Delaware Engineering, D.P.C.

28 Madison Avenue Extension
Albany, New York 12203

Tel: 518.452.1290
Fax: 518.452.1335

Memo:

To: Joseph LaCivita, Director, Town of Colonie Planning and Economic Development

From: Kevin Schwenzfeier, Planner

Date: February 16, 2018

RE: Soldier On Planned Development District Stormwater Challenges

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Please accept this memo and enclosed documents on behalf of Solider On as represented by Delaware Engineering in support of a request for detail on the stormwater challenges and solutions at the former Ann Lee Nursing Home site. This project was previously issued a negative declaration by the Planning Board through the SEQR process and adopted as the Solider On PDD by the Town Board.

Project Details:

The project involves approximately 12.6 acres of the former Albany County Ann Lee Nursing Home site which is intended to become a residential campus providing transitional and permanent housing, training, and support services to veterans. Albany County will retain ownership of the 39.8-acre parcel and will lease the campus area to Soldier On, a private nonprofit organization committed to ending veteran homelessness.

The project continues to include renovation of the Ann Lee Home, with 75 one-bedroom units, staff offices, kitchen, dining rooms, post office, barber, rec rooms, and potential non-resident veteran support services. The site includes five 2/3 story buildings, containing a total of 125 one-bedroom units to be constructed south of the Ann Lee Home with at-grade pedestrian connections among the new building and to the Ann Lee Home.

Site improvements include reconfiguring the driveway system, constructing new and shared parking areas, and installing site landscaping and a green infrastructure stormwater management system.

Stormwater Challenges Identified by Delaware Engineering:

1. The major challenge to this site is to locate the main stormwater collection area outside of the floodplain. The ideal location as shown on Sheet C-2 and Sheet C-20 is almost entirely within the 100-year floodplain. In order to locate the collection area outside of the floodplain, grading will have to allow the site to drain to the southwest corner of the site.

2. The goal is to elevate the Finished Floor above the flood plain elevation. This will require grading the site to at least the elevation of the existing Ann Lee Home site; additional grading may be required to achieve sufficient storm collection.

3. While the Town Code requests curbing to protect green space, Delaware Engineering recommends not requiring curbing on the site in order to better control the stormwater on already poorly draining soils. The amount of stormwater that would be collected due to the increase in impervious surface would need to drain into a catch basin with an out-pipe that can be pitched appropriately to allow for drainage into the collection area. This would most likely require increased grading of the existing driveway in order to be achieved.

4. With wetlands surrounding the northern end of the site and the flood plain throughout the southwestern portion, the site is constrained entirely by poorly drained soils which will limit the practical use of many green infrastructure options due to the low infiltration rate. We are confident that a sufficient solution will be achieved through the use of underdrains and the grading of the site.

Solider On requests the following action:

We request a meeting between Solider On, Delaware Engineering, and the Town of Colonie Stormwater Management Program Coordinator in order to best understand the challenges and solutions to the stormwater management of this site.

The following documents are attached to this memo:

- New PDD Plan
- New Phase 1 Site Plan (for reference to proposed stormwater pond)
- Dente Geotechnical Evaluation

test borings at the approximate locations. The test borings were completed using a standard rotary drill rig equipped with hollow stem augers. As the augers were advanced, the overburden soils were sampled and their relative density determined using split-spoon sampling techniques in general accord with ASTM D1586 procedures. Representative portions of the recovered soil samples were transported to our office for visual classification by a Geotechnical Engineer. Individual subsurface logs were prepared for the borings on this basis. Laboratory testing was completed on selected samples.

The subsurface logs and laboratory test reports should be reviewed for a description of the conditions encountered at the specific test locations and the results. It should be understood that conditions are only known at the depths and locations sampled. Conditions at other depths and locations may be different.

Subsurface Profile

Between about three and eight inches of topsoil mantles the site at the locations investigated. Fill, at location B-1, and disturbed native soils were encountered at the remaining investigated locations. The fill at location B-1 extended about four feet in depth and is composed of relatively loose mixtures of sand, silt, organics, and ash. The loose disturbed native soils, believed the result of past grading and or possibly cultivation, extend between one and two feet beneath the surface.

The native soils were composed of non-cohesive sand and silt mixtures. These soils were initially brown grading to gray at depths of about 10 feet, moist grading saturated at depths between 3 and 5 feet, and of a loose relative density through depths of about 30 feet where they interface with lacustrine silt and clay soils. The silt and clay soils extend through the depths explored, about 50 feet, are gray, saturated, and of a very soft consistency. Laboratory testing completed at other nearby projects indicates these deposits are preconsolidated in excess of the existing overburden pressures by as much as 2,000 pounds per square foot.

