foundation for support of the proposed stream crossing structure, and provide geotechnical-related foundation design and installation criteria, including an estimate of the Site Class as defined by the Building Code of the State of New York, 2010 Edition for seismic design purposes;

5) recommend an appropriate pavement section based on the encountered subsurface conditions and estimated traffic data provided to us by AKRF; and

6) discuss appropriate earthwork considerations consistent with the proposed construction and encountered subsurface conditions.

To accomplish these purposes, a subsurface exploration program consisting of both test borings and test pit explorations was performed. A total of five borings were advanced along the northern portion of Joyland Road and the eastern portion of Thompsonville Road, west of its intersection with Joyland Road, to supplement the nine borings performed in our previous study. The borings were drilled using truck-mounted, hollow-stem auger drilling equipment and extended to depths of approximately 14 to 16 feet below the existing surface grades. A total of 99 test pit explorations were advanced utilizing both a rubber-tire backhoe and track-mounted excavator and extended to depths ranging from approximately 5-1/2 to 14 feet below the existing surface grades. The approximate locations of the explorations performed for this study are shown on the Plot Plans, Plates 2-1 through 2-11.

All work was performed under the direct technical observation of engineers and geologists from MTA. Our representatives located the explorations in the field utilizing the existing site features and survey points provided by others, maintained continuous logs of the explorations as the work proceeded, supervised the soil sampling procedures during the drilling

operations, and obtained bulk samples of the materials encountered in the test pits. Numerous closely spaced soil samples were obtained from the borings using the general procedures of the Standard Penetration Test. During advancement of the test pits, our representative obtained numerous bulk samples of the encountered materials.

All soil samples obtained from the explorations were brought to our office where they were further examined in our soil mechanics laboratory. Detailed descriptions of the materials encountered in the test pits are shown on the individual Logs of Test Pits, Plates 3-1 through 3-99. The results of the borings are shown on Plates 4-101 through 4-114. The soils were visually classified in general accordance with the Unified Soil Classification System presented on Plate 5.

Numerous soil samples were subjected to laboratory testing consisting of grain-size analyses (ASTM D-422) and moisture content determinations (ASTM D-2216), and two samples were subjected to California Bearing Ratio (CBR) testing (ASTM D-1883-07) to aid in their engineering classification and evaluation. The results of the grain-size tests are presented on Plates 6A through 6D, Gradation Curves. The results of the moisture content determinations are presented on Plates 6A through 6D and on the appropriate exploration logs.

The results of our subsurface exploration program, visual examination of the soil samples, and a review of the laboratory test results have provided the basis for our engineering analysis and findings. The following discussions of our findings are subject to the limitations attached as an Appendix to this report.

Site Conditions

Surface Features: Thompsonville Road and Joyland Road are currently two-lane paved roadways. The roadways will need to be widened and re-graded in order to accommodate the

increased volume of traffic. The majority of the remainder of the Resort Entry Road, from its intersection with Joyland Road to the west and south where it will connect with the new Route 17 intersection, is moderately to heavily wooded with several areas identified as wetlands and a stream crossing.

Topographic information shown on plans provided to us indicates that surface elevations slope moderately downward from east to west along Thompsonville Road from its intersection with Joyland Road from approximately Elevation +1,436 feet to a low of approximately Elevation +1,344 feet to the west where the explorations terminate in the area of B-S-16. The northern portion of Joyland Road slopes gently upward from its intersection with Thompsonville Road to the south from a low of approximately Elevation +1,436 feet to approximately Elevation +1,447 feet, where the new Resort Entry Road turns west. The remainder of the new Resort Entry Road alignment from its intersection with Joyland Road, west and south varies from Elevation +1,431 feet to Elevation +1,364 feet.

Subsurface Conditions: The following generalized strata were encountered in the explorations and are listed in order of increasing depth:

1) Topsoil: A surficial layer of topsoil was encountered in 94 of the 99 test pits and 6 of the 14 borings (current and previous) performed along the Joyland Road and Thompsonville Road alignments. In general, the topsoil was found to be approximately 4 to 8 inches thick in the majority of the explorations, but ranged up to approximately 14 inches in thickness in some of the test pits.

2) Pavement/Fill: A three to six inch thick layer of asphalt pavement was encountered in Borings 101 through 105 and in Boring S-8. The previous borings performed for Thompsonville Road were advanced adjacent to the existing pavement in order to minimize disturbance to the existing roadway surface. Our visual observations indicate that both Thompsonville Road and Joyland Road are likely constructed by "chip

seal" methods and do not consist of a true asphaltic concrete section. Shallow fill materials ranging from approximately one to two feet in thickness were encountered in 10 of the 14 borings and in only 7 of the 99 test pits, generally reflecting the grading required during construction of Joyland and Thompsonville Roads.

3) Silt: Below the surficial topsoil, asphalt and fill materials, silt and clayey silt was observed in two of the borings and twelve of the test pit explorations. The siltier materials were similar in nature to the glacial silty sands encountered throughout the area; however, their silt content was high enough to require classification as silt. In general, the silty soils were found to be stiff in consistency.

4) Silty Sand: Below the surficial topsoil, fill and silt, the natural soils typically consisted of sands and silty sands containing varying amounts of gravel, cobbles and boulders. The sandy soils are believed to be glacial in nature and extended to the completion depths in the majority of the explorations performed. The upper one to two feet of the sandy soils in several of the explorations were found to be somewhat loose in relative density, probably the result of freeze-thaw cycles. The deeper glacial materials were observed to be dense to very dense in relative density.

5) Siltstone/Sandstone Bedrock: In 4 of the 14 borings and 16 of the 99 test pits, siltstone/sandstone bedrock was encountered at depths varying from approximately 3 to 20 feet below grade. In several of the explorations, it could not be determined if refusal was encountered atop sedimentary bedrock or relatively large boulders. In general, the sedimentary rock was found to grade sounder with depth, where encountered.

Groundwater seepage was encountered in 10 of the 14 borings and 65 of the 99 test pits performed for this study upon their completion. The observed groundwater levels varied from approximately 1 to 14-1/2 feet below grade. In addition, mottling which is indicative of seasonal groundwater conditions or seasonally saturated soils, was observed in the majority of the test pit explorations at shallower levels.

Findings and Recommendations

General: Based on the results of our study, it is our opinion that:

1) The soils encountered in Test Pits No. 33 and 40 advanced closest to the stream consisted of medium dense to dense silty sands which in our opinion will provide suitable support for the bridge or culvert on spread footings.

2) Following the site preparation and earthwork procedures, the undisturbed glacial soils will provide adequate support for the roadways.

3) The moisture levels observed in the majority of the materials subjected to laboratory testing indicate that the natural glacial soils appear to be at or somewhat above moisture levels which would allow recompaction to 95 percent of their maximum dry density. Consequently, it should be assumed some moisture conditioning of the materials used as controlled compacted fill would be required.

4) The permeability rates observed in the explorations were variable along the route of the proposed Resort Entry Road. Details of that testing are summarized on the individual logs of test pits, and are summarized on Plate 7.

Further discussions of these items and others considered relevant to the proposed development are presented in subsequent sections of this report.

Site Preparation and Earthwork: The areas of the new Resort Entry Road should be cleared and grubbed of all vegetation. After clearing and grubbing, the topsoil should be stripped for its full depth from within and at least five feet beyond the proposed roadway limits. The topsoil would not be suitable for reuse as controlled compacted fill or backfill in paved areas.

After clearing and stripping, the exposed subgrade materials should be proofrolled and compacted to a dense and unyielding consistency with several passes of a heavy, self-propelled, vibrating drum compactor with a minimum static drum weight of ten tons under the observation of a qualified geotechnical engineer. Any subgrade materials which appear to be soft or unstable should be further excavated to the surface of competent soils and backfilled with controlled compacted fill. Although not encountered in our test pits outside the wetlands, potentially

compressible deposits could be encountered in wetland areas. Consequently, areas of soft compressible organic soils may be encountered that require removal prior to placing fill. In addition, areas of fill could be present along the sides of the existing roadways that require removal or recompaction.

We believe that the majority of the soils exposed after stripping of the topsoil will consist of glacial silty sand materials. For the most part, these materials are anticipated to be relatively dense; however, due to their high silt content and the moist nature of the upper portions of the materials encountered in the explorations and the presence of shallow perched groundwater, we anticipate that the surficial materials will be highly susceptible to softening and disturbance once subjected to construction equipment traffic. Therefore, it should be anticipated that some aeration and drying, or overexcavation and replacement of the surficial soils, may be necessary.

The current pavement section along Joyland and Thompsonville Roads appears to consist of a "chip seal" surface over several feet of fill materials placed during road construction. We do not believe it is feasible to incorporate the existing pavement into the new pavement section. We recommend that the existing asphaltic pavement be broken up and removed, or milled for possible reuse as general fill in areas below proposed paved parking or roadway areas.

The latest plans provided to us indicate that the new Resort Entry Road alignment will generally require cuts and fills on the order five feet or less throughout most of its planned route. The majority of the on-site soils in the cut areas were observed to consist of silty sands with varying amounts of cobbles and boulders. The moisture contents performed on selected samples obtained in the explorations indicated that the materials were at or above moisture contents that will permit compaction to the required degree in their existing condition. Consequently, some

aeration and drying should be anticipated. If the earthwork operations are performed during or following periods of wet or freezing weather, compaction of the on-site soils to the required degree may be difficult.

We recommend to the extent possible, that cobbles and boulders be utilized in areas requiring deeper fills where they would not interfere with future excavation for utility installation. Portions of the cobbles and boulders could be broken into smaller fragments where they may be reused to stabilize wetter areas prior to installation of granular controlled compacted fill. Care should be taken to provide sufficient soil to infill any voids between the cobbles and boulders to minimize the potential for migration of the upper fill soils into voids between the cobbles and boulders.

Any imported fill required to complete the site grading along the proposed roadway should consist of uncontaminated, relatively well graded granular soils containing less than 15 percent by weight of material passing a U.S. Standard No. 200 sieve and a maximum particle size of six inches. The fill supplier should provide documentation of the environmental quality of all imported fill.

All fill materials placed in the roadways should be spread in layers on the order of twelve inches or less in loose thickness and uniformly compacted to at least 95 percent of its maximum dry density as determined by the ASTM D-1557 test procedure. Backfill placed in confined areas such as utility trench excavations should be spread in thin layers and uniformly compacted to similar densities using manually operated compaction equipment.

Bedrock consisting of fractured sedimentary siltstone and sandstone was encountered in 16 of the test pits and 4 of the borings at depths varying from approximately 3 to 20 feet below

the existing surface grades. Based on information AKRF, Inc. provided to us, we understand that the deeper rock levels encountered in the borings are anticipated to be below the utility invert levels along Joyland and Thompsonville Road. The surface of fractured rock in the test pits was as shallow as three feet, but excavations into the rock extended to total depths of up to five and one-half feet below grade. Cut areas extending several feet into the fractured rock should not be a major construction-related concern. Excavations which extend below the refusal levels encountered in the explorations could require jack-hammering and/or blasting.

Groundwater was encountered in the majority of the explorations at depths varying from approximately 1 to 14-1/2 feet below grade, and shallower perched water from runoff and snow melt should be anticipated. The variable nature of the groundwater infiltration levels observed while the explorations were being performed indicates that groundwater could be encountered at various levels due to seepage through more pervious materials and from surface water runoff. Controlling groundwater through drains and diversion trenches upgrade from the roadway alignment should be anticipated during construction.

Bridge Foundation Design Criteria: Test pits were advanced in the area of the proposed stream crossing as close as possible without infringing upon the existing wetlands. At the time of our study, it was not determined whether the proposed new stream crossing would consist of a "Contech" type bridge or an open box culvert installed in the stream.

We believe that foundations established a minimum of four feet below the existing grades on the dense glacial soils could be designed to impose maximum allowable net bearing pressures of up to two tons per square foot. Depending upon the location of the bridge foundations in relation to the existing stream, dewatering of the excavations could be required. We recommend

that a qualified geotechnical engineer familiar with the site conditions observe the excavations at the time of construction and determine that adequate bearing soils are reached.

Wing walls should be designed to resist lateral earth pressures imposed by the adjacent soils, as well as surcharge loads due to adjacent footings and surface improvements, as well as temporary construction traffic, material stockpiles, sloping backfills, etc. Walls which are free to rotate slightly during backfilling may be designed to resist lateral earth pressures assuming an active earth pressure condition. If the walls are restrained, they should be designed assuming an at-rest earth pressure condition. If sandier portions of the on-site soils are used as backfill, a total unit weight of 145 to 150 pounds per cubic foot should be used, based on the Proctors previously obtained from the on-site soils compacted to 95 percent of their maximum dry density, and an approximate moisture content of five percent. A friction angle of 34 degrees may be used. We estimate that a friction factor between mass concrete and the on-site soils would be 0.40. If the footings are underlain by at least eight inches of crushed stone, the friction factor could be increased to 0.55.

Once a bridge design and more detailed plans are developed, we would review the proposed bridge to evaluate if the design assumptions are consistent with our recommendations.

Seismic Design Criteria: Based on the subsurface conditions encountered in the explorations performed for this and our previous studies, we estimate that the site would be a Site Class "C" as defined by the Building Code of the State of New York, 2010 Edition, for seismic design purposes.

Pavement Design Criteria: We recommend that roadway areas be prepared in accordance with our recommendations outlined in previous sections of this report. Immediately prior to

pavement construction, the exposed subgrade soils should be recompacted to a firm and unyielding consistency, and the upper two feet of the subgrade soils compacted to at least 95 percent of their maximum dry density as determined by the ASTM D-1557 test procedure.

Based on the traffic information provided to us for the various sections of the development by AKRF, the results of our CBR testing of bulk samples obtained in the test pit explorations as part of this study, and utilizing the design procedures outlines in the "AASHTO Guide for Design of Pavement Structures, 1993", we believe the that the following pavement sections would be appropriate:

Roadway Section	**AADT**	**CBR %**	**Design EAL**	**Asphalt Surface Course**	**Asphaltic Binder Course**	**Aggregate Subbase**
Entry Roadway between Interchange and Joyland Road	45,000	6	6.6×10^6	2"	5"	12"
Joyland Road between Entry Road and Thompsonville Road	20,000	6	2.9×10^6	2"	4"	12"
Thompsonville East and West of Joyland Road	5,000	6	7.3×10^5	2"	2"	12"

Proposed Stormwater Management: Based on our investigation and the locations provided to us which were adjusted during the course of our study, infiltration rates are provided on the individual exploration logs and are summarized on Plate 7. In general, all infiltration tests were performed in accordance with NYSDEC Appendix "D" in order to satisfy New York State requirements. In some areas, as discussed with AKRF, Inc. at the time of our study, percolation tests were performed as an alternate.

Please feel free to contact us if you have any questions regarding this report.

The following Plates and Appendix are attached and complete this report:

Plate 1 – Site Location Map
Plate 2-0 – Key Plan
Plates 2-1 through 2-11 – Plot Plans
Plates 3-1 through 3-99 – Logs of Test Pits
Plates 4-101 through 4-114 – Logs of Borings
Plate 5 – Unified Soil Classification System
Plates 6A through 6D – Gradation Curves
Plate 7 – Data Summary Sheet
Appendix – Limitations

Respectfully submitted,

MELICK-TULLY and ASSOCIATES, P.C.

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JHB:TEH/mh
8979-004*1D
(3 copies submitted)

FROM: "Digital Raster Quadrangles" at 1:24,000 scale provided by New York State GIS Clearinghouse website (http://www.nysgis.state.ny.us/gisdata/quads/).

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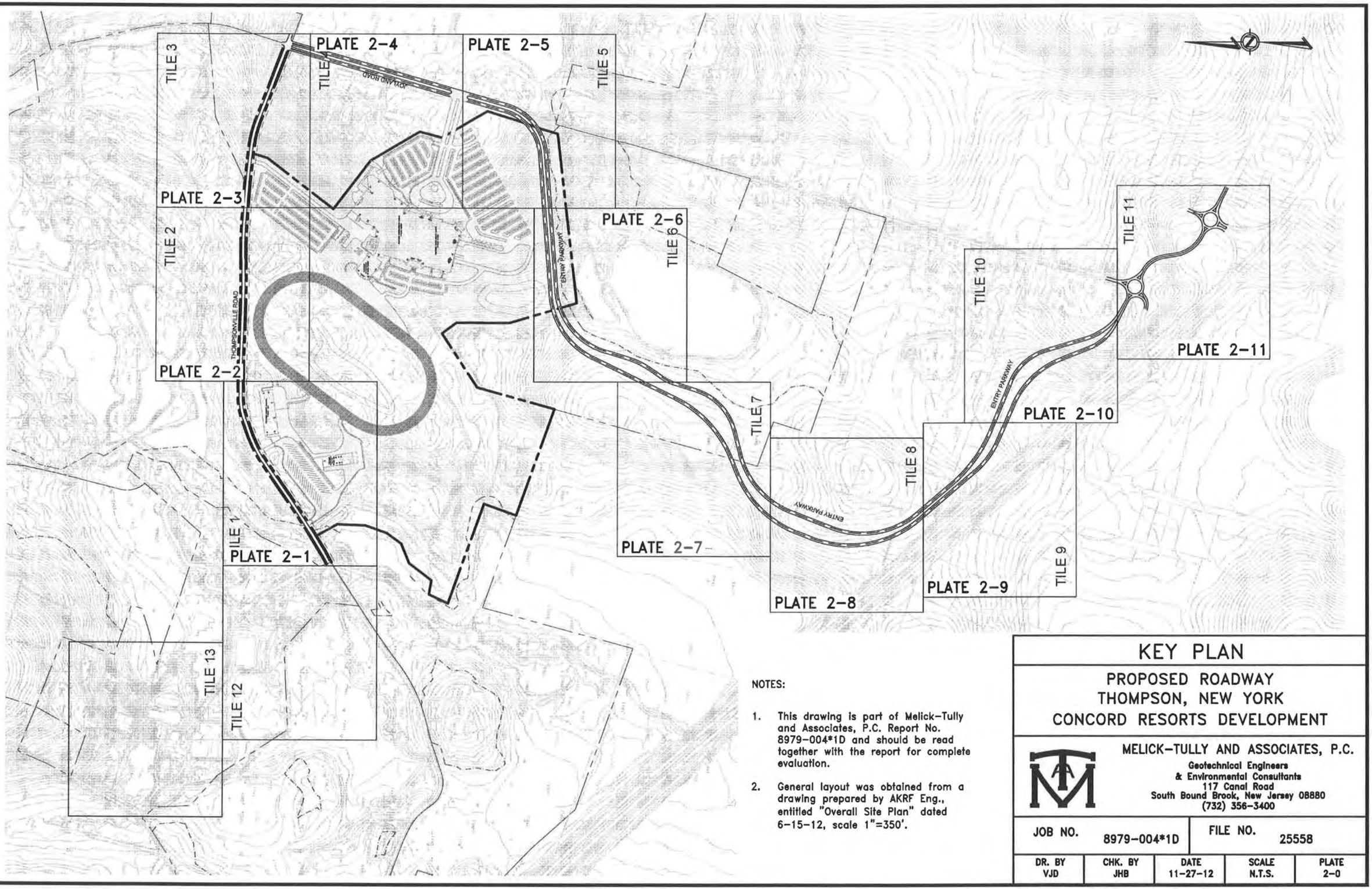
SITE LOCATION MAP

PROPOSED RESORT ENTRY ROAD
TOWN OF THOMPSON, NEW YORK
EPT CONCORD RESORT

JOB NO.	FILE NO.	DR. BY	CHK. BY	DATE	SCALE	PLATE
8979–004*1D	25558	VJD	JHB	3–5–13	1"=2,000'	1



NOTES:

1. This drawing is part of Melick-Tully and Associates, P.C. Report No. 8979-004*1D and should be read together with the report for complete evaluation.
2. General layout was obtained from a drawing prepared by AKRF Eng., entitled "Overall Site Plan" dated 6-15-12, scale 1"=350'.