Groundwater Conditions

Groundwater measurements were attempted at completion of drilling and sampling and the results are noted on the individual subsurface logs. It should be understood that these measurements may not accurately reflect the actual groundwater depths because the augers were in the ground and adequate time may not have passed after the drilling for water to enter and achieve a static level in the augers.

Based on the change in the soil coloration, it appears that the static groundwater level was generally present below about 3 and 4 feet, elevation 270 feet. Layers of trapped or perched groundwater should be expected to exist at shallow depths both seasonally and following precipitation events and spring thaws.

IV. GEOTECHNICAL RECOMMENDATIONS

A. General Site Evaluation

Based upon our evaluation of the subsurface conditions disclosed through our investigation, we developed the following general conclusions and recommendations to assist in planning for design and construction.

1. All existing fills should be removed from beneath new building areas. Any resulting excavations should be backfilled with structural fill. Consideration can be given to leaving the fills in place beneath landscaped and pavement areas provided that the surfaces are proof-rolled and stabilized, and the Owner accepts some risk that settlement may occur and require maintenance.

2. The new buildings may be supported using ordinary spread foundations bearing upon the undisturbed native soils or on structural fill placed to establish design grades.

3. Layers of trapped or perched water and groundwater may be encountered in the site excavations dependent upon the final grades designed and the season. Conventional sump and pump dewatering should be sufficient to allow construction of foundations while well point dewatering may be necessary for deeper sewer and utility routes.

4. Foundation drains should be planned along the outsides of the building foundation walls.

5. Site preparation should preferably be done during a seasonal dry period to reduce the adverse impacts of soft/wet subgrades on construction. This will minimize the quantity of undercutting that may be required to remove and replace soft and/or wet soils and establish a stable base for construction. A contingency should be carried in the project budget for undercutting and replacement of soft and/or wet subgrade soils.

6. The on-site soils, in some areas and at certain depths, contain appreciable amounts of silt, and they will be very sensitive to construction activities and even slight variations in moisture content. Construction traffic and methods should be planned accordingly.

The following report sections provide recommendations to assist in planning for design and construction. We should review plans and specifications prior to their release for bidding to allow us to refine our recommendations, if required, and confirm that our recommendations were interpreted and applied as intended.

B. Seismic Design Considerations

For seismic design purposes, we evaluated the site conditions in accord with Section 1613 of the International Building Code (2015) adopted by New York. On this basis, it was determined that Seismic Site Class "D - Stiff Profile" is applicable to this project. Based upon the composition of the site soils, liquefaction should not occur in response to predicted earthquake motions. The site classification and liquefaction analyses is based, in part, upon shear wave velocity testing conducted in similar subsurface profiles in the general project area.

C. Site Preparation and Earthwork

We caution that the subgrade soils are silt rich and will rapidly soften and lose strength when subjected to ordinary construction equipment traffic when the soils are wet. The contractor should make efforts to maintain the subgrades in a dry and stable condition. These efforts may include the installation of drainage trenches and shaping of subgrade surfaces to promote runoff away from the construction areas, restricting construction equipment traffic from traveling across the subgrade surface when it is wet, and installing temporary haul and construction roads as appropriate for the specific weather conditions and equipment he intends to employ at the site.

Site preparation in the proposed building pad areas should commence with the clearing and stripping of topsoil and surficial organics along with the installation of perimeter swales to intercept and divert runoff away from the work areas. All existing fills should be removed from beneath and extending at least five (5) feet beyond the perimeter of all buildings. The fills may be left in place beneath pavements and landscaped areas provided that their surfaces are proof-compacted and stabilized as recommended below, and the Owner accepts some risk that localized settlement may occur.

The subgrades must be shaped, crowned, and sloped to promote their drainage at all times. Prior to placing fills, the building and pavement subgrades should be proof-compacted by completing at least three (3) passes using a steel drum roller with a static weight of at least ten (10) tons. The roller should operate in the static mode

unless directed otherwise by a Geotechnical Engineer observing the work. Any subgrade soils that are or become soft and wet should be investigated and when recommended by the Geotechnical Engineer, be undercut and stabilized accordingly.

Any suitable site soils, expected to be little if any, and Imported Structural Fill may be used as fill and backfill in building and landscaped areas. Suitable structural fill should consist of well graded manufactured or mined sand and gravel with no particles larger than three (3) inches, between 30 and 70 percent passing the No. 4 sieve, and less than 15 percent, by weight, of material finer than a No. 200 mesh sieve. The structural fill should not contain recycled asphalt, bricks, glass, pyritic shale, or recycled concrete, unless the recycled concrete is from a NYSDOT approved stockpile, and even then only with the owner's specific consent that these recycled waste materials are acceptable for import onto their site.

The Structural Fill should be placed in uniform loose layers no more than about one (1) foot in thickness where heavy vibratory compaction equipment is used. Smaller lifts should be used where hand operated equipment is required for compaction. Each lift should be compacted to no less than 95 percent of the maximum dry density for the soil which is established by the Modified Proctor Compaction Test, ASTM D1557. In landscape areas, the compaction may be reduced to 90 percent of maximum dry density.

D. Foundations

Although new building foundations may be seated on the undisturbed native soils or upon imported Structural Fill placed to increase site grades, foundations should be planned to bear upon grades composed of crushed aggregate pads separated from the surrounding soils with synthetic fabric as recommended subsequently. This grade preparation will allow construction to proceed in most all weather conditions while preserving the approved bearing grade conditions.

If aggregate pads are planned, they should consist of a 50/50 blend of NYSDOT 1 and 2 size aggregate. They should be at least 12 inches thick and extend at least 12 inches beyond the edges of the foundations. The stone should be densified with several passes of a vibratory plate type compactor and it should be placed upon and its sides enveloped with a synthetic fabric such as Mirafi 180N.

The foundations may be proportioned for a maximum net allowable bearing pressure equal to 2,000 psf when bearing directly upon approved native soils or structural fill.

Foundations bearing directly upon the aggregate pads may be proportioned for a maximum net allowable bearing pressure equal to 2,500 psf. In either case, continuous wall and isolated column foundations should have minimum widths of 24 and 36 inches, respectively, even if this results in a bearing pressure which is less than the maximum allowable. Exterior foundations should bear at least four (4) feet beneath final adjacent exterior grades to afford frost penetration protection. Interior foundations may be seated at a nominal two (2) foot depth below the floor slab,if allowed by local Colonie codes. The aggregate pad may be thickened beneath interior foundations to afford frost protection when required by local code.

Assuming standard care is used in preparing the bearing grades, we estimate that total foundation settlement should be less than one (1) inch with differential settlements being no more than half of the total. The settlements should occur within a few days after construction is completed and each load increment is applied.

Any foundation walls which retain earth should be designed to support lateral earth pressures together with all applicable temporary and permanent surcharge loads. If the walls are free to deflect as the backfill is placed or surcharge loads applied, "Active" earth pressures may be assumed. If the walls are braced prior to backfilling or applying surcharge loads, "At-Rest" conditions should be assumed. The following design parameters are provided to assist in the design, whichever apply:

- Coefficient of "At-Rest" Lateral Earth Pressure $K_o = 0.50$
- Coefficient of "Active" Lateral Earth Pressure $K_a = 0.33$
- Coefficient of "Passive" Earth Pressure $K_P = 2.0$
- Total Unit Weight of Soil and Compacted Backfill $Y_T = 120$ pcf
- Coefficient of Sliding Friction (On Native or Fill Soil) $\delta_f = 0.30$
- Coefficient of Sliding Friction (On Aggregate Pad) $\delta_f = 0.48$

The design parameters offered assume that the walls are backfilled with suitable on-site soils or imported Structural Fill in a controlled manner and densified to the recommended Modified Proctor parameters. A foundation drain should be installed about the structure.

E. Floor Slabs

Floor slabs should be constructed upon a minimum eight (8) inch thick subbase of Imported Structural Fill and four (4) inch thick base of crushed stone (ASTM Blend 57 material).

A vapor retarder (Stego Wrap 15 mil Class A or equivalent) should be installed if floor coverings or moisture sensitive coatings are to be placed on the slab. The vapor retarder should be positioned above or below the stone base in accord with the American Concrete Institute Manual of Concrete Practice Manual Section 302.1R. A modulus of subgrade reaction equal to 150 pounds per cubic inch (pci) at the top of the stone base layer may be assumed for the slab design purposes.
It should be understood that sidewalks constructed upon the site's soils will heave as frost seasonally penetrates the subgrades. The magnitude of the seasonal heave will

vary with many factors, and may result in differential movements. As the frost leaves the ground, the sidewalks will settle back, but not entirely in all areas, and this may accentuate the differential movements across the pavement areas. Where curbs, walks, and storm drains meet pavements, these differential heave and settlements may result in undesirable movements, and create trip hazards. To limit the magnitude of heave and the creation of these uneven joints to generally tolerable magnitudes for most winters, a sixteen (16) inch thick crushed stone base course, composed of Blend 57 aggregate, may be placed beneath the sensitive sidewalk, drive, etc. areas. The stone layer must have an underdrain placed within it.

F. Supplemental Investigations

Supplemental test pit investigations may be considered across the building areas to determine the presence depth of any uncontrolled fills in order to define quantities of excavation and imported filling.