KEY PLAN

PROPOSED ROADWAY
THOMPSON, NEW YORK
CONCORD RESORTS DEVELOPMENT

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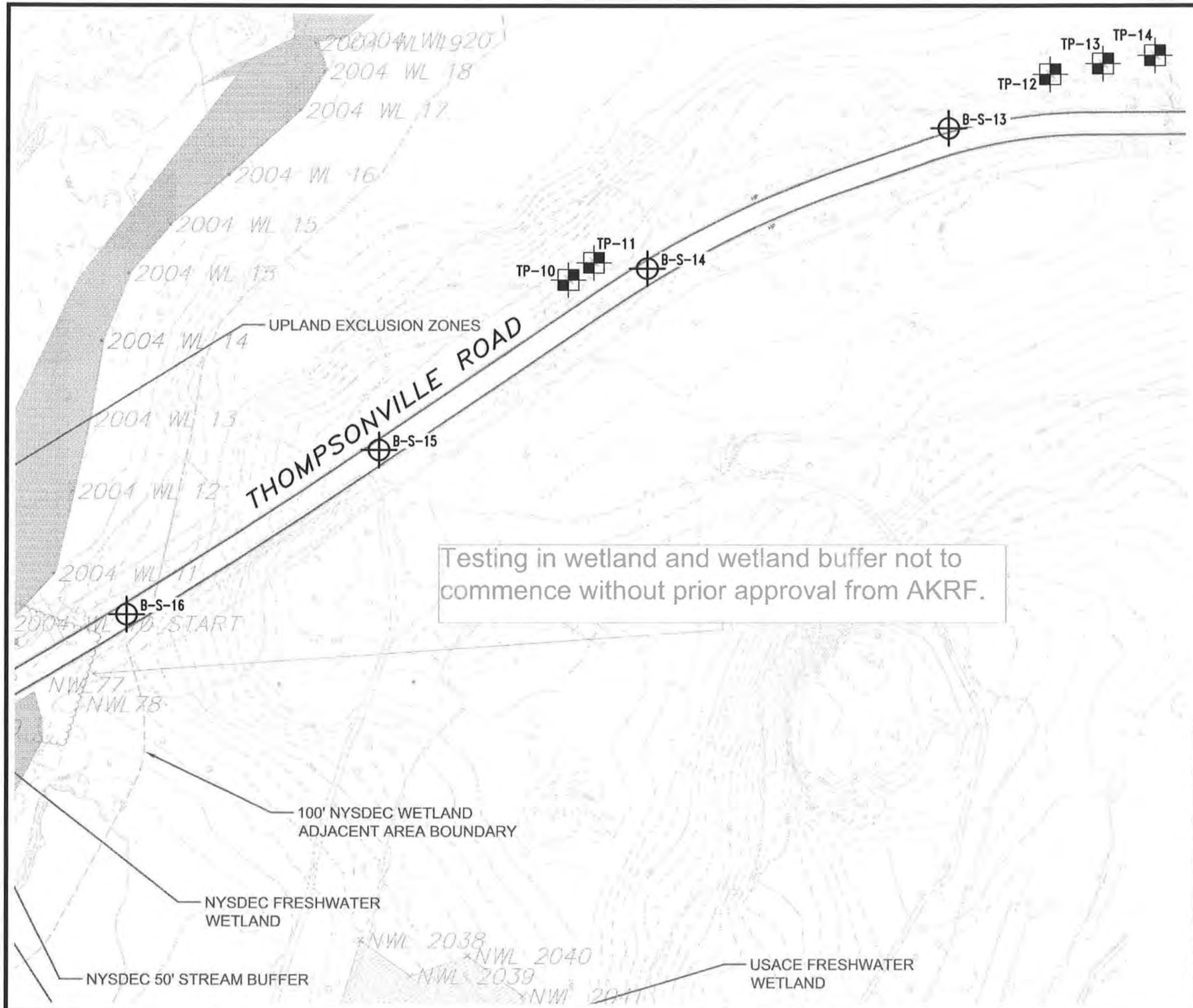

KEY:

TP-1 NUMBER AND APPROXIMATE LOCATION OF TEST PITS PERFORMED FOR THIS STUDY

B-S-13 NUMBER AND APPROXIMATE LOCATION OF BORINGS PREVIOUSLY PERFORMED BY MTA

NOTES:

1. This drawing is part of Melick-Tully and Associates, P.C. Report No. 8979-004*1D and should be read together with the report for complete evaluation.
2. General layout was obtained from a drawing prepared by AKRF Eng., entitled "Geotechnical Soil Investigation Plan-Map 1" dated 10-8-12, scale 1"=40'.

PLOT PLAN

PROPOSED ROADWAY
THOMPSON, NEW YORK
CONCORD RESORTS DEVELOPMENT

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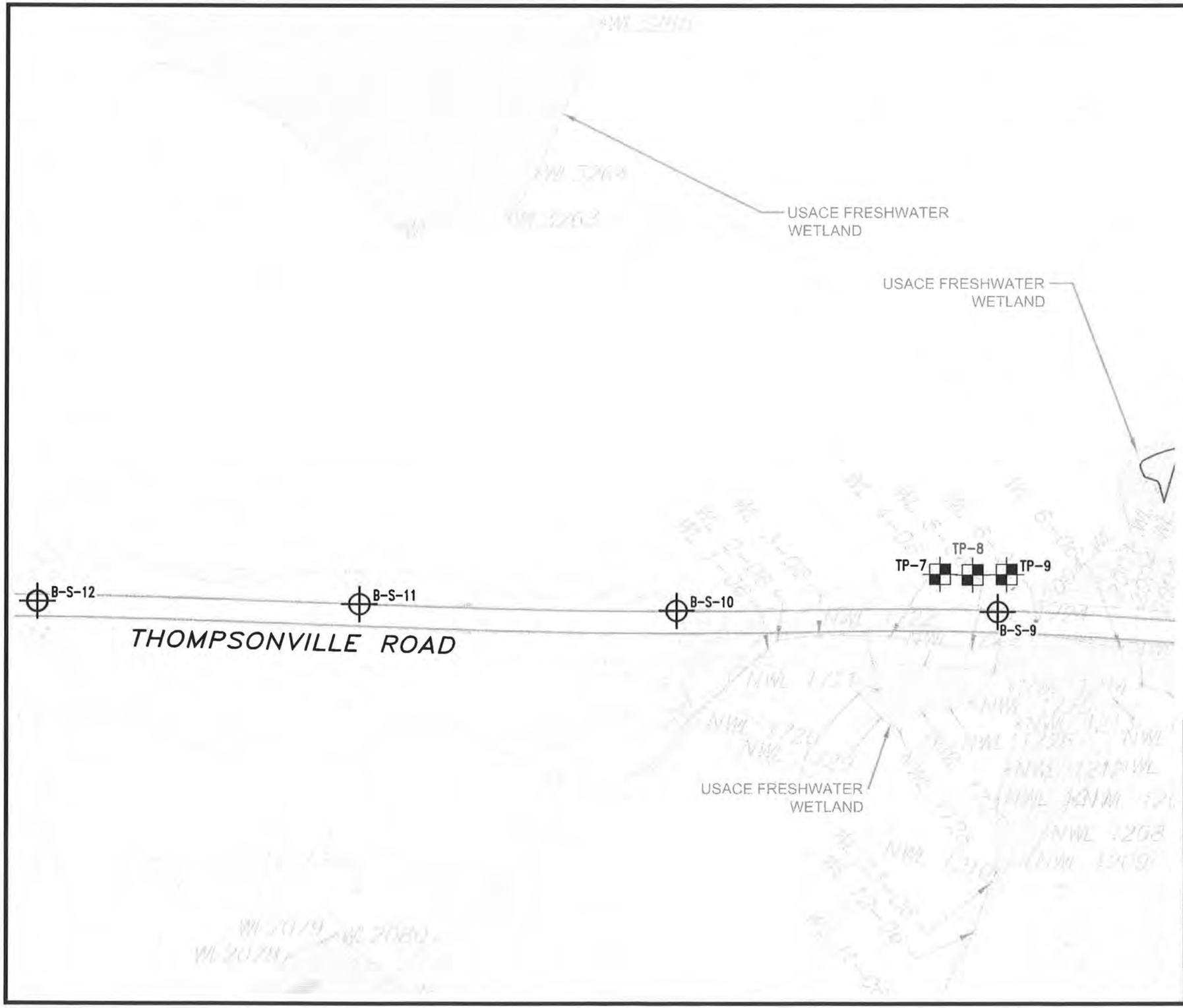

KEY:

TP-1 NUMBER AND APPROXIMATE LOCATION OF TEST PITS PERFORMED FOR THIS STUDY

B-S-9 NUMBER AND APPROXIMATE LOCATION OF BORINGS PREVIOUSLY PERFORMED BY MTA

NOTES:

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2. General layout was obtained from a drawing prepared by AKRF Eng., entitled "Geotechnical Soil Investigation Plan-Map 2" dated 10-8-12, scale 1"=40'.

PLOT PLAN

PROPOSED ROADWAY
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KEY:

TP-1 NUMBER AND APPROXIMATE LOCATION OF TEST PITS PERFORMED FOR THIS STUDY

B-103 NUMBER AND APPROXIMATE LOCATION OF BORINGS PERFORMED FOR THIS STUDY

B-S-8 NUMBER AND APPROXIMATE LOCATION OF BORINGS PREVIOUSLY PERFORMED BY MTA

NOTES:

1. This drawing is part of Melick-Tully and Associates, P.C. Report No. 8979-004*1D and should be read together with the report for complete evaluation.
2. General layout was obtained from a drawing prepared by AKRF Eng., entitled "Geotechnical Soil Investigation Plan-Map 3" dated 10-8-12, scale 1"=40'.

PLOT PLAN

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KEY:

TP-18 NUMBER AND APPROXIMATE LOCATION OF TEST PITS PERFORMED FOR THIS STUDY

B-102 NUMBER AND APPROXIMATE LOCATION OF BORING PERFORMED FOR THIS STUDY

NOTES:

1. This drawing is part of Melick-Tully and Associates, P.C. Report No. 8979-004*1D and should be read together with the report for complete evaluation.

2. General layout was obtained from a drawing prepared by AKRF Eng., entitled "Geotechnical Soil Investigation Plan-Map 4" dated 10-8-12, scale 1"=40'.

PLOT PLAN

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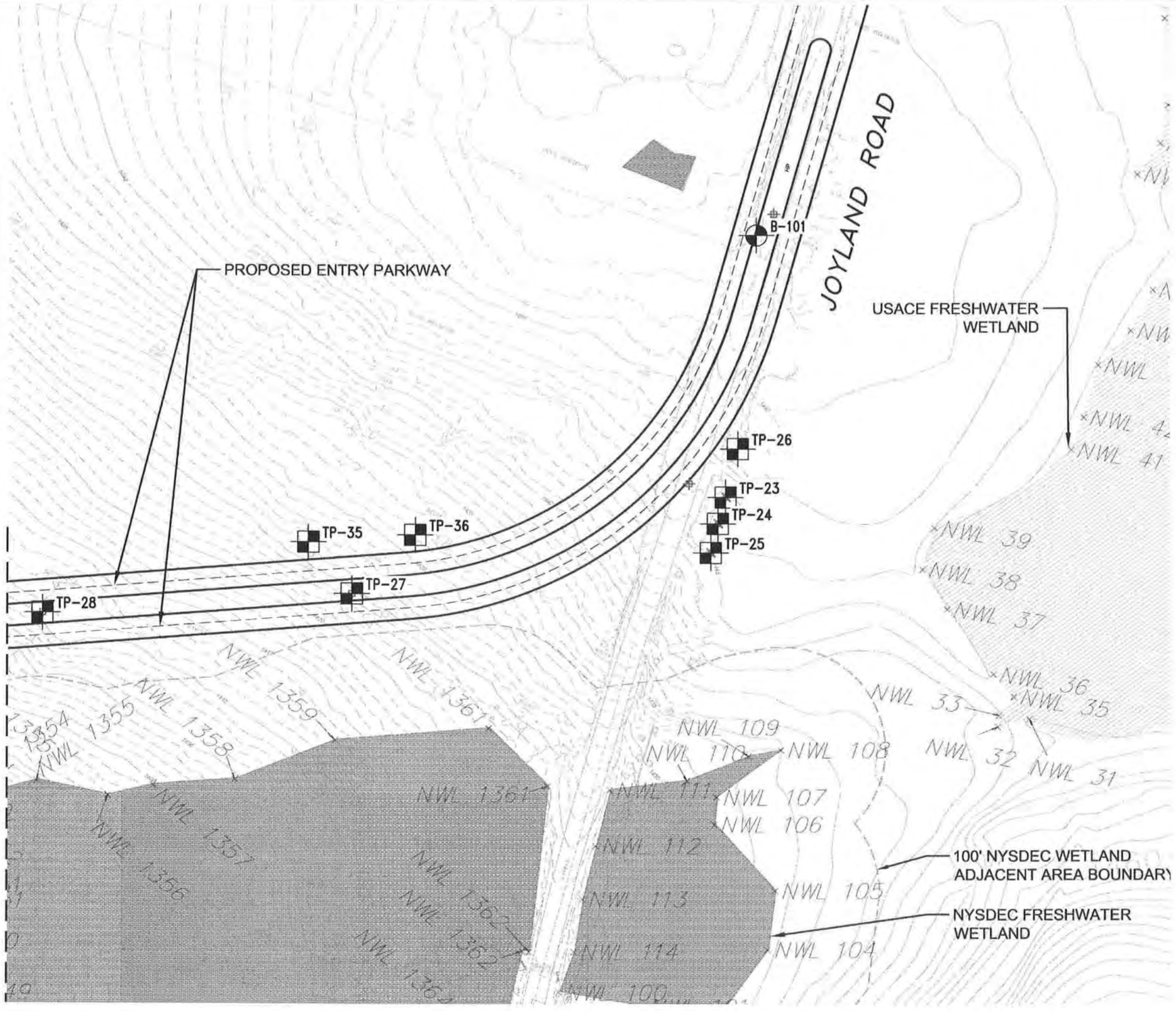

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NOTES:

1. This drawing is part of Melick-Tully and Associates, P.C. Report No. 8979-004*1D and should be read together with the report for complete evaluation.
2. General layout was obtained from a drawing prepared by AKRF Eng., entitled "Geotechnical Soil Investigation Plan-Map 5" dated 10-8-12, scale 1"=40'.

PLOT PLAN

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JOB NO.	FILE NO.			
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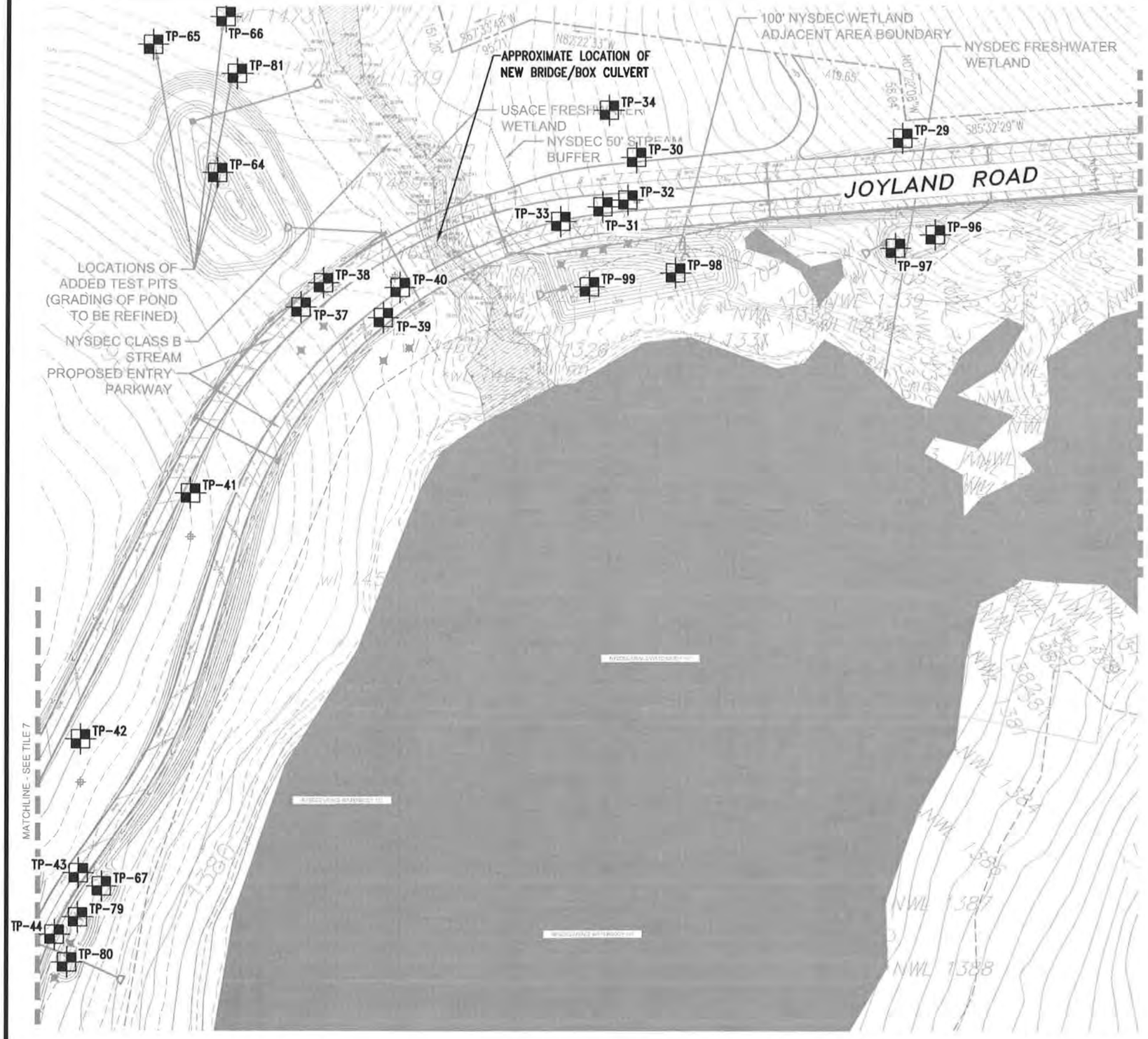

KEY:

TP-29 NUMBER AND APPROXIMATE LOCATION OF TEST PITS PERFORMED FOR THIS STUDY

NOTES:

1. This drawing is part of Melick-Tully and Associates, P.C. Report No. 8979-004*1D and should be read together with the report for complete evaluation.