G. Plan Review and Construction Monitoring

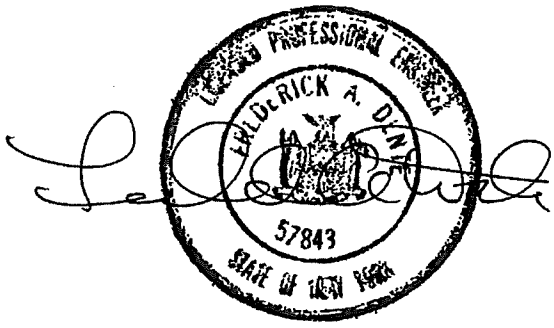
The Dente Group should be retained to review plans and specifications related to site grading, foundations, and earthwork prior to their release for bidding to confirm that the recommendations contained herein were properly interpreted and applied.

It should be understood that the actual subsurface conditions that exist across this site will only be known when the site is excavated. For this reason, we should be retained to monitor earthwork and bearing grade preparations for foundations, floor slabs, and pavements. The presence of the Geotechnical Engineer during the earthwork and foundation construction phases will allow validation of the subsurface conditions assumed to exist for this study and the design recommended in this report. We believe this construction sequence observation and testing should be provided by us as a consultant to the Owner, Architect, or Construction Manager.

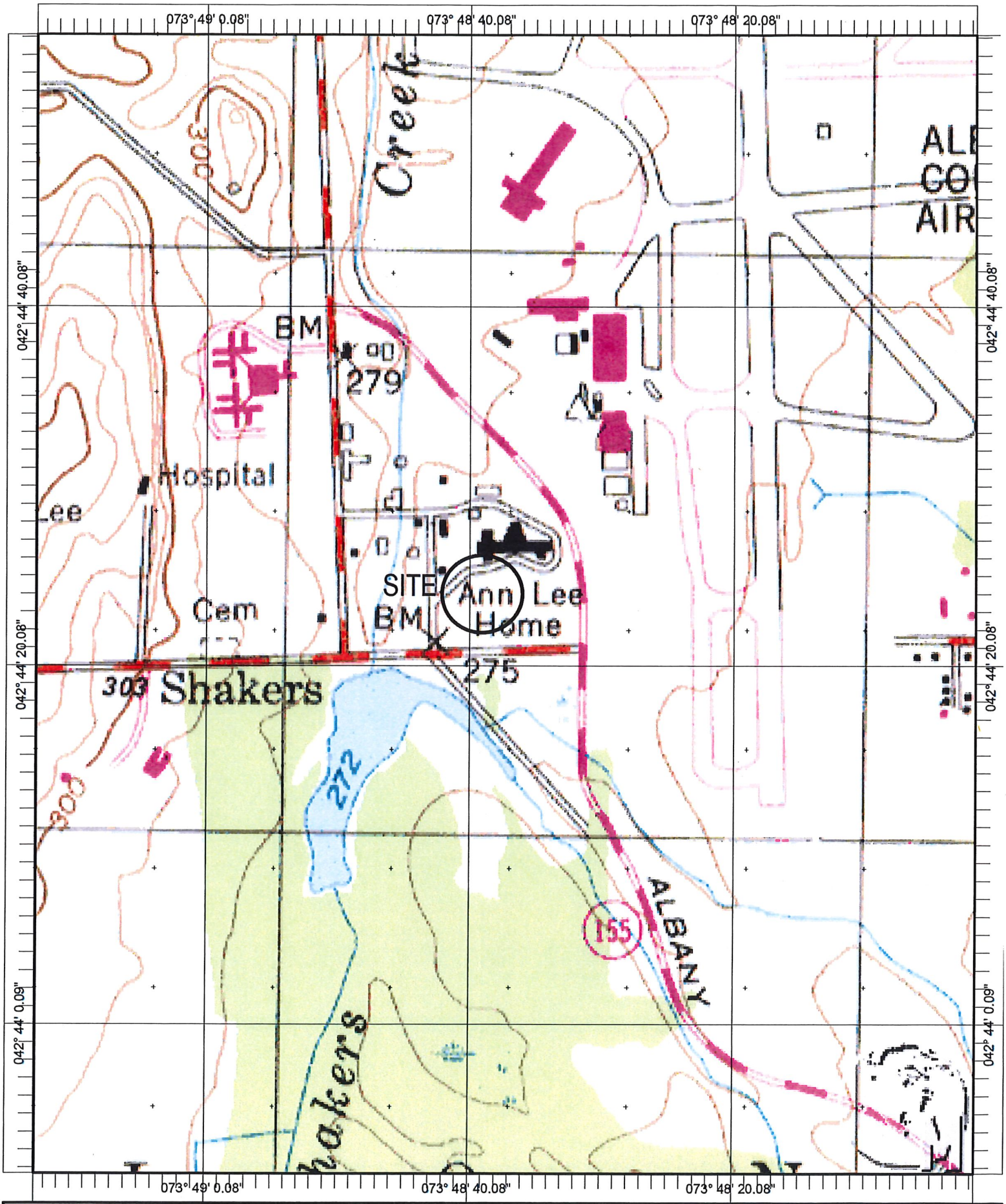
V. CLOSURE

This report was prepared for specific application to the project site and the construction planned using methods and practices common to Geotechnical Engineering in the area and at the time of its preparation. No other warranty, either expressed or implied, is made. We appreciate the opportunity to be of service. Should questions arise or if we may be of any other service, please contact us at your convenience.

Prepared by,
Dente Group



Fred A. Dente, P.E.
Principal



Name: ALBANY
Date: 11/30/117
Scale: 1 inch equals 666 feet

Location: 042° 44' 23.5" N 073° 48' 37.3" W

A Terracon COMPANY

GEOTECHNICAL EVALUATION
SOLDIER ON VETERANS VILLAGE
COLONIE, NEW YORK
Dente File No. JB175246

I. INTRODUCTION

This report presents the results of a geotechnical evaluation completed by the Dente Group for the proposed Gordon H. Mansfield Veterans Village development planned by Soldier On, Inc. in the town of Colonie, New York. The evaluation was completed in general accord with Dente proposal number FDE-17-213, which was accepted by Delaware Engineering, P.C.

In general, our scope of services for this project consisted of the following:

- UFPO and private utility clearance of 5 test locations staked in the field by others,
- Completion of five test borings,
- Completing laboratory testing of selected soil samples,
- Preparation of this report, which summarizes the results of our explorations and presents recommendations to assist in planning for the geotechnical related aspects of the project.

This report and the recommendations contained within it were developed for specific application to the site and construction planned, as we currently understand it. Corrections in our understanding, changes in the structure locations, their grades, loads, etc. should be brought to our attention so that we may evaluate their effect upon the recommendations offered in this report.

It should be understood that this report was prepared, in part, on the basis of a limited field exploration. The borings were advanced at discrete locations and the overburden

soils sampled at specific depths. Conditions are only known at the locations and through the depths investigated. Conditions at other locations and depths may be

different, and these differences may impact upon the conclusions reached and the recommendations offered. For this reason, we strongly recommend that we be retained to provide site observation services during construction.

This report was prepared for informational purposes only and should not be considered part of the contract documents. It should be made available to interested parties in its entirety only. Should the data contained in this report not be adequate for the contractors' bidding purposes, the contractors may make their own investigations, tests, and analyses for use in bid preparation.

The recommendations offered in this report concerning the control of surface and subsurface waters, moisture or vapor membranes address conventional Geotechnical Engineering aspects only and are not to be construed as recommendations for controlling or providing an environment that would prohibit or control infestations of the structure or its surroundings with mold or other biological agents.