2. General layout was obtained from a drawing prepared by AKRF Eng., entitled "Geotechnical Soil Investigation Plan-Map 6" dated 10-8-12 (revised 12-19-12), scale 1"=40'.

PLOT PLAN

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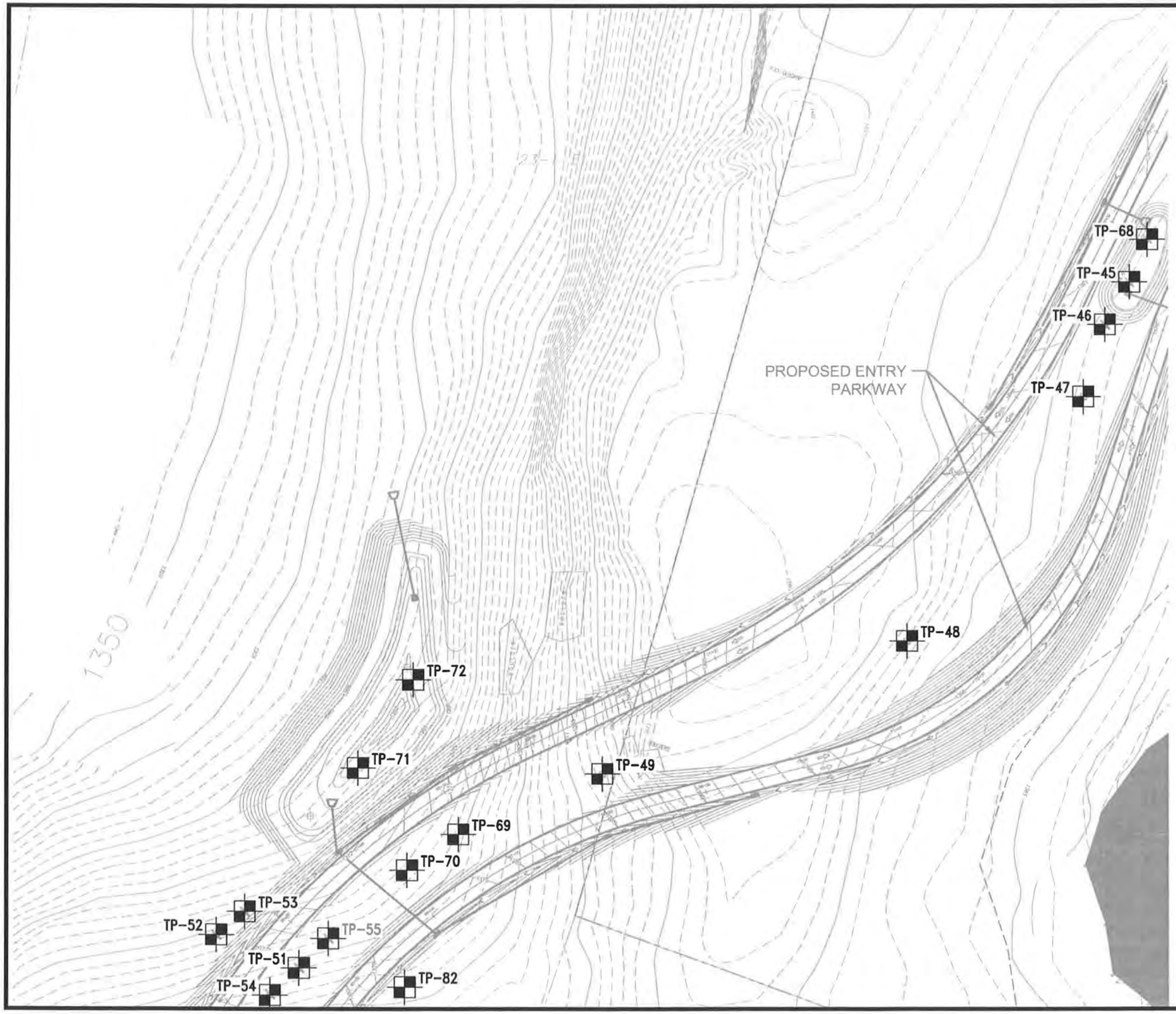

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TP-45 NUMBER AND APPROXIMATE LOCATION OF TEST PITS PERFORMED FOR THIS STUDY

NOTES:

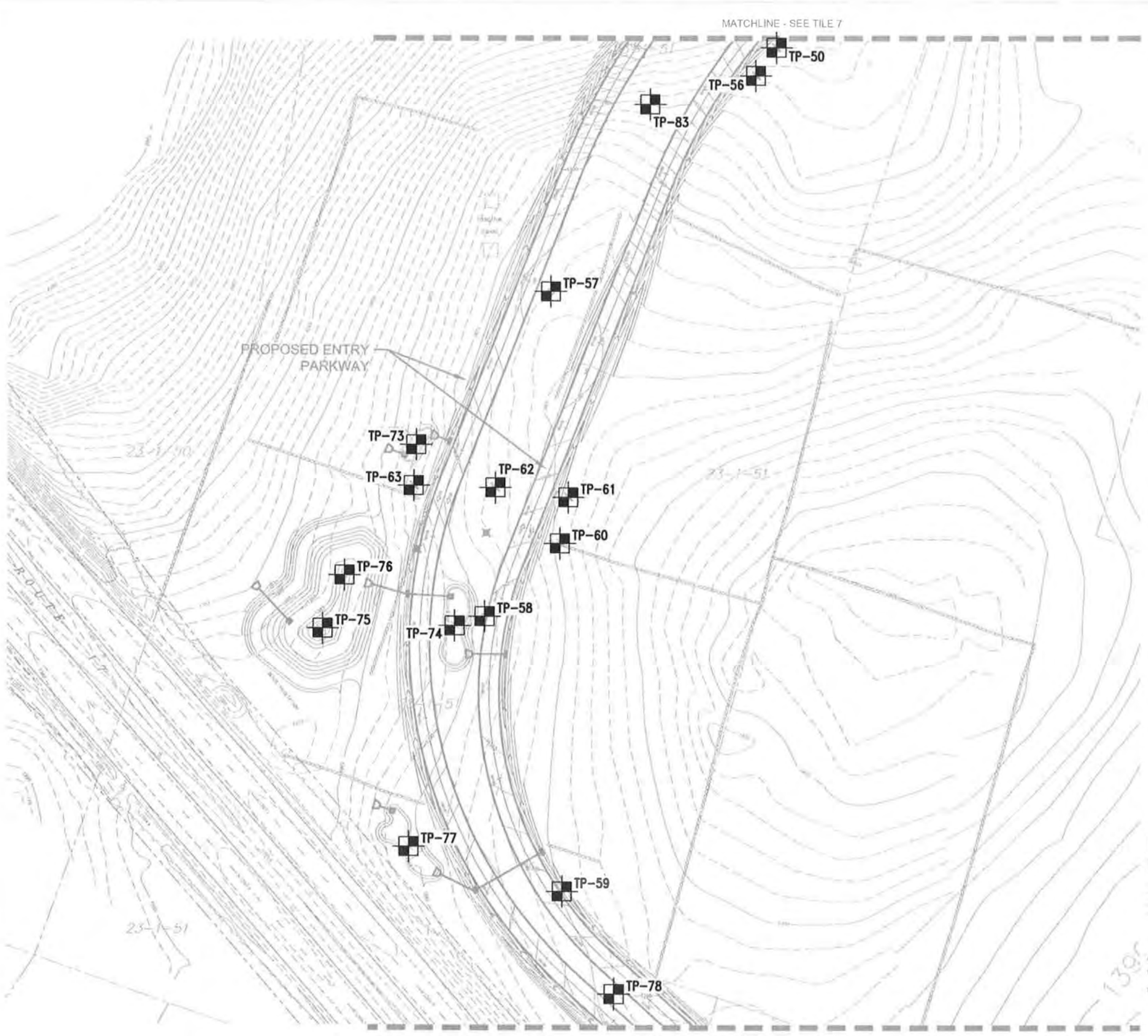
1. This drawing is part of Melick-Tully and Associates, P.C. Report No. 8979-004*1D and should be read together with the report for complete evaluation.
2. General layout was obtained from a drawing prepared by AKRF Eng., entitled "Geotechnical Soil Investigation Plan-Map 7" dated 10-8-12 (revised 12-19-12), scale 1"=40'.

PLOT PLAN

PROPOSED ROADWAY
THOMPSON, NEW YORK
CONCORD RESORTS DEVELOPMENT

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers
& Environmental Consultants
117 Canal Road
South Bound Brook, New Jersey 08880
(732) 356-3400

JOB NO.	FILE NO.			
8979-004*1D	25558			
DR. BY	CHK. BY	DATE	SCALE	PLATE
VJD	JHB	12-18-12	1"=100'	2-7



KEY:

TP-50 NUMBER AND APPROXIMATE LOCATION OF TEST PITS PERFORMED FOR THIS STUDY

NOTES:

1. This drawing is part of Melick-Tully and Associates, P.C. Report No. 8979-004*1D and should be read together with the report for complete evaluation.

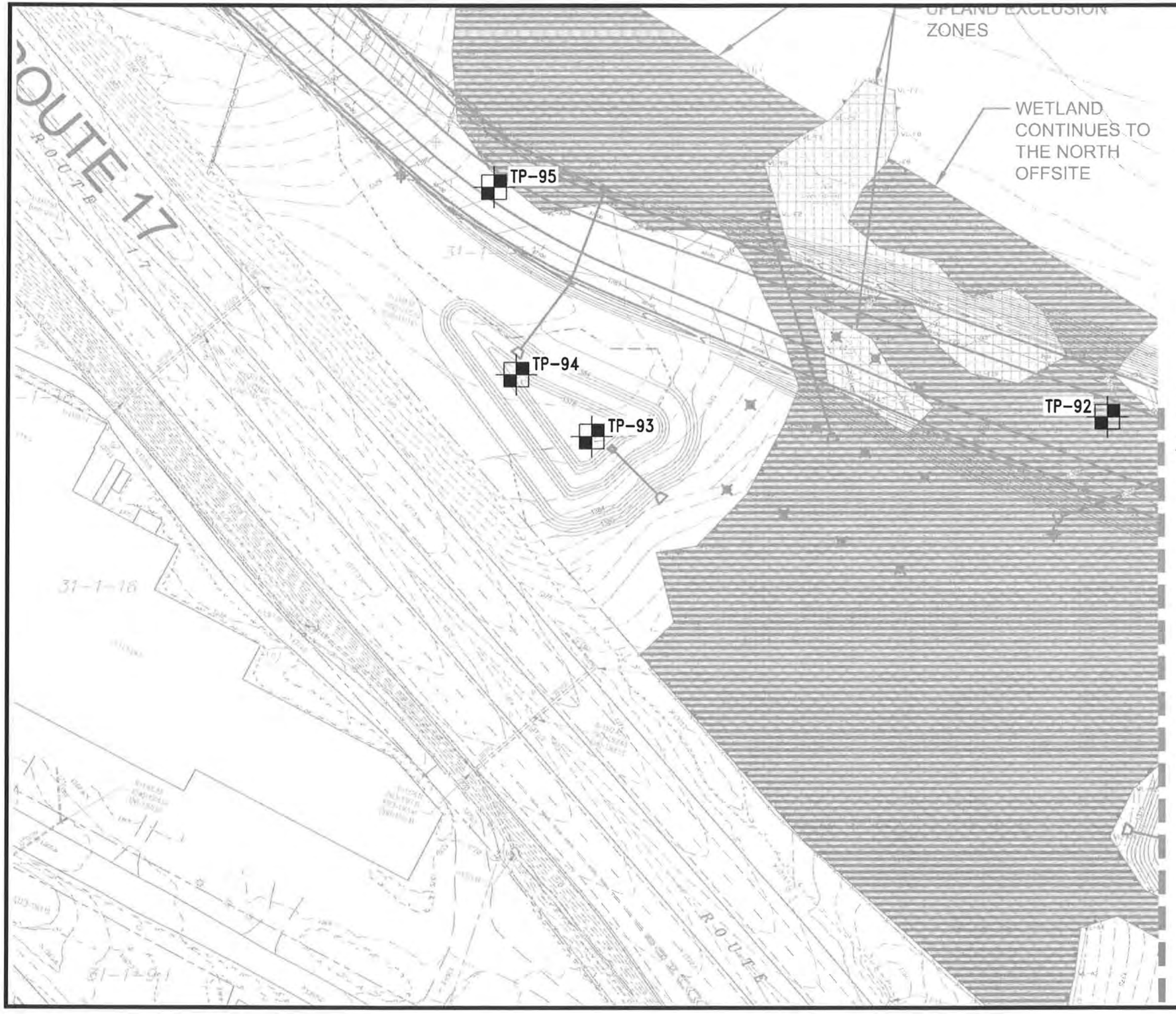
2. General layout was obtained from a drawing prepared by AKRF Eng., entitled "Geotechnical Soil Investigation Plan-Map 8" dated 10-8-12, scale 1"=40'.

PLOT PLAN

PROPOSED ROADWAY
THOMPSON, NEW YORK
CONCORD RESORTS DEVELOPMENT

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers
& Environmental Consultants
117 Canal Road
South Bound Brook, New Jersey 08880
(732) 356-3400

JOB NO.	FILE NO.			
8979-004*1D	25558			
DR. BY	CHK. BY	DATE	SCALE	PLATE
VJD	JHB	12-18-12	1"=120'	2-8



KEY:

TP-92 NUMBER AND APPROXIMATE LOCATION OF TEST PITS PERFORMED FOR THIS STUDY

NOTES:

1. This drawing is part of Melick-Tully and Associates, P.C. Report No. 8979-004*1D and should be read together with the report for complete evaluation.

2. General layout was obtained from a drawing prepared by AKRF Eng., entitled "Geotechnical Soil Investigation Plan-Map 8" dated 10-8-12 (revised 12-19-12), scale 1"=40'.

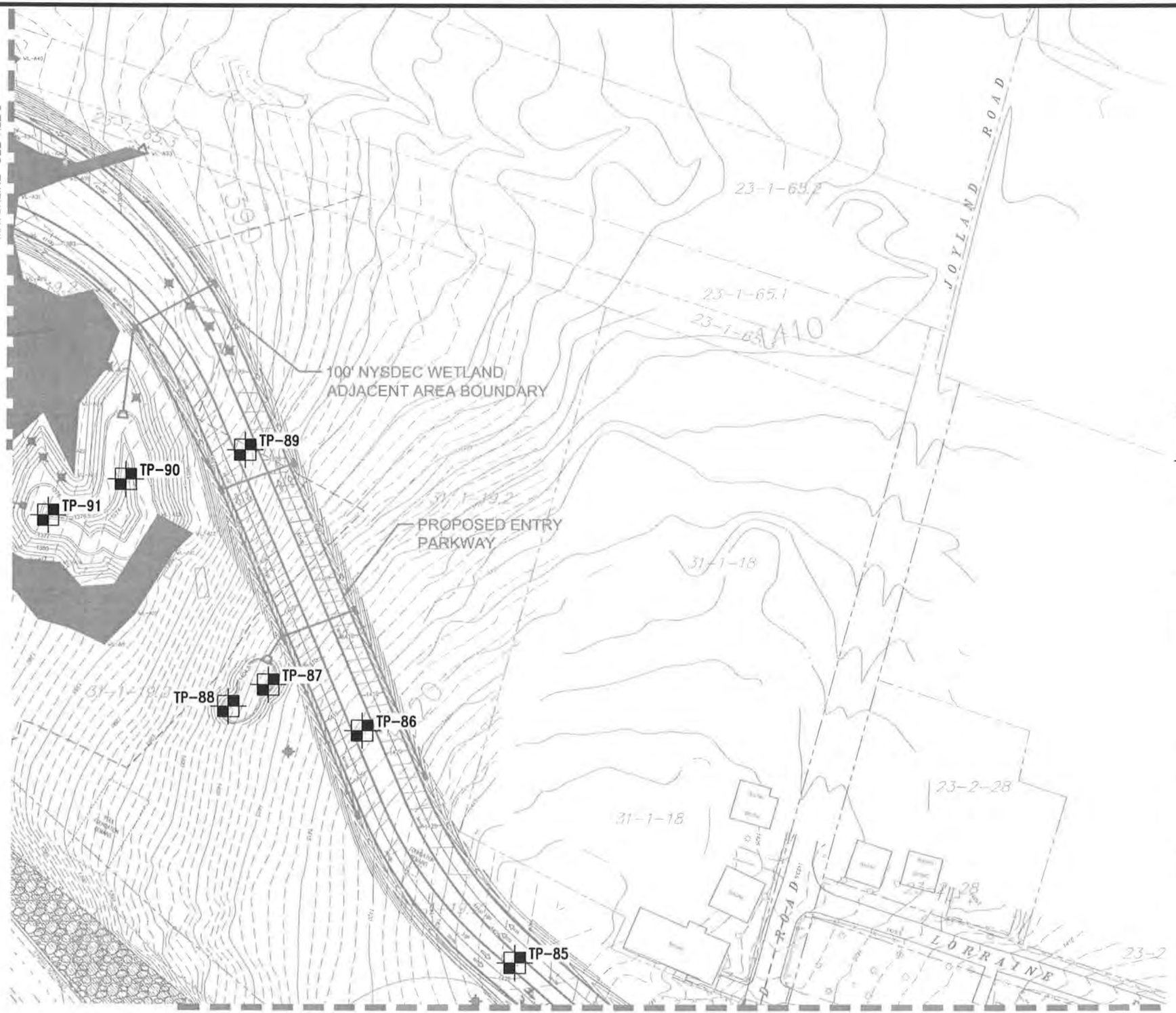
PLOT PLAN

PROPOSED ROADWAY
THOMPSON, NEW YORK
CONCORD RESORTS DEVELOPMENT

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers
& Environmental Consultants
117 Canal Road
South Bound Brook, New Jersey 08880
(732) 356-3400

JOB NO.	FILE NO.			
8979-004*1D	25558			
DR. BY	CHK. BY	DATE	SCALE	PLATE
VJD	JHB	2-25-13	1"=100'	2-9

MATCHLINE - SEE TILE 9



MATCHLINE - SEE TILE 11

KEY:

TP-85 NUMBER AND APPROXIMATE LOCATION OF TEST PITS PERFORMED FOR THIS STUDY

NOTES:

1. This drawing is part of Melick-Tully and Associates, P.C. Report No. 8979-004*1D and should be read together with the report for complete evaluation.