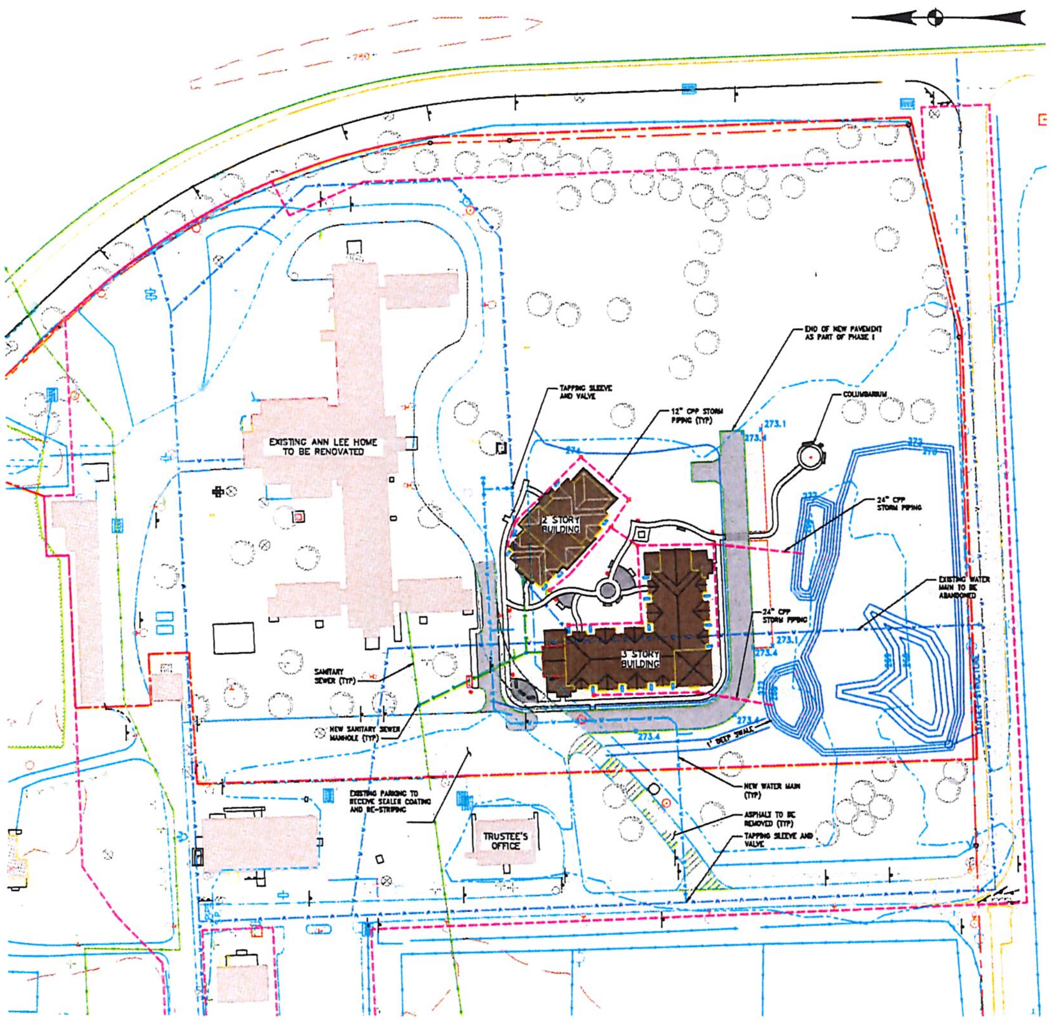
II. SITE AND PROJECT DESCRIPTION

The Soldier On development site is located along the west side of Peter Delessondro Drive north of its intersection with Meeting House Road. The proposed building site is near level, at about elevation 273 to 274 feet, and consists of fields vegetated with lawn, thick brush, tall grass, and trees.

The building development is planned in stages with the first consisting of two apartment buildings, one two stories and one three stories in height. The buildings are planned as wood framed, slab on grade structures with the two story building plan area of about 5,500 and the three story at about 13,000 square feet. The floors are planned at about 274.6 feet. The loads to be supported by the walls, columns, and floors are estimated to be no more than about 3,500 pounds per lineal foot, 35 kips and 200 pounds per square foot, respectively. The buildings will be surrounded with landscaped areas and connecting walkways.

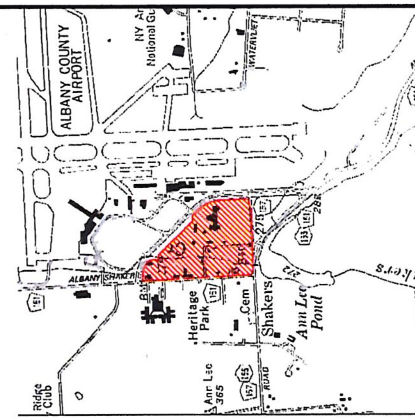
III. SUBSURFACE CONDITIONS

The subsurface conditions at the site were investigated through the completion of five



PHASE 1 PLAN

SCALE: 1" = 60'



SITE LOCATION

SCALE: 1" = 1000'

NOTES:

1. NEW ROADWAY SURFACES SHALL BE 12" OF CRUSHED LIMESTONE SUBBASE, 3" TYPE 3 BINDER, 1 ½" TYPE 7 TOP.
2. THE SANITARY SEWER MAIN CONNECTION TO THE ANN LEE HOME IS AN 8" MAIN, PER TOWN OF COLONIE RECORD PLANS DATED DECEMBER 1972.

QUANTITIES FOR PRICING (NO CONTINGENCY ADDED):

SITE:
STAMPED CONCRETE= 1,200 SF
NEW PAVEMENT= 13,500 SF

SANITARY:
213 LF 8" PVC
1 – 4' ID MANHOLE

WATER:
820 LF 8" DIP
2 – 6" HYDRANT ASSEMBLIES (INCL. TEE, VALVE AND LEAD)
4 – 8" GATE VALVES

STORM:
165 LF 24" CPP
770 – LF 12" CPP
11 – 2'-6" X 2'-6" CATCH BASINS W/ FRAME AND GRATE

LEGEND:

WOODS EDGE
FENCE LINE
SANITARY SEWER LINE
STORM SEWER LINE
POST/PIPE
LIGHT POLE
FLAG POLE
SIGN
WATER VALVE
FIRE HYDRANT
UTILITY POLE
SANITARY MANHOLE
GAS METER
IRON ROD FOUND

KEY:

EXISTING BUILDINGS
PROPOSED BUILDINGS
STORMWATER FEATURES
EXISTING WATER MAIN
100 YEAR FLOODPLAIN
PROJECT SITE LIMITS
PDD LIMITS AND LEASE AREA

DELAWARE ENGINEERING, D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
28 MADISON AVENUE EXTENSION, ALBANY, NY 12203 - 518.452.1290
8-12 DIETZ STREET, SUITE 303, ONEONTA, NY 13820 - 607.432.8073

DATE:	6/3/2015
DRAWN BY:	TJS
SCALE:	AS SHOWN
REVIEWED BY:	WB
PROJECT NO.:	14-1144
FILE:	

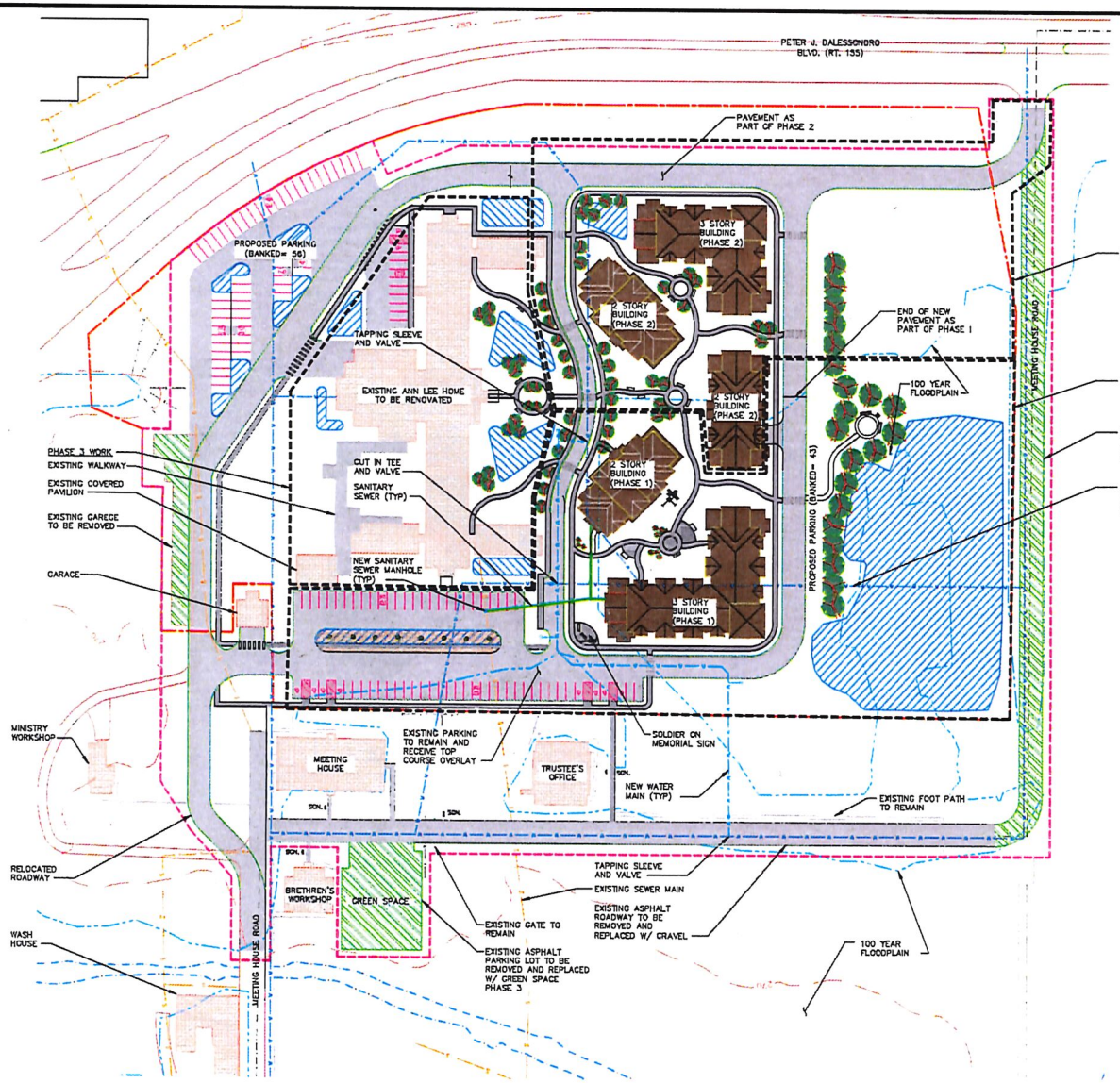
REVISIONS

NO.	DATE	DESCRIPTION

SOLDIER ON, INC.
GORDON H. MANSFIELD
VETERANS VILLAGE

PHASE 1 PLAN

SHEET: C2



SITE PLAN - FULL BUILD-OUT
SCALE: NOT TO SCALE

DATE: 8/3/2015
DRAWN BY: TJS
SCALE: AS SHOWN
REVIEWED BY: MB
PROJECT NO.: 14-1144
FILE: REV10 9-19-17

DELAWARE ENGINEERING D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
28 MADISON AVENUE EXTENSION, ALBANY, NY 12203 - 518.453.1729
8-12 DIETZ STREET, SUITE 303, ONEONTA, NY 13820 - 607.432.8073