2. General layout was obtained from a drawing prepared by AKRF Eng., entitled "Geotechnical Soil Investigation Plan-Map 10" dated 10-8-12 (revised 12-19-12), scale 1"=40'.

PLOT PLAN

PROPOSED ROADWAY
THOMPSON, NEW YORK
CONCORD RESORTS DEVELOPMENT

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& Environmental Consultants
117 Canal Road
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(732) 356-3400

JOB NO.	FILE NO.
8979-004*1D	25558

DR. BY	CHK. BY	DATE	SCALE	PLATE
VJD	JHB	2-25-13	1"=100'	2-10

KEY:

TP-84 NUMBER AND APPROXIMATE LOCATION OF TEST PITS PERFORMED FOR THIS STUDY

NOTES:

1. This drawing is part of Melick-Tully and Associates, P.C. Report No. 8979-004*1D and should be read together with the report for complete evaluation.

2. General layout was obtained from a drawing prepared by AKRF Eng., entitled "Geotechnical Soil Investigation Plan-Map 11" dated 10-8-12 (revised 12-19-12), scale 1"=40'.

PLOT PLAN

PROPOSED ROADWAY
THOMPSON, NEW YORK
CONCORD RESORTS DEVELOPMENT

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers
& Environmental Consultants
117 Canal Road
South Bound Brook, New Jersey 08880
(732) 356-3400

JOB NO.	FILE NO.			
8979-004*1D	25558			
DR. BY	CHK. BY	DATE	SCALE	PLATE
VJD	JHB	2-25-13	1"=100'	2-11

LOG OF TEST PIT

TEST PIT NO: 1

COMPLETION DATE: 10/10/12
JOB NUMBER: 8979-004*1D

SURFACE ELEVATION: +1,366 ft (±)

WATER LEVEL: *
READING DATE: 10/10/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				4" Topsoil	
	S1 S2	21.4	ML	Red-brown silt, some fine to coarse sand, trace fine gravel (moist)(stiff)	
5	S3		SM	Red-brown fine to coarse sand, and silt, little fine to coarse gravel (moist)(dense)	5
10				Test pit completed @ 10' Mottling observed @ 2'-6" *Groundwater not encountered Infiltration test performed @ 2' Measured Infiltration Rate = 2-1/4 in/h	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-1

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 2

COMPLETION DATE: 10/10/12 SURFACE ELEVATION: +1,368 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 10/10/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				4" Topsoil	
	S1		SM	Red-brown fine to coarse sand, and silt, little fine gravel (moist)(medium dense to dense)	
5	S2	18.9			5
	S3		SM	Red-brown fine to coarse sand, little silt, some fine to coarse gravel, occasional cobbles (moist)(dense)	
10				Test pit completed @ 9' Mottling observed @ 4'-6" *Groundwater not encountered Infiltration test performed @ 4' Measured Infiltration Rate = 14 in/hr	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-2

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 3

COMPLETION DATE: 10/10/12 SURFACE ELEVATION: +1,364 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 10/10/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1	25.3	SM	Red-brown fine to coarse sand, and silt, little fine gravel (moist)(medium dense)	
5	S2		SM	Brown fine to coarse sand, some silt, little to some fine to coarse gravel, occasional cobbles (moist)(dense to very dense)	5
10				Test pit completed @ 8' Mottling observed @ 3' *Groundwater not encountered Infiltration test performed @ 1' Measured Infiltration Rate = 2-1/4 in/h	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-3

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 4

COMPLETION DATE: 10/10/12 SURFACE ELEVATION: +1,366 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 10/10/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				8" Topsoil	
	S1	19.2	SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(medium dense)	
5	S2		SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel, occasional cobbles (moist)(dense)	5
10				Test pit completed @ 10' Mottling observed @ 1' *Groundwater not encountered Infiltration test initiated @ 2'-6" Presoak did not drain	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-4

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 5

COMPLETION DATE: 10/10/12 SURFACE ELEVATION: +1,350 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 10/10/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				12" Topsoil	
	S1	19.1	ML	Gray silt, and fine to medium sand (moist)(stiff)	
	S2		SM	Red-brown fine to coarse sand, and clayey silt, some fine to coarse gravel (moist)(medium dense to dense)	
5					5
	S3			- backhoe refusal encountered @ 8' atop boulder	
10				Test pit completed @ 8' Mottling observed @ 1' *Moderate to heavy groundwater seepage from 6'-6" to 8' Infiltration test initiated @ 2' Presoak did not drain	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-5

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 6

COMPLETION DATE: 10/10/12 SURFACE ELEVATION: +1,350 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 10/10/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				8" Topsoil	
	S1		SM	Red-brown fine to coarse sand, and silt, little fine to coarse gravel (moist)(dense)	
5	S2		SM	Red-brown fine to medium sand, and clayey silt, occasional cobbles (moist to wet)(dense) - backhoe refusal encountered @ 9' atop boulder	5
10				Test pit completed @ 9' Mottling observed @ 1' *Groundwater seepage encountered from 1' to 4' Infiltration test initiated @ 2' Presoak did not drain	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-6

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 7

COMPLETION DATE: 10/11/12 SURFACE ELEVATION: +1,350 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 10/11/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				2" Topsoil	
	S1			FILL - Brown fine to coarse sand, intermixed with roots and topsoil	
	S2	7.7	SM	Red-brown fine to coarse sand, some silt, and fine to coarse gravel, occasional cobbles (moist)(medium dense to dense)	
5					5
10				Test pit completed @ 9' *Rapid groundwater seepage @ 2' Infiltration test not attempted due to shallow groundwater seepage	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-7

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 8

COMPLETION DATE: 10/11/12 SURFACE ELEVATION: +1,349 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 10/11/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				2" Topsoil	
	S1			FILL - Gray-brown fine to medium sand, trace silt	
				FILL - Brown silty sand, with roots (original topsoil)	
				Red-brown fine to coarse sand, some to and silt, little fine gravel, occasional cobbles (moist)(dense to very dense)	
5	S2	9.2	SM		5
10				Test pit completed @ 9'-6" *Rapid groundwater seepage encountered @ 2' Infiltration test not attempted due to shallow groundwater seepage	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-8

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 9

COMPLETION DATE: 10/11/12 SURFACE ELEVATION: +1,348 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 10/11/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				2" Topsoil	
	S1			FILL - Light brown fine to medium sand, trace silt	
				FILL - Brown silty sand, with roots (original topsoil)	
				Red-brown fine to coarse sand, and silt, little fine gravel, occasional cobbles (moist)(very dense)	
5			SM		5
	S2	8.7			
10				Test pit completed @ 9' *Rapid groundwater seepage encountered @ 2' atop original topsoil layer Infiltration test not attempted due to shallow groundwater seepage	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-9

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 10

COMPLETION DATE: 10/11/12 SURFACE ELEVATION: +1,350 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 10/11/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				14" Topsoil	
	S1	5.3	SM	Gray fine to coarse sand, some silt, some fine to coarse gravel (moist)(very dense)	
5				Fractured sandstone bedrock	5
				- backhoe refusal encountered @ 8'-6" atop sandstone bedrock	
10				Test pit completed @ 8'-6" Mottling observed @ 4' *Groundwater not encountered Infiltration test performed @ 3'-6" Measured Infiltration Rate = 2-1/2 in/h	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-10

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LOG OF TEST PIT

TEST PIT NO: 11

COMPLETION DATE: 10/14/12 SURFACE ELEVATION: +1,350 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 10/15/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1		SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel (moist)(dense to very dense)	
	S2				
5					5
10				Test pit completed @ 8'-6" Mottling observed @ 4' *Groundwater not encountered Infiltration test performed @ 3'-3" Measured Infiltration Rate = 14 in/hr	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-11

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LOG OF TEST PIT

TEST PIT NO: 12

COMPLETION DATE: 10/11/12 SURFACE ELEVATION: +1,348.5 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 10/11/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				2" Topsoil	
	S1		SM	Red-brown fine to medium sand, little silt, trace fine gravel (moist)(medium dense)	
				Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobles (moist)(dense to very dense)	
	S2				
5			SM		5
	S3				
10				Test pit completed @ 9'	10
				Mottling observed @ 2'-6"	
				*Slight perched groundwater seepage encountered @ 3'	
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-12

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LOG OF TEST PIT

TEST PIT NO: 13

COMPLETION DATE: 10/11/12 SURFACE ELEVATION: +1,348.5 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 10/11/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				2" Topsoil	
	S1		SM	Brown fine to medium sand, little silt, trace fine gravel (moist)(medium dense)	
5			SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(dense)	5
	S2			- backhoe refusal encountered @ 7' atop sandstone bedrock	
10				Test pit completed @ 7' Mottling observed @ 3'-6" *Slight groundwater seepage encountered @ 6'-6" Infiltration test performed @ 3' Measured Infiltration Rate = 4-1/4 in/h	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-13

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 14

COMPLETION DATE: 10/11/12 | SURFACE ELEVATION: +1,348 ft (±) | WATER LEVEL: *

JOB NUMBER: 8979-004*1D | READING DATE: 10/11/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				2" Topsoil	
	S1		SM	Red-brown fine to medium sand, little silt, trace fine gravel (moist)(medium dense)	
			SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(dense)	
5				- backhoe refusal encountered @ 6'-6" atop sandstone bedrock	5
				Test pit completed @ 6'-6"	
				Mottling observed @ 3'	
				*Groundwater not encountered	
				Infiltration test performed @ 2'	
				Measured Infiltration Rate = 12 in/hr	
10					10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-14

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 15

COMPLETION DATE: 10/12/12 SURFACE ELEVATION: +1,441 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 10/12/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				4" Topsoil	
			ML	Red-brown silt, some fine to coarse sand, trace fine gravel (moist)(stiff)	
	S1		SM	Red-brown fine to coarse sand, little silt, some fine to coarse gravel (moist)(medium dense)	
				Fractured sandstone bedrock	
5					5
	S2			- backhoe refusal encountered @ 9' atop sandstone bedrock	
10				Test pit completed @ 9' *Groundwater not encountered Infiltration test performed @ 2'-6" Observed Infiltration Rate = 17.5 in/hr **Percolation test performed @ 5'-6" Percolation Rate = 28 min/inch **Percolation test run as approved by AKRF because infiltration sleeve could not be seated in fractured rock	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-15

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 16

COMPLETION DATE: 10/12/12 SURFACE ELEVATION: +1,441.5 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 10/12/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1		SM	Red-brown fine to coarse sand, some silt, trace fine to coarse gravel (moist)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, little silt, some to and fine to coarse gravel (moist)(very dense)	
5					5
				- backhoe refusal encountered @ 9' atop sandstone bedrock	
10				Test pit completed @ 9'	10
				*Groundwater not encountered	
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-16

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 17

COMPLETION DATE: 10/12/12 SURFACE ELEVATION: +1,443 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 10/12/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				3" Topsoil	
	S1	7.7	SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(dense to very dense)	
5	S2				5
10				Test pit completed @ 9' Mottling observed @ 4' *Groundwater not encountered Infiltration test performed @ 2' Measured infiltration rate = 10-1/2 in/hr Infiltration test initiated @ 5'-6" Presoak did not drain	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-17

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 18

COMPLETION DATE: 10/12/12 SURFACE ELEVATION: +1,445 ft (±) WATER LEVEL: 2'

JOB NUMBER: 8979-004*1D READING DATE: 10/12/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				4" Topsoil	
	S1		ML	Red-brown clayey silt, and fine to coarse sand, little fine gravel (moist)(stiff)	
	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(very dense)	
5				- grading with cobbles @ 7'-6"	5
10				Test pit completed @ 9' Slight groundwater seepage encountered @ 2'	10
15					15

NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-18

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 19

COMPLETION DATE: 10/12/12 SURFACE ELEVATION: +1,444 ft (±) WATER LEVEL: 2'

JOB NUMBER: 8979-004*1D READING DATE: 10/12/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				4" Topsoil	
	S1		ML	Red-brown clayey silt, little fine to coarse sand, trace fine to coarse gravel (moist)(stiff)	
				Red-brown fine to coarse sand, some fine to coarse gravel (moist)(very dense)	
	S2				
5			SM		5
	S3				
10				Test pit completed @ 10'	10
				Moderate groundwater seepage encountered @ 2'	
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-19

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 20

COMPLETION DATE:
JOB NUMBER: 8979-004*1D

SURFACE ELEVATION: +1,443.5 ft (±)

WATER LEVEL:
READING DATE:

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
5				Test pit eliminated by AKRF due to standing water	5
10					10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-20

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 21

COMPLETION DATE: 10/14/12 SURFACE ELEVATION: +1,444 ft (±) WATER LEVEL: 2'

JOB NUMBER: 8979-004*1D READING DATE: 10/14/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				3" Topsoil	
	S1		SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel (moist)(dense)	
5	S2		SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel, occasional cobbles (wet)(very dense)	5
	S3				
10				Test pit completed @ 9' Mottling observed @ 1'-6" Moderate groundwater seepage encountered @ 2'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-21

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 22

COMPLETION DATE: 10/14/12 SURFACE ELEVATION: +1,445 ft (±) WATER LEVEL: 2.5'

JOB NUMBER: 8979-004*1D READING DATE: 10/14/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				3" Topsoil	
	S1		SM	Red-brown fine to medium sand, some silt (moist)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel, occasional cobbles (wet)(dense)	
5					5
	S3		SM	Red-brown fine to medium sand, some clayey silt, some fine to coarse gravel (wet)(medium dense)	
10				Test pit completed @ 9' Slight groundwaer seepage encountered @ 2'-6" Rapid groundwater seepage encountered @ 8'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-22

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 23

COMPLETION DATE: 10/14/12 | SURFACE ELEVATION: +1,447 ft (±) | WATER LEVEL: 2.5'

JOB NUMBER: 8979-004*1D | READING DATE: 10/14/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				FILL - Red-brown fine to medium sand, and silt	
	S1		SM	Red-brown fine to medium sand, some silt, little fine to coarse gravel (moist)(medium dense)	
5			SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist to wet)(dense)	5
10				Test pit completed @ 9' Moderate groundwaer seepage encountered @ 2'-6"	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-23

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 24

COMPLETION DATE: 10/14/12 SURFACE ELEVATION: +1,446 ft (±) WATER LEVEL: 2.5'

JOB NUMBER: 8979-004*1D READING DATE: 10/14/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				3" Topsoil	
	S1		SM	Red-brown fine to medium sand, and silt, some fine to coarse gravel (moist)(medium dense)	
5			SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist to wet)(dense)	5
10				Test pit completed @ 9' Mottling observed @ 2' Moderate groundwater seepage encountered @ 4'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-24

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 25

COMPLETION DATE: 10/14/12 SURFACE ELEVATION: +1,445 ft (±) WATER LEVEL: 3'

JOB NUMBER: 8979-004*1D READING DATE: 10/14/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				9" Topsoil	
	S1		SM	Red-brown fine to medium sand, and silt, little fine to coarse gravel (moist)(medium dense)	
5	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist)(dense)	5
10				Test pit completed @ 9' Mottling observed @ 1'-6" Slight groundwater seepage encountered @ 3'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-25

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 26

COMPLETION DATE: 10/15/12 SURFACE ELEVATION: +1,447 ft (±) WATER LEVEL: 5'

JOB NUMBER: 8979-004*1D READING DATE: 10/15/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1			10" Topsoil	
	S2		SM	Red-brown fine to coarse sand, some to and silt, little fine to coarse gravel, occasional cobbles and boulders (moist)(medium dense)	
	S3				
5					5
			SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, numerous cobbles (moist)(very dense)	
	S4				
10				Test pit completed @ 9' Mottling observed @ 1'-6" Slight groundwater seepage encountered @ 5'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-26

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 27

COMPLETION DATE: 10/16/12 SURFACE ELEVATION: +1,425 ft (±) WATER LEVEL: 5'-6"

JOB NUMBER: 8979-004*1D READING DATE: 10/16/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				4" Topsoil	
	S1		SM	Red-brown fine to medium sand, and silt, little fine to coarse gravel (moist)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(medium dense to dense)	
5	S3				5
			SM	Red-brown fine to coarse sand, some silt, and fine to coarse gravel, frequent cobbles and boulders (moist to wet)(very dense)	
10				Test pit completed @ 10' Mottling observed @ 3' Slight groundwater seepage encountered @ 5'-6"	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-27

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 28

COMPLETION DATE: 10/16/12 SURFACE ELEVATION: +1,410 ft (±) WATER LEVEL: 1'-6"

JOB NUMBER: 8979-004*1D READING DATE: 10/16/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				12" Topsoil	
	S1		SM	Red-brown fine to medium sand, some silt, some fine to coarse gravel (moist to wet)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, frequent cobbles (moist)(dense)	
5					5
10				Test pit completed @ 10' Slight groundwater seepage encountered @ 1'-6"	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-28

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 29

COMPLETION DATE: 10/16/12 SURFACE ELEVATION: +1,392.5 ft (±) WATER LEVEL: 2'-0"

JOB NUMBER: 8979-004*1D READING DATE: 10/16/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1			3" Topsoil	
	S2		SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel, occasional cobbles (moist)(medium dense)	
5	S3				5
	S4		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist to wet)(dense)	
	S5		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel (wet)(dense)	
10				Test pit completed @ 10' Slight groundwater seepage encountered @ 2'-0"	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-29

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 30

COMPLETION DATE: 10/16/12 SURFACE ELEVATION: +1,382 ft (±) WATER LEVEL: 2'-0"

JOB NUMBER: 8979-004*1D READING DATE: 10/16/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1			Red-brown fine to medium sand, some to and silt, trace fine to coarse gravel, occasional cobbles and boulders (moist)(medium dense)	
			SM		
5					5
			SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles and boulders (wet)(dense)	
10				Test pit completed @ 10' Mottling observed @ 1'-6" Slight groundwater seepage encountered @ 2'-6'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-30

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 31

COMPLETION DATE: 10/17/12 | SURFACE ELEVATION: +1,380.5 ft (±) | WATER LEVEL: 7'-0"

JOB NUMBER: 8979-004*1D | READING DATE: 10/17/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1			FILL - Intermixed silty sand, and topsoil	
	S2				
				Red-brown fine to medium sand, little to some silt, little fine gravel (moist)(medium dense)	
	S3				
	S4				
5			SM		5
				- grading with occasional cobbles @ 6'-6"	
	S5				
10					10
				Test pit completed @ 10'	
				Mottling observed @ 1'-6"	
				Rapid groundwater seepage encountered @ 7'-0'	
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-31

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 32

COMPLETION DATE: 10/17/12 SURFACE ELEVATION: +1,381 ft (±) WATER LEVEL: 5'-6"

JOB NUMBER: 8979-004*1D READING DATE: 10/17/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1			Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles and boulders (moist to wet)(medium dense to dense)	
5			SM		5
	S2				
10				Test pit completed @ 10' Mottling observed @ 1'-8" Moderate groundwater seepage encountered @ 5'-6"	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-32

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 33

COMPLETION DATE: 10/17/12 SURFACE ELEVATION: +1,380 ft (±) WATER LEVEL: 5'-6"

JOB NUMBER: 8979-004*1D READING DATE: 10/17/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1			Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles and boulders (wet)(dense)	
	S2				
5			SM		5
10				Test pit completed @ 10'	10
				Mottling observed @ 1'-6"	
				Slight groundwater seepage encountered @ 5'-6"	
15					15

NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-33

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 34

COMPLETION DATE: 10/17/12 SURFACE ELEVATION: +1,382 ft (±) WATER LEVEL: 3'-6"

JOB NUMBER: 8979-004*1D READING DATE: 10/17/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1		ML	Red-brown clayey silt, some fine to medium sand (moist)(stiff)	
	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles and boulders (moist to wet)(medium dense to dense)	
5	S3				5
10				Test pit completed @ 10' Slight groundwater seepage encountered @ 3'-6"	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-34

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 35

COMPLETION DATE: 10/17/12 SURFACE ELEVATION: +1,426 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 10/17/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				3" Topsoil	
	S1		SM	Red-brown fine to medium sand, some to and silt, little fine to coarse gravel (moist)(medium dense)	
	S2	11.0	SM	Red-brown fine to coarse sand, some silt, little fine to coarse gravel, occasional cobbles and boulders (moist)(medium dense)	
5					5
10				Test pit completed @ 10' Mottling encountered @ 3'-6" *Groundwater not encountered Two infiltration tests performed @ 2'-6" Measured infiltration rates = 8 in/hr and 14 in/hr	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-35

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 36

COMPLETION DATE: 10/17/12 | SURFACE ELEVATION: +1,431 ft (±) | WATER LEVEL: 8'

JOB NUMBER: 8979-004*1D | READING DATE: 10/17/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1		SM	Red-brown fine to medium sand, some silt, trace fine gravel (moist)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, little to some silt, little fine to coarse gravel (moist)(medium dense)	
5	S3				5
10				Test pit completed @ 9'-6" Mottling encountered @ 2'-6" Moderate groundwater seepage encountered @ 8'-0" Infiltration test initiated @ 5' Presoak did not drain	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-36

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 37

COMPLETION DATE: 10/17/12 SURFACE ELEVATION: +1,382 ft (±) WATER LEVEL: 2'

JOB NUMBER: 8979-004*1D READING DATE: 10/17/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1		SM	Red-brown fine to medium sand, and silt, little fine to coarse gravel (moist)(medium dense)	
5	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles and boulders (moist to wet)(dense)	5
	S3				
10				Test pit completed @ 10' Moderate groundwater seepage encountered @ 2' Infiltration test initiated @ 6' Presoak did not drain	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-37

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 38

COMPLETION DATE: 10/18/12 SURFACE ELEVATION: +1,380 ft (±) WATER LEVEL: 6'-0"

JOB NUMBER: 8979-004*1D READING DATE: 10/18/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				11" Topsoil	
	S1			Red-brown fine to medium sand, some silt, some fine to coarse gravel (moist)(medium dense)	
	S2		SM		
5					5
			SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist)(dense)	
10				Test pit completed @ 10' Mottling observed @ 1'-6" Slight groundwater seepage encountered @ 6'-0"	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-38

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 39

COMPLETION DATE: 10/18/12 SURFACE ELEVATION: +1,379 ft (±) WATER LEVEL: 1'-6"

JOB NUMBER: 8979-004*1D READING DATE: 10/18/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1			8" Topsoil	
				Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(medium dense to dense)	
	S2				
5			SM		5
10				Test pit completed @ 10'	10
				Slight groundwater seepage encountered @ 1'-6"	
15					15

NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-39

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 40

COMPLETION DATE: 10/18/12 SURFACE ELEVATION: 1,377 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 10/18/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				3" Topsoil	
	S1		SM	Red-brown fine to medium sand, some silt, trace fine gravel (moist)(medium dense)	
	S2			Gray-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist)(medium dense to dense)	
5			SM		5
	S3				
10				Test pit completed @ 10'	10
				Mottling observed @ 2'-6"	
				*Groundwater not encountered	
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-40

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 41

COMPLETION DATE: 10/18/12 SURFACE ELEVATION: +1,389 ft (±) WATER LEVEL: 5'

JOB NUMBER: 8979-004*1D READING DATE: 10/18/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				8" Topsoil	
	S1		ML	Red-brown silt, and fine to coarse sand, trace fine to coarse gravel (moist)(stiff)	
	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist)(dense)	
5					5
10				Test pit completed @ 10' Mottling observed @ 2'-6" Moderate groundwater seepage encountered @ 5'-0"	10
15					15

NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-41

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 42

COMPLETION DATE: 10/22/12 | SURFACE ELEVATION: +1,389 ft (±) | WATER LEVEL: 5'

JOB NUMBER: 8979-004*1D | READING DATE: 10/22/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				4" Topsoil	
	S1		SM	Red-brown fine to medium sand, and silt, trace fine gravel (wet)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, some silt, little fine to coarse gravel, occasional cobbles (moist)(medium dense to dense)	
5	S3				5
10				Test pit completed @ 10' Mottling observed @ 1'-0" Groundwater seepage encountered @ 5'-0"	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-42

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 43

COMPLETION DATE: 10/22/12 SURFACE ELEVATION: +1,386 ft (±) WATER LEVEL: 7'

JOB NUMBER: 8979-004*1D READING DATE: 10/22/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1		SM	Red-brown fine to medium sand, and silt, trace fine gravel (wet)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, some to and silt, some fine to coarse gravel, occasional cobbles (moist)(dense)	
5					5
10				Test pit completed @ 9' Mottling observed @ 2' Groundwater seepage encountered @ 7'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-43

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 44

COMPLETION DATE: 10/22/12 SURFACE ELEVATION: +1,386 ft (±) WATER LEVEL: 2'-3"

JOB NUMBER: 8979-004*1D READING DATE: 10/22/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				4" Topsoil	
			SM	Red-brown fine to medium sand, and silt, trace fine gravel (moist)(medium dense)	
	S1		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles and boulders (moist)(dense)	
5					5
	S2				
10				Test pit completed @ 10' Moderate groundwater seepage encountered @ 2'-3"	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-44

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 45

COMPLETION DATE: 10/22/12 SURFACE ELEVATION: +1,389 ft (±) WATER LEVEL: 2'

JOB NUMBER: 8979-004*1D READING DATE: 10/22/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1		SM	Red-brown fine to medium sand, and silt, trace fine gravel (moist)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist to wet)(dense)	
5					5
10				Test pit completed @ 10' Moderate groundwater seepage encountered @ 2'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

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MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 46

COMPLETION DATE: 10/22/12 SURFACE ELEVATION: +1,389 ft (±) WATER LEVEL: 3'-6"

JOB NUMBER: 8979-004*1D READING DATE: 10/22/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				3" Topsoil	
	S1		SM	Red-brown fine to medium sand, and silt, trace fine gravel (moist)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles and boulders (moist to wet)(dense)	
5					5
10	S3			Test pit completed @ 10' Mottling observed @ 1'-6" Moderate groundwater seepage encountered @ 3'-6"	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12 Sheet: 1 of 1 PLATE: 3-46

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 47

COMPLETION DATE: 10/22/12 SURFACE ELEVATION: +1,389 ft (±) WATER LEVEL: 8'

JOB NUMBER: 8979-004*1D READING DATE: 10/22/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1		SM	Red-brown fine to medium sand, and silt, trace fine gravel (wet)(medium dense)	
5			SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist to wet)(dense)	5
10				Test pit completed @ 10'-6" Mottling observed @ 1'-6" Rapid groundwater seepage encountered @ 8'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

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MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 48

COMPLETION DATE: 10/22/12 SURFACE ELEVATION: +1,393 ft (±) WATER LEVEL: 5'-6"

JOB NUMBER: 8979-004*1D READING DATE: 10/22/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				3" Topsoil	
			ML	Red-brown silt, and fine to medium sand, trace fine gravel (moist)(stiff)	
			SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist)(dense)	
5				Fractured sandstone bedrock	5
				- refusal @ 9' atop relatively sound sandstone bedrock	
10				Test pit completed @ 9' Mottling observed @ 3'-6" Rapid groundwater seepage encountered @ 5'-6"	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-48

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 49

COMPLETION DATE: 11/01/12 SURFACE ELEVATION: +1,387.5 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 11/01/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				4" Topsoil	
			SM	Red-brown fine to medium sand, and silt, trace fine gravel (moist)(medium dense)	
	S1				
	S2		SM	Red-brown fine to coarse sand, some silt, little fine gravel (moist)(dense)	
	S3	11.5			
				Fractured sandstone bedrock	
5					5
				- backhoe refusal encountered @ 7' atop sandstone bedrock	
10				Test pit completed @ 7'	10
				*Groundwater not encountered	
				Infiltration test performed @ 3'	
				Measured infiltration rate = 10 in/hr	
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

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MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 50

COMPLETION DATE: 11/01/12 SURFACE ELEVATION: +1,374 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 11/01/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				8" Topsoil	
			SM	Red-brown fine to medium sand, some silt (moist)(medium dense)	
	S1				
	S2	11.9		Gray fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist)(medium dense)	
			SM		
5					5
				Fractured sandstone bedrock - backhoe refusal @ 6'-6" atop sandstone bedrock	
10				Test pit completed @ 6'-6"	10
				Mottling observed @ 2'	
				*Groundwater not encountered	
				Infiltration test performed @ 4'	
				Measured infiltrate rate = 10 in/hr	
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

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MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 51

COMPLETION DATE: 11/01/12 SURFACE ELEVATION: +1,376 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 11/01/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1		SM	Yellow-brown fine to medium sand, some silt (moist)(medium dense)	
5			SM	Red-brown fine to coarse sand, some silt, some fine to coarse grave, occasional cobbles (moist)(dense)	5
10				Fractured sandstone bedrock	10
15				Test pit completed @ 11' *Groundwater not encountered Infiltration test performed @ 8'-6" Measured infiltration rate = 23 in/hr	15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

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MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 52

COMPLETION DATE: 11/01/12 SURFACE ELEVATION: +1,371 ft (±) WATER LEVEL: 4'-6"

JOB NUMBER: 8979-004*1D READING DATE: 11/01/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				2" Topsoil	
	S1		SM	Red-brown fine to medium sand, some silt (moist)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist to wet)(dense)	
5					5
10				Test pit completed @ 9' Mottling observed @ 3'-9" Moderate groundwater seepage encountered @ 4'-6"	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

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MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 53

COMPLETION DATE: 11/01/12 | SURFACE ELEVATION: +1,369 ft (±) | WATER LEVEL: 4'-3"

JOB NUMBER: 8979-004*1D | READING DATE: 11/01/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				4" Topsoil	
			SM	Red-brown fine to medium sand, and silt (moist)(medium dense)	
5			SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist to wet)(dense)	5
10				Test pit completed @ 8' Mottling observed @ 2'-6" Moderate groundwater seepage encountered @ 4'-3"	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

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MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 54

COMPLETION DATE: 11/01/12 SURFACE ELEVATION: +1,378 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 11/01/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1		SM	Yellow-brown fine to medium sand, some silt (moist)(medium dense)	
	S2	12.7	SM	Red-brown fine to coarse sand, and silt, little fine gravel, occasional cobbles and boulders	
5					5
10	S3			Fractured sandstone bedrock	10
				Test pit completed @ 10'-6" *Groundwater not encountered Infiltration test performed @ 2'-6" Measured infiltration rate = 23 in/hr	
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

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MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 55

COMPLETION DATE: 11/05/12 SURFACE ELEVATION: +1,381 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 11/02/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1		SM	Yellow-brown fine to medium sand, and silt, little fine to coarse gravel (moist)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(very dense)	
5					5
	S3			Fractured sandstone bedrock	
10					10
				- backhoe refusal encountered @ 12'-6" atop sandstone bedrock	
				Test pit completed @ 12'-6" *Groundwater not encountered	
				Percolation test performed in fractured rock @ 10' Measured percolation rate = 11 min/in	
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-55

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 56

COMPLETION DATE: 11/02/12 SURFACE ELEVATION: +1,383 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 11/02/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1		SM	Yellow-brown fine to medium sand, some silt, little fine gravel (moist)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(dense)	
5				Fractured sandstone bedrock - backhoe refusal encountered @ 7' atop sandstone bedrock	5
10				Test pit completed @ 7' *Groundwater not encountered	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-56

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 57

COMPLETION DATE: 11/02/12 SURFACE ELEVATION: +1,393 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 11/02/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				8" Topsoil	
	S1		SM	Red-brown fine to medium sand, and silt, trace fine gravel (moist)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist)(dense)	
5				Fractured sandstone bedrock - backhoe refusal encountered @ 5'-6" atop sandstone bedrock	5
				Test pit completed @ 5'-6" *Groundwater not encountered	
10					10
15					15

NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-57

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 58

COMPLETION DATE: 11/02/12 SURFACE ELEVATION: +1,390.5 ft (±) WATER LEVEL: 3'

JOB NUMBER: 8979-004*1D READING DATE: 11/02/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				4" Topsoil	
	S1		SM	Red-brown fine to medium sand, some silt (moist)(medium dense)	
			SM	Red-brown fine to coarse sand, some silt, little fine to coarse gravel, occasional cobbles (moist to wet)(medium dense to dense)	
5					5
10				Test pit completed @ 8' Moderate groundwater seepage encountered @ 3'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-58

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 59

COMPLETION DATE: 11/02/12 SURFACE ELEVATION: +1,394 ft (±) WATER LEVEL: 1'-6"

JOB NUMBER: 8979-004*1D READING DATE: 11/02/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				4" Topsoil	
	S1		SM	Red-brown fine to medium sand, and silt (moist)(medium dense)	
5			SM	Red-brown fine to coarse sand, some silt, little fine to coarse gravel, occasional cobbles (moist)(medium dense to dense)	5
				Fractured sandstone bedrock	
10				Test pit completed @ 9'-6" Moderate groundwater seepage encountered @ 1'-6"	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

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MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 60

COMPLETION DATE: 11/06/12 SURFACE ELEVATION: +1,395.5 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 11/05/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1		SM	Yellow-brown fine to medium sand, and silt (moist)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist)(dense to very dense)	
5					5
	S3	7.0			
10					10
				Test pit completed @ 13' Mottling observed @ 2'-6" *Groundwater not encountered Infiltration test performed @ 10'-6" Measured infiltration rate = 8 in/hr	
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

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MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 61

COMPLETION DATE: 11/06/12 SURFACE ELEVATION: +1,395.5 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 11/05/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				4" Topsoil	
	S1		SM	Yellow-brown fine to medium sand, and silt, little fine to coarse gravel (moist)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist)(very dense)	
5					5
10	S3	7.4			10
15				Test pit completed @ 14' *Groundwater not encountered Infiltration test performed @ 13'-0", Measured infiltation rate = 6 in/hr	15

NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-61

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 62

COMPLETION DATE: 11/05/12 SURFACE ELEVATION: +1,392.5 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 11/05/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				8" Topsoil	
	S1		SM	Red-brown fine to medium sand, some to and silt (moist)(medium dense)	
	S2		SM	Gray-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles and boulders (moist)(medium dense to dense)	
5					5
10				Test pit completed @ 8'-6" *Groundwater not encountered	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

Sheet: 1 of 1 PLATE: 3-62

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 63

COMPLETION DATE: 11/05/12 SURFACE ELEVATION: +1,388 ft (±) WATER LEVEL: 4'

JOB NUMBER: 8979-004*1D READING DATE: 11/05/12

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				4" Topsoil	
			SM	Red-brown fine to medium sand, and silt (moist)(medium dense)	
			SM	Gray fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles and boulders (moist)(dense)	
5					5
				Fractured sandstone bedrock	
10				Test pit completed @ 6' Slight groundwater seepage encountered @ 4'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 11/12

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MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 64

COMPLETION DATE: 1/21/13 | SURFACE ELEVATION: +1,377.5 ft (±) | WATER LEVEL: 1.5'

JOB NUMBER: 8979-004*1D | READING DATE: 1/21/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				4" Topsoil	
	S1		SM	Red-brown fine to medium sand, some silt (moist)(medium dense)	
				Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist to wet)(dense)	
	S2				
5			SM		5
	S3				
10				Test pit completed @ 10'	10
				Mottling observed form 1'-6" to 10'	
				Slight groundwater seepage encountered from 1'-6" to 3'	
15					15

NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-64

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 65

COMPLETION DATE: 1/21/13 | SURFACE ELEVATION: +1,373 ft (±) | WATER LEVEL: 1.5'

JOB NUMBER: 8979-004*1D | READING DATE: 1/21/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				4" Topsoil	
			SM	Red-brown fine to medium sand, and silt (moist)(medium dense)	
				Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist to wet)(dense)	
	S1				
5			SM		5
	S2				
10					10
				Test pit completed @ 10'	
				Mottling observed form 1'-6" to 10'	
				Slight groundwater seepage encountered from 1'-6" to 3'	
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-65

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 66

COMPLETION DATE: 1/21/13 | SURFACE ELEVATION: +1,370 ft (±) | WATER LEVEL: 3'

JOB NUMBER: 8979-004*1D | READING DATE: 1/21/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				8" Topsoil	
	S1		SM	Red-brown fine to medium sand, and silt, trace fine gravel (moist)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles and boulders (moist)(medium dense to dense)	
5					5
10				Test pit completed @ 10' Mottling observed form 2'-6" to 7' Slight groundwater seepage encountered @ 3'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-66

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 67

COMPLETION DATE: 1/21/13
JOB NUMBER: 8979-004*1D

SURFACE ELEVATION: +1,386 ft (±)

WATER LEVEL: 1'-6"
READING DATE: 1/21/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1		SM	Red-brown fine to medium sand, some silt, little fine to coarse gravel (moist)(medium dense)	
			SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(medium dense)	
5					5
10				Test pit completed @ 10' Mottling observed form 1'-6" to 10' Slight groundwater seepage encountered @ 1'-6"	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-67

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 68

COMPLETION DATE: 1/21/13
JOB NUMBER: 8979-004*1D

SURFACE ELEVATION: +1,389 ft (±)

WATER LEVEL: 1'-6"
READING DATE: 1/21/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				8" Topsoil	
	S1		SM	Brown fine to medium sand, and silt (moist)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist to wet)(medium dense)	
5					5
10				Test pit completed @ 10' Mottling observed form 1'-6" to 10' Slight groundwater seepage encountered @ 1'-6"	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-68

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 69

COMPLETION DATE: 1/21/13 | SURFACE ELEVATION: +1,374 ft (±) | WATER LEVEL: *

JOB NUMBER: 8979-004*1D | READING DATE: 1/21/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				9" Topsoil	
	S1		SM	Brown fine to medium sand, and silt, trace fine gravel (moist)(medium dense)	
5	S2		SM	Red-brown fine to coarse sand, some silt, little fine to coarse gravel, occasional cobbles and boulders (moist)(medium dense) - backhoe refusal encountered on boulders @ 7'	5
10				Test pit completed @ 7' *Groundwater not encountered Infiltration test performed @ 4'-6" Measured Infiltration Rate = 6-1/2 in/hr	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-69

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 70

COMPLETION DATE: 1/21/13 | SURFACE ELEVATION: +1,372.5 ft (±) | WATER LEVEL: *

JOB NUMBER: 8979-004*1D | READING DATE: 1/21/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
			SM	Red-brown fine to medium sand, and silt, little fine to coarse gravel (moist)(medium dense)	
5			SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles and boulders (moist)(dense)	5
10				Highly fractured shale bedrock	10
15				Test pit completed @ 11' *Groundwater not encountered Percolation test performed @ 9' Measured Percolation Rate = 50 min/inch	15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-70

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 71

COMPLETION DATE: 1/22/13
JOB NUMBER: 8979-004*1D

SURFACE ELEVATION: +1,364 ft (±)

WATER LEVEL: 5'
READING DATE: 1/22/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1			2" Topsoil	
			SM	Red-brown fine to medium sand, some silt (moist)(medium dense)	
	S2			Red-brown fine to coarse sand, some silt, little fine to coarse gravel (moist)(medium dense)	
			SM		
5					5
	S3				
				Highly fractured shale bedrock	
10					10
				Test pit completed @ 10' Mottling observed from 2'-6" to 4' Moderate groundwater seepage encountered @ 5'	
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-71

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 72

COMPLETION DATE: 1/22/13 | SURFACE ELEVATION: +1,363.5 ft (±) | WATER LEVEL: 5'

JOB NUMBER: 8979-004*1D | READING DATE: 1/22/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, little silt, some fine to coarse gravel, occasional cobbles (moist to wet)(dense)	
5				- backhoe refusal atop shale bedrock @ 8'-6"	5
10				Test pit completed @ 8'-6" Mottling observed @ 3' Moderate groundwater seepage encountered @ 5'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

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MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 73

COMPLETION DATE: 1/22/13 | SURFACE ELEVATION: +1,386 ft (±) | WATER LEVEL: 4'-6"

JOB NUMBER: 8979-004*1D | READING DATE: 1/22/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				8" Topsoil	
	S1			Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist to wet)(medium dense to dense)	
	S2				
5			SM		5
				- backhoe refusal encountered @ 10' atop shale bedrock	
10				Test pit completed @ 10'	10
				Mottling observed from 2'-6" to 10'	
				Moderate groundwater seepage encountered @ 4'-6"	
				Infiltration test performed @ 3' Measured Infiltration Rate = 5-3/4 in/hr	
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

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MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 74

COMPLETION DATE: 1/22/13
JOB NUMBER: 8979-004*1D

SURFACE ELEVATION: +1,389.5 ft (±)

WATER LEVEL: 5'
READING DATE: 1/22/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				4" Topsoil	
	S1		SM	Red-brown fine to medium sand, and silt, trace fine gravel (moist)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist to wet)(medium dense to dense)	
5					5
10				Test pit completed @ 10'-6" Mottling observed @ 2'-6" Moderate groundwater seepage encountered @ 5' Infiltraton test performed @ 3'-6" Presoak did not drain	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-74

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 75

COMPLETION DATE: 1/22/13 | SURFACE ELEVATION: +1,384 ft (±) | WATER LEVEL: 3'

JOB NUMBER: 8979-004*1D | READING DATE: 1/22/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1		SM	Red-brown fine to medium sand, and silt (moist)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist to wet)(medium dense to dense)	
5					5
				Highly fractured shale bedrock	
10				Test pit completed @ 10' Mottling observed @ 2'-6" Moderate groundwater seepage encountered @ 3'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

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MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 76

COMPLETION DATE: 1/23/13 | SURFACE ELEVATION: +1,383.5 ft (±) | WATER LEVEL: 5'

JOB NUMBER: 8979-004*1D | READING DATE: 1/23/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1		SM	Red-brown fine to medium sand, some silt (moist)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist to wet)(medium dense to dense)	
5					5
10	S3				10
15				Test pit completed @ 11' Mottling observed @ 3' Moderate groundwater seepage encountered @ 5'	15

NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-76

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 77

COMPLETION DATE: 1/23/13 SURFACE ELEVATION: +1,389.5 ft (±) WATER LEVEL: 1'

JOB NUMBER: 8979-004*1D READING DATE: 1/23/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				4" Topsoil	
	S1		SM	Red-brown fine to coarse sand, and silt (moist)(medium dense)	
	S2		SM	Gray fine to coarse sand, some silt, trace fine to coarse gravel, occasional cobbles (moist to wet)(medium dense to dense)	
5					5
10					10
				Test pit completed @ 10'-6" Mottling observed @ 3' Moderate groundwater seepage encountered @ 1'	
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

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MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 78

COMPLETION DATE: 1/24/13 | SURFACE ELEVATION: +1,396 ft (±) | WATER LEVEL: *

JOB NUMBER: 8979-004*1D | READING DATE: 1/24/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1		ML	Brown clayey silt, some fine to coarse sand, little fine gravel (moist)(stiff)	
	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist)(medium dense to dense)	
5					5
10				Test pit completed @ 10' Mottling observed @ 2'-6" *Groundwater not encountered	10
15					15

NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

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MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 79

COMPLETION DATE: 1/24/13 | SURFACE ELEVATION: +1,386 ft (±) | WATER LEVEL: 2'

JOB NUMBER: 8979-004*1D | READING DATE: 1/24/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				9" Topsoil	
			ML	Brown clayey silt, some fine to coarse sand, little fine to coarse gravel (moist)(stiff)	
5			SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist to wet)(medium dense)	5
10				Test pit completed @ 10' Mottling observed from 2' to 10' Slight groundwater seepage encountered @ 2'	10
15					15

NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-79

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 80

COMPLETION DATE: 1/24/13
JOB NUMBER: 8979-004*1D

SURFACE ELEVATION: +1,386 ft (±)

WATER LEVEL: 2'
READING DATE: 1/24/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				12" Topsoil	
			ML	Brown clayey silt, little fine to coarse sand, little fine to coarse gravel (moist)(stiff)	
			SM	Red-brown fine to coarse sand, some to and silt, some fine to coarse gravel, occasional cobbles (moist to wet)(medium dense)	
5					5
10				Test pit completed @ 10' Mottling observed from 2' to 10' Slight groundwater seepage encountered @ 2'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-80

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 81

COMPLETION DATE: 1/24/13 | SURFACE ELEVATION: +1,372.5 ft (±) | WATER LEVEL: 2'

JOB NUMBER: 8979-004*1D | READING DATE: 1/24/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				2" Topsoil	
	S1		ML	Brown clayey silt, and fine to medium sand, little fine to coarse gravel (moist)(stiff)	
	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist to wet)(medium dense to dense)	
5					5
	S3				
10					10
				Test pit completed @ 10' Mottling observed from 2' to 10' Slight groundwater seepage encountered @ 2'	
15					15

NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-81

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 82

COMPLETION DATE: 1/24/13 | SURFACE ELEVATION: +1,379 ft (±) | WATER LEVEL: *

JOB NUMBER: 8979-004*1D | READING DATE: 1/24/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
			SM	Brown fine to medium sand, some silt, little fine to coarse gravel (moist)(medium dense)	
	S1				
5			SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist)(medium dense to dense)	5
10	S2				10
				Test pit completed @ 11' Mottling observed @ 10' *Groundwater not encountered Infiltration test performed @ 4'-6" Measured Infiltration Rate = 9 in/hr Infiltration test performed @ 10' Measured infiltration rate = 9 in/hr	
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-82

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 83

COMPLETION DATE: 1/25/13 | SURFACE ELEVATION: +1,385 ft (±) | WATER LEVEL: *

JOB NUMBER: 8979-004*1D | READING DATE: 1/25/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				8" Topsoil	
	S1		SM	Brown fine to medium sand, some silt, little fine to coarse gravel (moist)(medium dense)	
5	S2		SM	Brown fine to coarse sand, little silt, some fine to coarse gravel, occasional cobbles and boulders (moist)(dense) - backhoe refusal atop nested boulders @ 8'	5
10				Test pit completed @ 8' *Groundwater not encountered Percolation test performed @ 5'-6" Measured Percolation Rate = 45 min/in	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

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MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 84

COMPLETION DATE: 1/29/13
JOB NUMBER: 8979-004*1D

SURFACE ELEVATION: +1,420.5 ft (±)

WATER LEVEL: 4'
READING DATE: 1/29/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1			FILL - Brown fine to medium sand, some silt, trace fine gravel, with roots and wood fragments	
	S2			Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles and boulders (moist)(medium dense)	
	S3				
5			SM		5
10				Test pit completed @ 10' Mottling observed from 2'-6" to 5' Perched groundwater seepage encountered @ 4'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-84

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 85

COMPLETION DATE: 1/28/13 | SURFACE ELEVATION: +1,429 ft (±) | WATER LEVEL: *

JOB NUMBER: 8979-004*1D | READING DATE: 1/28/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				8" Topsoil	
	S1			Red-brown fine to medium sand, some silt, little fine to coarse gravel (moist)(medium dense)	
	S2		SM		
5					5
	S3		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist)(medium dense)	
10					10
				Test pit completed @ 10'	
				*Groundwater not encountered	
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-85

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 86

COMPLETION DATE: 1/29/13 | SURFACE ELEVATION: +1,416 ft (±) | WATER LEVEL: *

JOB NUMBER: 8979-004*1D | READING DATE: 1/29/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				12" Topsoil	
	S1		SM	Red-brown fine to medium sand, some silt (moist)(medium dense)	
5	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist)(medium dense to very dense)	5
10				Test pit completed @ 10' Mottling observed @ 3' *Groundwater not encountered	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

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MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 87

COMPLETION DATE: 1/28/13 | SURFACE ELEVATION: +1,407.5 ft (±) | WATER LEVEL: *

JOB NUMBER: 8979-004*1D | READING DATE: 1/28/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1		SM	Red-brown fine to medium sand, and silt (moist)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist)(dense)	
5					5
				Highly fractured sandstone bedrock	
10					10
				Test pit completed @ 10' Mottling observed @ 4'-6" *Groundwater not encountered Permeability test initiated @ 3' Presoak did not drain	
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-87

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 88

COMPLETION DATE: 1/28/13 SURFACE ELEVATION: +1,403 ft (±) WATER LEVEL: *

JOB NUMBER: 8979-004*1D READING DATE: 1/28/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
	S1		SM	Red-brown fine to medium sand, some silt, little fine to coarse gravel (moist)(medium dense)(possible fill)	
5	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist)(medium dense)	5
10				Test pit completed @ 10'-6" *Groundwater not encountered Permeability test initiated @ 2' Presoak did not drain	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-88

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 89

COMPLETION DATE: 1/29/13
JOB NUMBER: 8979-004*1D

SURFACE ELEVATION: +1,390.5 ft (±)

WATER LEVEL: 5'
READING DATE: 1/29/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				4" Topsoil	
	S1		SM	Red-brown fine to medium sand, and silt, some fine gravel (moist)(medium dense)	
	S2		SM	Brown fine to coarse sand, some silt, trace fine to coarse gravel, occasional cobbles (moist)(medium dense to dense)	
5					5
	S3				
10				Test pit completed @ 10'-6" Mottling observed @ 1'-6" Moderate groundwater seepage encountered @ 5'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-89

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 90

COMPLETION DATE: 1/29/13 | SURFACE ELEVATION: +1,383 ft (±) | WATER LEVEL: 1'

JOB NUMBER: 8979-004*1D | READING DATE: 1/29/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1		SM	Red-brown fine to medium sand, and silt, trace fine gravel (moist)(loose)	
	S2			Red-brown fine to coarse sand, some silt, little fine to coarse gravel, occasional cobbles (moist to wet)(medium dense to dense)	
5	S3		SM		5
10				Test pit completed @ 10'-6" Moderate groundwater seepage encountered @ 5'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-90

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 91

COMPLETION DATE: 1/29/13 SURFACE ELEVATION: +1,378 ft (±) WATER LEVEL: 1'

JOB NUMBER: 8979-004*1D READING DATE: 1/29/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				12" Topsoil	
	S1			Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist to wet)(medium dense)	
	S2				
5			SM		5
	S3				
10					10
				Test pit completed @ 10'-6"	
				Mottling observed from 1' to 10'-6"	
				Moderate groundwater seepage encountered @ 1'	
15					15

NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-91

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 92

COMPLETION DATE: 1/29/13 | SURFACE ELEVATION: N/A | WATER LEVEL: 1'-6"

JOB NUMBER: 8979-004*1D | READING DATE: 1/29/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				7" Topsoil	
	S1		SM	Red-brown fine to medium sand, some silt (wet)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, some silt, little fine to coarse gravel, occasional cobbles (wet)(dense)	
5	S3				5
10				Test pit completed @ 11' Mottling observed from 1'-6" to 11' Moderate groundwater seepage encountered @ 1'-6"	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-92

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 93

COMPLETION DATE: 1/30/13 | SURFACE ELEVATION: 1,382.5 ft (±) | WATER LEVEL: 8'-6"

JOB NUMBER: 8979-004*1D | READING DATE: 1/30/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				4" Topsoil	
	S1		SM	Red-brown fine to medium sand, some silt (moist)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist)(medium dense)	
5	S3				5
			SP/SM	Red-brown fine to coarse sand, little silt, some fine to coarse gravel, occasional cobbles (moist to wet)(medium dense)	
10	S4				10
				Test pit completed @ 11' Mottling observed from 5'-6" to 11' Moderate groundwater seepage encountered @ 8'-6"	
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-93

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 94

COMPLETION DATE: 1/30/13 | SURFACE ELEVATION: 1,383.5 ft (±) | WATER LEVEL: 6'

JOB NUMBER: 8979-004*1D | READING DATE: 1/30/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				4" Topsoil	
	S1		SM	Red-brown fine to medium sand, some silt (moist)(medium dense)	
	S2			Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles (moist)(medium dense)	
5	S3		SM	- grading with numerous cobbles @ 8'	5
10				Test pit completed @ 10'-6" Mottling observed @ 5' Rapid groundwater seepage encountered @ 6'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-94

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 95

COMPLETION DATE: 1/30/13 | SURFACE ELEVATION: 1,383.5 ft (±) | WATER LEVEL: 4'

JOB NUMBER: 8979-004*1D | READING DATE: 1/30/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				8" Topsoil	
	S1		SM	Gray-brown fine to medium sand, some silt (moist)(medium dense)	
5			SM	Gray-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles and boulders (moist to wet)(medium dense to dense)	5
10	S2				10
				Test pit completed @ 11' Mottling observed @ 1' Moderate groundwater seepage encountered @ 4'	
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-95

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 96

COMPLETION DATE: 1/30/13
JOB NUMBER: 8979-004*1D

SURFACE ELEVATION: 1,390.5 ft (±)

WATER LEVEL: 1'
READING DATE: 1/30/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1		SM	Red-brown fine to medium sand, and silt (moist)(medium dense)	
	S2			Red-brown fine to coarse sand, some silt, little fine to coarse gravel, occasional cobbles (moist to wet)(medium dense to dense)	
5	S3		SM		5
10				Test pit completed @ 10'-6" Groundwater seepage encountered @ 1'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-96

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 97

COMPLETION DATE: 1/30/13 | SURFACE ELEVATION: 1,388 ft (±) | WATER LEVEL: 3'

JOB NUMBER: 8979-004*1D | READING DATE: 1/30/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				4" Topsoil	
	S1		SM	Red-brown fine to medium sand, and silt (moist)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles and boulders (moist to wet)(medium dense to dense)	
5					5
10				Test pit completed @ 10' Mottling observed from 1'-6" to 10' Moderate groundwater seepage encountered @ 3'	10
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-97

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF TEST PIT

TEST PIT NO: 98

COMPLETION DATE: 1/30/13 SURFACE ELEVATION: 1,380 ft (±) WATER LEVEL: 1'

JOB NUMBER: 8979-004*1D READING DATE: 1/30/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				6" Topsoil	
	S1		SM	Red-brown fine to medium sand, some silt (moist)(medium dense)	
	S2		SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles and boulders (moist to wet)(medium dense to dense)	
5					5
10					10
				Test pit completed @ 10'-6" Mottling observed from 1' Rapid groundwater seepage encountered @ 1'	
15					15

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-98

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF TEST PIT

TEST PIT NO: 99

COMPLETION DATE: 1/30/13 | SURFACE ELEVATION: 1,376 ft (±) | WATER LEVEL: *

JOB NUMBER: 8979-004*1D | READING DATE: 1/30/13

DEPTH	SAMPLES (1)	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH
				4" Topsoil	
	S1			Red-brown fine to coarse gravel, little to some silt, some fine to coarse gravel, occasional cobbles and boulders (moist)(medium dense to dense)	
5			SM		5
10	S2				10
				Test pit completed @ 11'	
				Mottling observed from 6" to 11'	
				*Groundwater not encountered	
15					15

NOTES FOR COLUMNS:

1. SAMPLE AT AVERAGE SAMPLING DEPTH

SOIL DESCRIPTION MODIFIERS:

TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 3-99

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF BORING

BORING NO. 101

COMPLETION DATE: 10/31/12 | SURFACE ELEVATION: +1,454 ft (±) | WATER LEVEL: 6'-2"

JOB NUMBER: 8979-004*1D | READING DATE: 10/31/12

DEPTH (ft.)	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH (ft.)
					6" Asphalt	
					FILL - Red-brown fine to medium sand, some silt, some fine to coarse gravel	
	S1	10		ML	Red-brown clayey silt, little fine to medium sand (moist)(stiff)	
	S2	50/3"			Red-brown fine to coarse sand, some to and silt, some fine to coarse gravel (moist to wet)(dense to very dense)	
5	S3	49				5
				SM		
10	S4	106				10
15	S5	51				15
					Boring completed @ 16'	
					Groundwater encountered @ 6'-2"	
20						20

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 4-101

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF BORING

BORING NO. 102

COMPLETION DATE: 10/31/12 | SURFACE ELEVATION: +1,452 ft (±) | WATER LEVEL: 14'-6"

JOB NUMBER: 8979-004*1D | READING DATE: 10/31/12

DEPTH (ft.)	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH (ft.)
					3" Asphalt over mixed stone and asphalt (chip seal)	
					FILL - Red-brown fine to coarse sand, some silt, some fine to coarse gravel	
	S1	27			Red-brown fine to coarse sand, and silt, some fine to coarse gravel (moist)(medium dense to very dense)	
	S2	40				
5	S3	84				5
				SM		
10	S4	98				10
15	S5	39				15
					Boring completed @ 16'	
					Groundwater encountered @ 14'-6"	
20						20

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 4-102

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF BORING

BORING NO. 103

COMPLETION DATE: 10/31/12 | SURFACE ELEVATION: +1,438 ft (±) | WATER LEVEL: *

JOB NUMBER: 8979-004*1D | READING DATE: 10/31/12

DEPTH (ft.)	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH (ft.)
					5" Asphalt	
	S1	21			Red-brown fine to coarse sand, and silt, some fine to coarse gravel (moist)(medium dense to very dense)	
	S2	60/6"				
5	S3	108				5
				SM		
10	S4	67				10
	S5	50/4"				
15					Boring completed @ 14'-10"	15
					*Groundwater not encountered	
20						20

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 4-103

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF BORING

BORING NO. 104

COMPLETION DATE: 10/31/12 | SURFACE ELEVATION: +1,418 ft (±) | WATER LEVEL: 4'

JOB NUMBER: 8979-004*1D | READING DATE: 10/31/12

DEPTH (ft.)	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH (ft.)
					3" Asphalt	
					FILL - Red-brown fine to coarse sand, little silt, some fine to coarse gravel	
	S1	29			Red-brown fine to coarse sand, and silt, some fine to coarse gravel (moist to wet)(medium dense to very dense)	
	S2	57				
5						5
	S3	91				
				SM		
10	S4	50				10
					- sampler refusal @ 14'-1" atop possible sandstone bedrock	
	S5	50/1"				
15						15
					Boring completed @ 14'-1"	
					Groundwater encountered @ 4'	
20						20

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 4-104

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF BORING

BORING NO. 105

COMPLETION DATE: 10/31/12 | SURFACE ELEVATION: +1,498 ft (±) | WATER LEVEL: 8'-3"

JOB NUMBER: 8979-004*1D | READING DATE: 10/31/12

DEPTH (ft.)	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	SYMBOL	DESCRIPTION	DEPTH (ft.)
					3" Asphalt	
					FILL - Dark brown fine to medium sand, some silt, some fine to coarse gravel	
	S1	42			Red-brown fine to coarse sand, and silt, some fine to coarse gravel (moist to wet)(dense to very dense)	
	S2	70				
5						5
	S3	94				
				SM		
10	S4	66			- driller notes boulder from 10'-6" to 13'	10
15	S5	59				15
					Boring completed @ 16'	
					Groundwater encountered @ 8'-3"	
20						20

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: jhb/mh 2/13

Sheet: 1 of 1 PLATE: 4-105

MELICK-TULLY AND ASSOCIATES, P.C.
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LOG OF BORING

BORING NO. S-3

COMPLETION DATE: 2/27/12 | SURFACE ELEVATION: +1,452 ft (±) | WATER LEVEL: *

JOB NUMBER: 8979-001*1D | READING DATE: 2/27/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
						8" Topsoil	
	S1	5			ML	Red-brown silt, and fine to coarse sand, trace fine gravel (moist)(medium to hard)	
	S2	32	8.7				
5	S3	52			SM	Red-brown fine to coarse sand, some to and silt, some fine to coarse gravel (moist)(very dense) - driller notes boulder @ 7'-6"	5
10	S4	52					10
15	S5	98/10"					15
20						Boring completed @ 16'-4" *Groundwater not encountered	20
25							25
30							30

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-106

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF BORING

BORING NO. S-9

COMPLETION DATE: 3/15/12 | SURFACE ELEVATION: +1,350 ft (±) | WATER LEVEL: 6'

JOB NUMBER: 8979-001*1D | READING DATE: 3/15/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	24				FILL - Red-brown fine to coarse sand, and silt, some fine to coarse gravel	
	S2	46			SM	Red-brown fine to coarse sand, some silt, some fine to coarse gravel (moist)(medium dense to dense)	
5	S3	28					5
	S4	50/1"					
	S5	61			SM	Red-brown fine to coarse sand, some to and silt, some fine to coarse gravel, occasional cobbles and boulders (wet)(dense to very dense)	
10	S6	47					10
	S7	86					
	S8	50/2"					
15							15
20						Boring completed @ 14'-8" *Groundwater encountered @ 6'	20
25							25
30							30

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-107

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF BORING

BORING NO. S-10

COMPLETION DATE: 3/15/12
JOB NUMBER: 8979-001*1D

SURFACE ELEVATION: +1,357 ft (±)

WATER LEVEL: 5'-6"
READING DATE: 3/15/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	9				4" Topsoil	
						FILL - Brown fine to coarse sand, some silt, little fine gravel	
	S2	41				Red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles and boulders (moist to wet)(dense to very dense)	
5	S3	86					5
	S4	59			SM		
	S5	81					
10	S6	86					10
	S7	122					
15	S8	80					15
						Boring completed @ 15'-10"	
						Groundwater encountered @ 5'-6"	
20							20
25							25
30							30

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-108

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LOG OF BORING

BORING NO. S-11

COMPLETION DATE: 3/15/12 | SURFACE ELEVATION: +1,363 ft (±) | WATER LEVEL: 6'

JOB NUMBER: 8979-001*1D | READING DATE: 3/15/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
						6" Topsoil and pine needles	
	S1	10			SM	Red-brown fine to coarse sand, and silt, some fine to coarse gravel (moist to wet)(medium dense to very dense)	
	S2	26					
5	S3	47	39.0				5
	S4	35			SM	Red-brown fine to coarse sand, little silt, trace fine gravel (wet)(dense)	
	S5	90			SM	Red-brown fine to coarse sand, little to some silt, little fine to coarse gravel, occasional cobbles and boulders (wet)(very dense)	
10	S6	130					10
	S7	96					
15	S8	100/5"					15
20	S9	100/4"				- driller noted cobbles @ 21'-6"	20
25						Boring completed @ 22' Groundwater encountered @ 6'	25
30							30

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-109

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF BORING

BORING NO. S-12

COMPLETION DATE: 3/15/12 | SURFACE ELEVATION: +1,352 ft (±) | WATER LEVEL: 6'

JOB NUMBER: 8979-001*1D | READING DATE: 3/15/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	4				2" Topsoil and pine needles	
					SM	Brown to dark brown fine to coarse sand, little silt, trace fine to coarse gravel (moist)(loose to very dense)	
	S2	50/4"				- driller notes cobbles @ 3'	
5	S3	56	39.0		SM	Red-brown fine to coarse sand, and silt, trace fine gravel (wet)(very dense)	5
	S4	66					
	S5	158/10"			SM	Gray and red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional to frequent cobbles and boulders (moist)(very dense)	
10	S6	100/4"					10
	S7	100/4"					
15							15
20	S8	100/1"					20
25						Boring completed @ 20'-1" Groundwater encountered @ 6'	25
30							30

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-110

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF BORING

BORING NO. S-13

COMPLETION DATE: 3/15/12 | SURFACE ELEVATION: +1,352 ft (±) | WATER LEVEL: 12'

JOB NUMBER: 8979-001*1D | READING DATE: 3/15/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	4			SM	4" Topsoil Red-brown fine to coarse sand, some silt, trace fine gravel (moist)(loose)	
	S2	70			ML	Red-brown clayey silt, and fine to medium sand, trace fine to coarse gravel (wet)(hard)	
5	S3	55				Red-brown fine to coarse sand, some to and silt, some fine to coarse gravel (moist to wet)(very dense)	5
	S4	56					
	S5	69					
10	S6	75			SM		10
	S7	104				- grading with frequent cobbles and boulders	
15	S8	100/3"					15
20							20
25						Boring completed @ 20' Groundwater encountered @ 12'	25
30							30

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-111

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF BORING

BORING NO. S-14

COMPLETION DATE: 3/16/12 | SURFACE ELEVATION: +1,352 ft (±) | WATER LEVEL: *

JOB NUMBER: 8979-001*1D | READING DATE: 3/16/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
						3" Topsoil	
	S1	28				FILL - Fine to coarse gravel, and fine to coarse sand, trace silt	
	S2	66				Red-brown fine to coarse sand, some silt, little fine gravel (moist)(very dense)	
5	S3	59	25.7				5
	S4	159/11"			SM		
	S5	81					
10	S6	112					10
	S7	100/4"					
15	S8	50/0"		6		NQ ROCK CORE RUN NO. 1: 15' to 20'	15
	CORE RUN NO. 1			2 3 3 3		REC = 97% RQD = 77% Red-brown good quality, closely jointed siltstone, grading to sandstone @ 16'	
20							20
25						Boring completed @ 20' *Groundwater not encountered	25
30							30

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-112

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF BORING

BORING NO. S-15

COMPLETION DATE: 3/16/12 | SURFACE ELEVATION: +1,355 ft (±) | WATER LEVEL:

JOB NUMBER: 8979-001*1D | READING DATE: 3/16/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
	S1	11				3" Topsoil	
						FILL - Brown-dark gray fine to coarse sand, some silt, little fine gravel	
	S2	59				Gray to red-brown fine to coarse sand, some silt, some fine to coarse gravel, occasional cobbles and boulders (moist)(very dense)	
5	S3	83					5
	S4	100/5"			SM		
	S5	100/5"					
10	S6	75/2"				- driller notes cobbles @ 10'-6"	10
	S7	100/5"				- possible bedrock @ 14'-5"	
15							15
20						Boring completed @ 14'-5"	20
25							25
30							30

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-113

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

LOG OF BORING

BORING NO. S-16

COMPLETION DATE: 3/16/12 | SURFACE ELEVATION: +1,344 ft (±) | WATER LEVEL: 7'-6"

JOB NUMBER: 8979-001*1D | READING DATE: 3/16/12

DEPTH	SAMPLES	N-VALUE	MOISTURE CONTENT (%)	CORING TIMES (MIN./FT.)	SYMBOL	DESCRIPTION	DEPTH
						3" Gravel pavement	
	S1	41				Red-brown fine to coarse sand, little to some silt, some fine to coarse gravel, occasional cobbles and boulders (moist to wet)(medium dense to very dense)	
	S2	78					
5	S3	37					5
	S4	32	10				
	S5	40					
10	S6	192/11"			SM		10
	S7	28					
15	S8	66					15
20	CORE RUN NO. 1			6 3 3 4 4		NQ ROCK CORE RUN NO. 1: 20' to 25' REC = 90% RQD = 83% Light green-gray good quality, medium jointed, coarse grained sandstone, and conglomerate	20
25						Boring completed @ 25' Groundwater encountered @ 7'-6"	25
30							30

NOTES FOR COLUMNS:
1. SAMPLE AT AVERAGE SAMPLING DEPTH
2. INDICATES THE NUMBER OF BLOWS TO ADVANCE A 2" OD SAMPLER A DISTANCE OF 12 INCHES USING A 140 POUND WEIGHT FALLING 30 INCHES

SOIL DESCRIPTION MODIFIERS:
TRACE 0 - 10%
LITTLE 10 - 20%
SOME 20 - 35%
AND OVER 35%

Typist/Date: kt/mh 3/12

Sheet: 1 of 1 PLATE: 4-114

MELICK-TULLY AND ASSOCIATES, P.C.
Geotechnical Engineers and Environmental Consultants

MAJOR DIVISIONS			LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS More than 50% of material is LARGER than No. 200 Sieve	GRAVEL & GRAVELLY SOILS More than 50% of coarse fraction RETAINED on No. 4 Sieve	CLEAN GRAVELS (Little or no fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines.
			GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
		GRAVELS WITH FINES (Appreciable amount of fines)	GM	Silty gravels, gravel-sand-silt mixtures.
			GC	Clayey gravels, gravel-sand-clay mixtures.
	SAND AND SANDY SOILS More than 50% of coarse fraction PASSING a No. 4 Sieve	CLEAN SAND (Little or no fines)	SW	Well-graded sands, gravelly sands, little or no fines.
			SP	Poorly-graded sands, gravelly sands, little or no fines.
		SANDS WITH FINES (Appreciable amount of fines)	SM	Silty sands, sand-silt mixtures
			SC	Clayey sands, sand-clay mixtures.
FINE GRAINED SOILS More than 50% of material is SMALLER than No. 200 Sieve.	SILTS AND CLAYS	Liquid limit LESS than 50	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS	Liquid limit GREATER than 50	MH	Inorganic silts, micaceous or diatomaceous fine sand or silty soils.
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS			PT	Peat, humus, swamp soils with high organic contents

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS.

GRADATION*	COMPACTNESS* sand and/or gravel	CONSISTENCY* clay and/or silt
% Finer by Weight	Relative Density	Range of Shearing Strength in Pounds per Square Foot

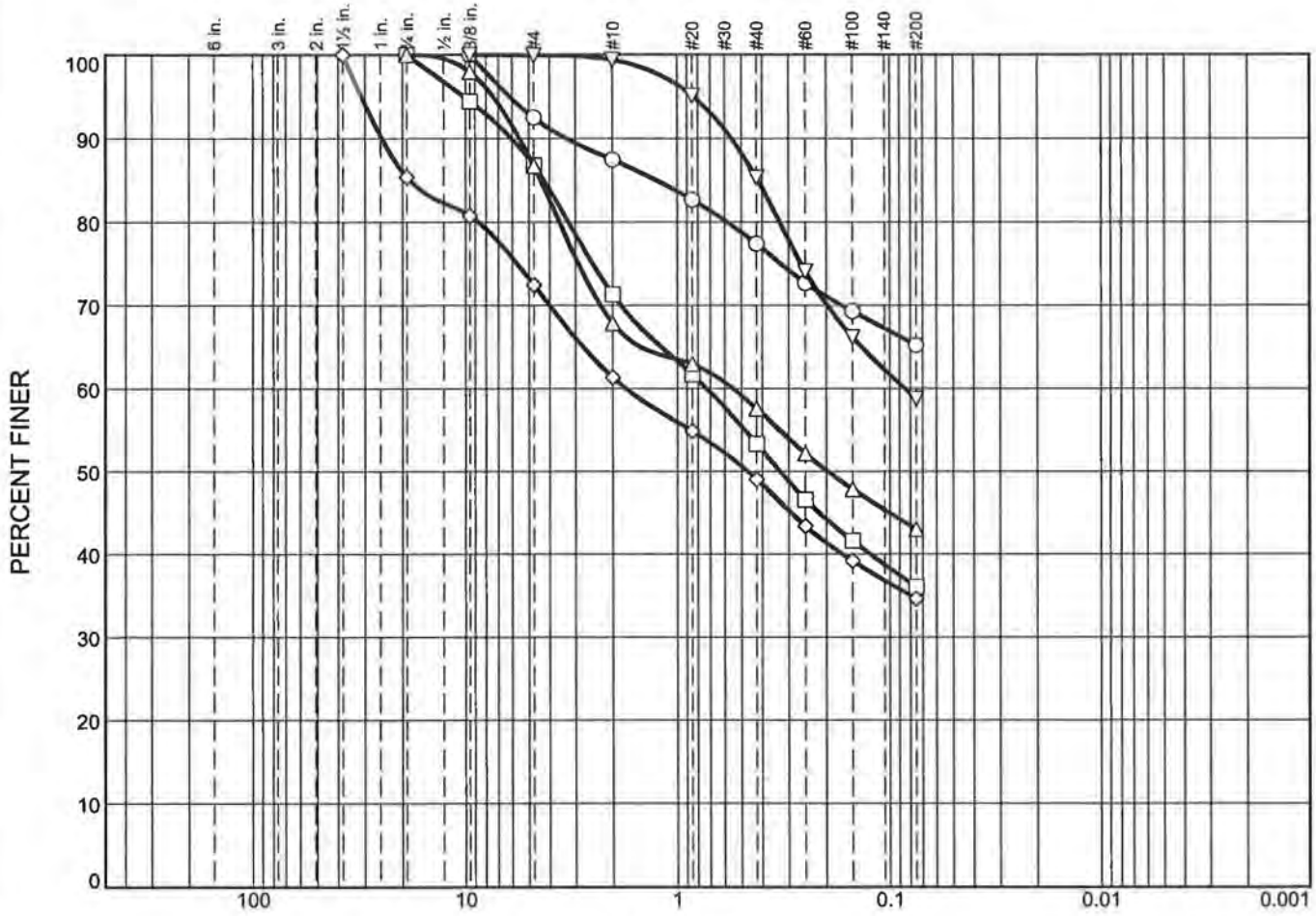
Trace	0% to 10%	Loose	0% to 40%	Very Soft	less than 250
Little	10% to 20%	Medium Dense	40% to 70%	Soft	250 to 500
Some	20% to 35%	Dense	70% to 90%	Medium	500 to 1000
And	35% to 50%	Very Dense	90% to 100%	Stiff	1000 to 2000
				Very Stiff	2000 to 4000
				Hard	Greater than 4000

**Values are from laboratory or field test data, where applicable. When no testing was performed, values are estimated.*

UNIFIED SOIL CLASSIFICATION SYSTEM

SOIL CLASSIFICATION CHART

Gradation Curve(s)



	% Cobbles	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	0.0	7.5	5.0	10.1	12.2	65.2
□	0.0	0.0	13.2	15.5	18.0	17.3	36.0
△	0.0	0.0	13.3	18.8	10.3	14.6	43.0
◇	0.0	14.6	12.9	11.2	12.3	14.4	34.6
▽	0.0	0.0	0.1	0.5	14.1	26.5	58.8

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-1	S-1	2	Silt, some fine to coarse Sand, trace fine Gravel. (MC=21.4%)	ML
□	TP-2	S-2	4	Fine to coarse Sand, and Silt, little fine Gravel. (MC=18.9%)	SM
△	TP-3	S-1	2	Fine to coarse Sand, and Silt, little fine Gravel. (MC=25.3%)	SM
◇	TP-4	S-1	2	Fine to coarse Sand, some Silt, some f-c Gravel. (MC=19.2%)	SM
▽	TP-5	S-1	1	Silt, and fine to medium Sand. (MC=19.1%)	ML

Melick-Tully & Associates, P.C.

South Bound Brook, NJ

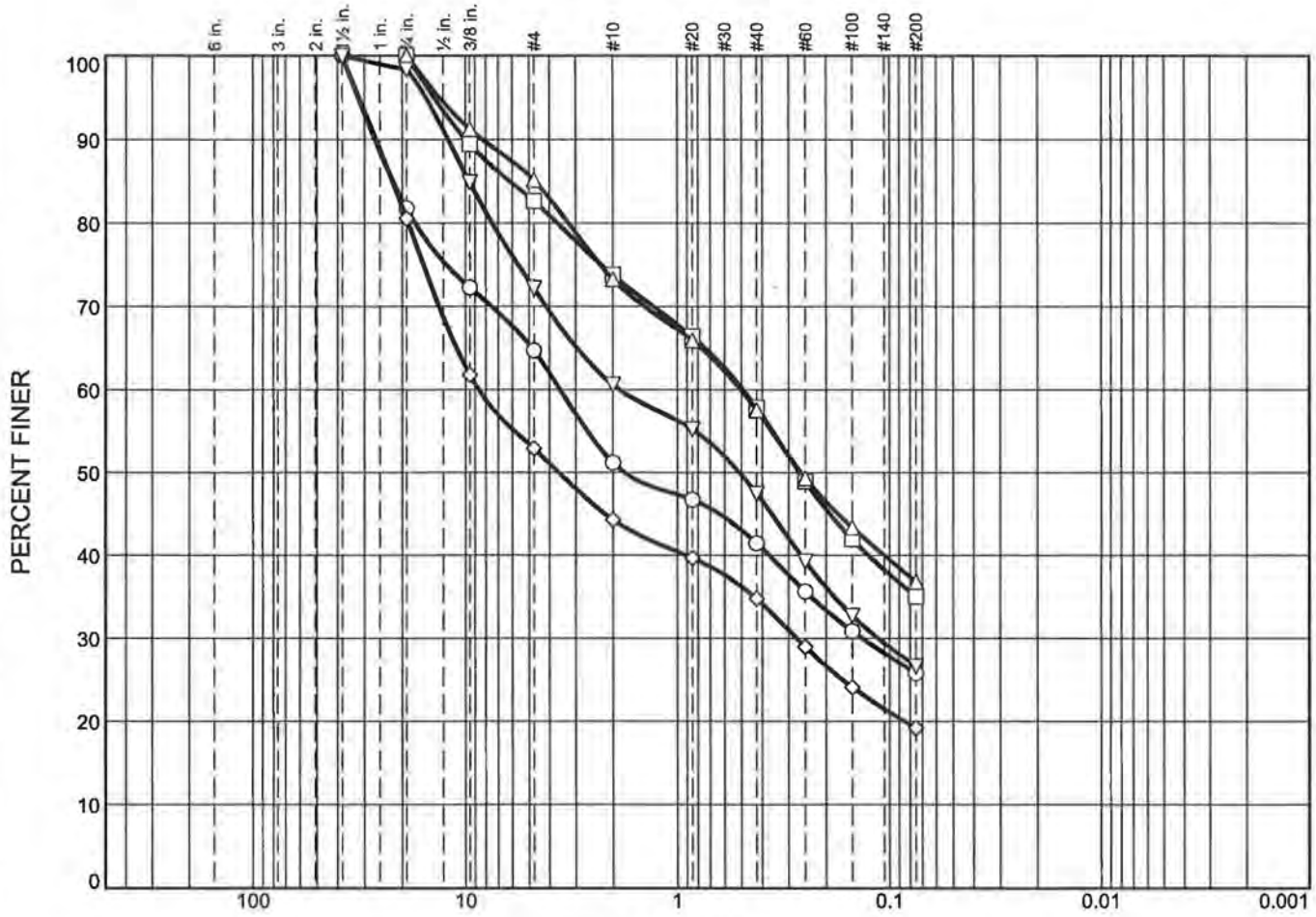
Client: Concord Resort Development

Project: Proposed Roadway, Thompson, NY

Project No.: 8979-004

Plate 6A

Gradation Curve(s)



	% Cobbles	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	18.2	17.1	13.5	9.7	15.7	25.8
□	0.0	0.0	17.4	8.8	15.9	22.9	35.0
△	0.0	0.0	14.8	11.9	15.7	20.8	36.8
◇	0.0	19.4	27.7	8.6	9.5	15.6	19.2
▽	0.0	1.7	26.1	11.6	13.1	20.9	26.6

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-7	S-2	4	Fine to coarse Sand, and f-c Gravel, some Silt. (MC=7.7%)	SM
□	TP-8	S-2	6	Fine to coarse Sand, and Silt, little fine Gravel. (MC=9.2%)	SM
△	TP-9	S-2	8	Fine to coarse Sand, and Silt, little fine Gravel. (MC=8.7%)	SM
◇	TP-10	S-1	2.5	Fine to coarse Gravel, some f-c Sand, little Silt. (MC=5.3%)	GM
▽	TP-17	S-1	2	Fine to coarse Sand, some Silt, some f-c Gravel. (MC=7.7%)	SM

Melick-Tully & Associates, P.C.

South Bound Brook, NJ

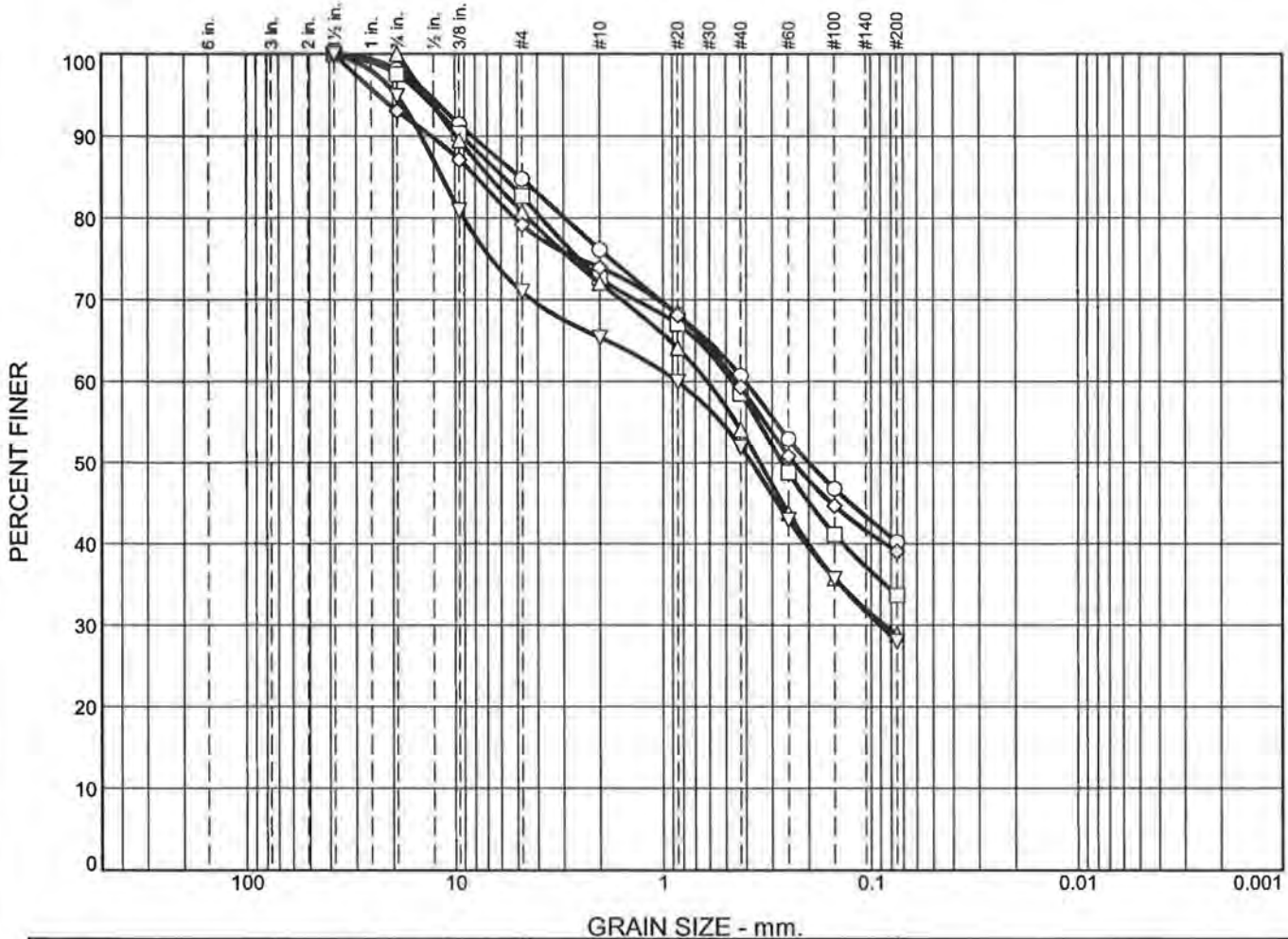
Client: Concord Resort Development

Project: Proposed Roadway, Thompson, NY

Project No.: 8979-004

Plate 6B

Gradation Curve(s)



	% Cobbles	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	1.9	13.3	8.7	15.4	20.5	40.2
□	0.0	2.5	14.8	10.0	14.2	24.8	33.7
△	0.0	0.0	19.3	8.6	18.0	25.2	28.9
◇	0.0	6.9	13.9	5.2	14.7	20.3	39.0
▽	0.0	5.1	23.9	5.6	13.5	23.9	28.0

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-30	Bulk	2.5	Fine to coarse Sand, and Silt, little f-c Gravel.	SM
□	TP-35	S-2	3	Fine to coarse Sand, some Silt, little f-c Gravel. (MC=11.0%)	SM
△	TP-49	S-3	3.5	Fine to coarse Sand, some Silt, little fine Gravel. (MC=11.5%)	SM
◇	TP-49	Bulk	3.5	Fine to coarse Sand, and Silt, some f-c Gravel.	SM
▽	TP-50	S-2	2.5	Fine to coarse Sand, some Silt, some f-c Gravel. (MC=11.9%)	SM

Melick-Tully & Associates, P.C.

South Bound Brook, NJ

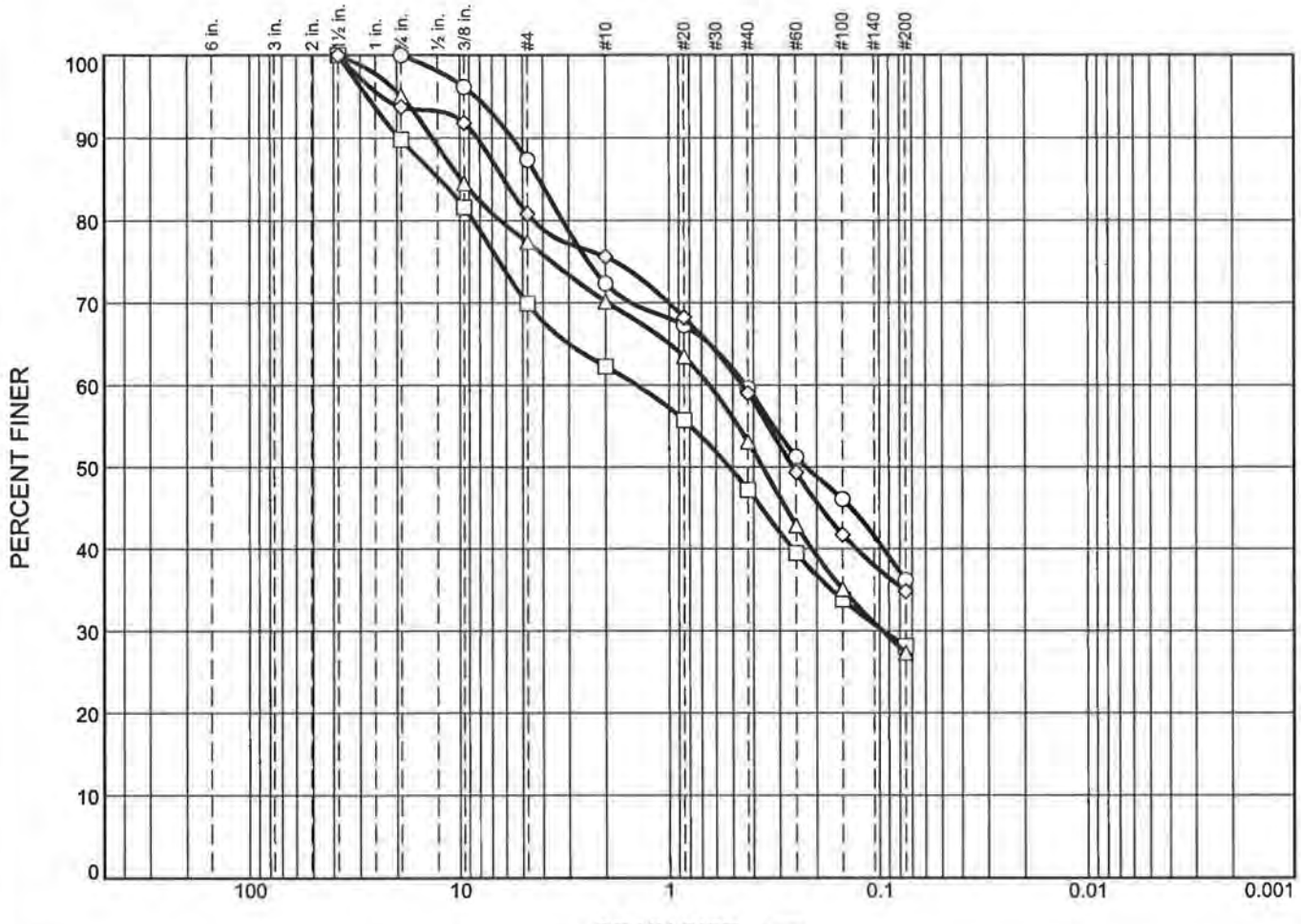
Client: Concord Resort Development

Project: Proposed Roadway, Thompson, NY

Project No.: 8979-004

Plate 6C

Gradation Curve(s)



	% Cobbles	% Gravel		% Sand			% Fines
		Coarse	Fine	Coarse	Medium	Fine	
○	0.0	0.0	12.7	15.0	12.7	23.4	36.2
□	0.0	10.2	19.9	7.6	15.1	19.1	28.1
△	0.0	4.9	17.7	7.2	17.1	25.8	27.3
◇	0.0	6.3	12.9	5.2	16.6	24.2	34.8

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	TP-54	S-2	4	Fine to coarse Sand, and Silt, little fine Gravel. (MC=12.7%)	SM
□	TP-60	S-3	8	Fine to coarse Sand, some Silt, some f-c Gravel. (MC=7.0%)	SM
△	TP-61	S-3	10.5	Fine to coarse Sand, some Silt, some f-c Gravel. (MC=7.4%)	SM
◇	TP-86	S-2	2.0	Fine to coarse Sand, and Silt, little f-c Gravel.	SM

Melick-Tully & Associates, P.C.

South Bound Brook, NJ

Client: Concord Resort Development

Project: Proposed Roadway, Thompson, NY

Project No.: 8979-004

Plate 6D

SUMMARY OF INFILTRATION TEST RESULTS
Thompson, New York
EPT Concord Resort Development

Test Pit	Approximate Surface Elevation (ft)	Approximate Test Depth (ft)	Observed Infiltration Rate (in/hr)
1	1,366	2	2.25
2	1,368	4	14
3	1,364	1	2.25
4	1,366	2.5	*(1)*
5	1,350	2	*(1)*
6	1,350	2	*(1)*
10	1,350	3.5	2.5
11	1,350	3.25	14
13	1,348.5	3	4.25
14	1,348	2	12
15	1,441	2.5	17.5
15	1,441	5.5	28 *(2)*
17	1,443	2	10.5
17	1,443	5.5	*(1)*
35	1,426	2.5	8
35	1,426	2.5	14
36	1,431	5	*(1)*
37	1,382	6	*(1)*
49	1,387.5	3	10
50	1,374	4	10
51	1,376	8.5	23
54	1,378	2.5	23
55	1,381	10	11 *(2)*
60	1,395.5	10.5	8
61	1,395.5	13	6
69	1,374	4.5	6.5
70	1,372.5	9	50 *(2)*
73	1,386	3	5.75
74	1,389.5	3.5	*(1)*
82	1,379	4.5	9
82	1,379	10	9
83	1,385	5.5	45 *(2)*
87	1,407.5	3	*(1)*
88	1,403	2	*(1)*

Notes:

(1) *Presoak did not drain after 24 hours*

(2) *Percolation test run as approved by AKRF, results are minutes/inches*

APPENDIX

APPENDIX

Limitations

A. Subsurface Information

Locations: The locations of the explorations were approximately determined by tape measurement from plans prepared by AKRF Engineering entitled "Geotechnical Soil Evaluation" dated October 8, 2012 and/or revised December 19, 2012. Elevations of the explorations were approximately determined by interpolation between contours shown on topographic plans provided to us by the site engineer. The locations and elevations of the explorations should be considered accurate only to the degree implied by the method used.

Interface of Strata: The stratification lines shown on the individual logs of the subsurface explorations represent the approximate boundaries between soil types, and the transitions may be gradual.

Field Logs/Final Logs: A field log was prepared for each exploration by a member of our staff. The field log contains factual information and interpretation of the soil conditions between samples. Our recommendations are based on the final logs as shown in this report and the information contained therein, and not on the field logs. The final logs represent our interpretation of the contents of the field logs, and the results of the laboratory observations and/or tests of the field samples.

Water Levels: Water level readings have been made in the explorations at times and under conditions stated on the individual logs. These data have been reviewed and interpretations made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater will occur due to variations in rainfall, temperature, and other factors.

Pollution/Contamination: Unless specifically indicated to the contrary in this report, the scope of our services was limited only to investigation and evaluation of the geotechnical engineering aspects of the site conditions, and did not include any consideration of potential site pollution or contamination resulting from the presence of chemicals, metals, radioactive elements, etc. This report offers no facts or opinions related to potential pollution/contamination of the site.

Environmental Considerations: Unless specifically indicated to the contrary in this report, this report does not address environmental considerations which may affect the site development, e.g., wetlands determinations, flora and fauna, wildlife, etc. The conclusions and recommendations of this report are not intended to supersede any environmental conditions which should be reflected in the site planning.

B. Applicability of Report

This report has been prepared in accordance with generally accepted soils and foundation engineering practices for the exclusive use of AKRF for specific application to the design of the proposed project. No other warranty, expressed or implied, is made.

This report may be referred to in the project specifications for general information purposes only, but should not be used as the technical specifications for the work, as it was prepared for design purposes exclusively.

C. Reinterpretation of Recommendations

Change in Location or Nature of Facilities: In the event that any changes in the nature, design or location of the facilities are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and conclusions of this report modified or verified in writing.

Changed Conditions During Construction: The analyses and recommendations submitted in this report are based in part upon the data obtained from 14 widely-spaced test borings and 99 test pit excavations performed for this study. The nature and extent of variations between the explorations may not become evident until construction. If variations then appear evident, it will be necessary to reevaluate the recommendations of this report.

Changes in State-of-the-Art: The conclusions and recommendations contained in this report are based upon the applicable standards of our profession at the time this report was prepared.

D. Use of Report by Prospective Bidders

This soil and foundation engineering report was prepared for the project by Melick-Tully and Associates, P.C. for design purposes and may not be sufficient to prepare an accurate bid. Contractors utilizing the information in the report should do so with the express understanding that its scope was developed to address design considerations. Prospective bidders should obtain the owner's permission to perform whatever additional explorations or data gathering they deem necessary to prepare their bid accurately.

E. Construction Observation

We recommend that Melick-Tully and Associates, P.C. be retained to provide on-site soils engineering services during the earthwork construction and foundation phases of the work. This is to observe compliance with the design concepts and to allow changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.