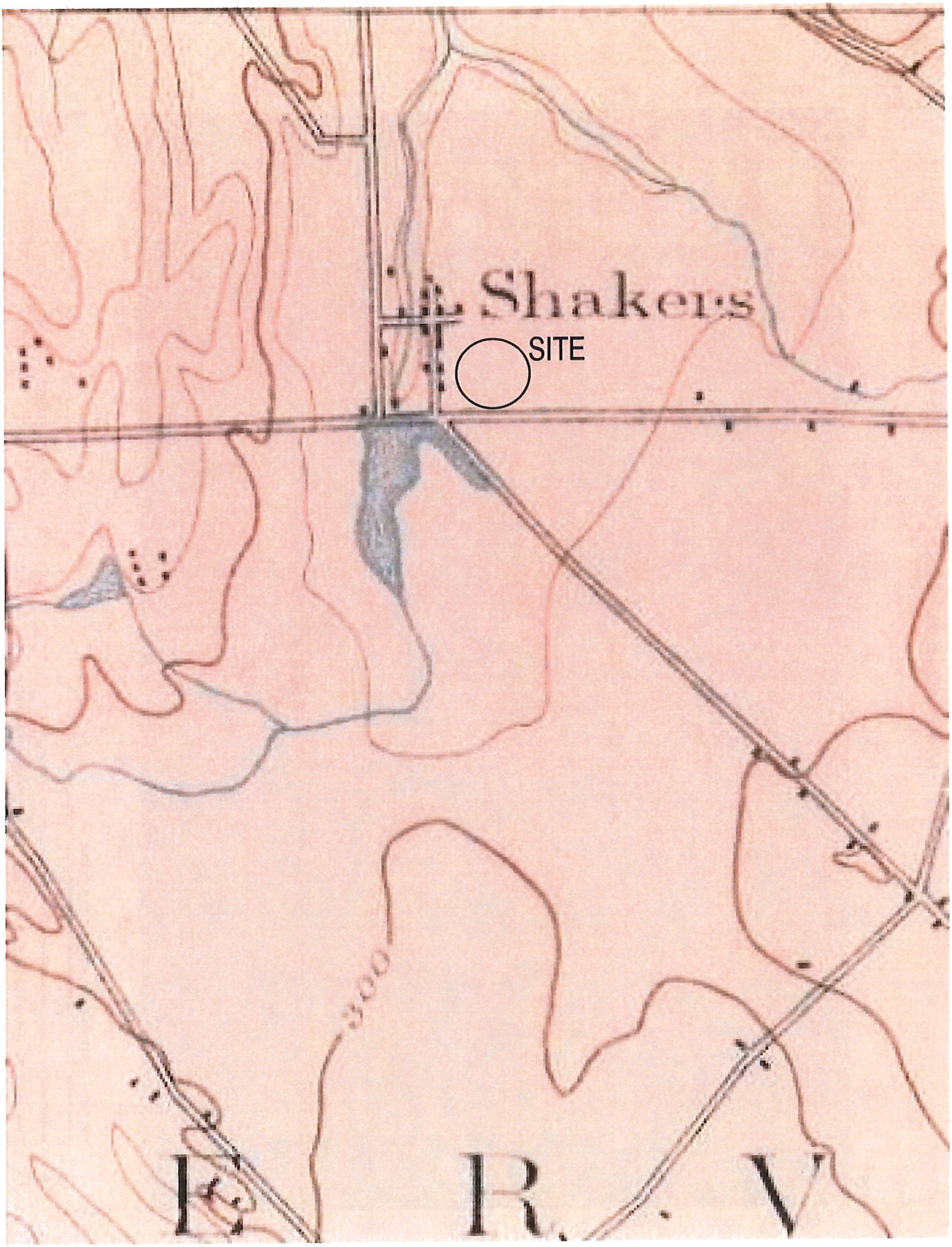
REVISIONS

NO.	DATE	DESCRIPTION

SOLDIER ON, INC.
GORDON H. MANSFIELD VETERANS VILLAGE

SITE PLAN - FULL BUILD-OUT

SHEET: C-20



Soldier On, Colonie, New York 1893

Soil Map—Albany County, New York

Map Scale: 1:1,140 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Albany County, New York
Survey Area Data: Version 15, Oct 8, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 10, 2015—Mar 29, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
St	Stafford loamy fine sand	4.3	75.7%
Uf	Udipsamments-Urban land complex	1.4	24.3%
Totals for Area of Interest		**5.7**	**100.0%**

Albany County, New York

St—Stafford loamy fine sand

Map Unit Setting

National map unit symbol: 9phr
Mean annual precipitation: 36 to 41 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 100 to 170 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Stafford and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Stafford

Setting

Landform: Beach ridges, deltas
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Sandy glaciofluvial or glaciolacustrine deposits

Typical profile

H1 - 0 to 12 inches: loamy fine sand
H2 - 12 to 30 inches: loamy fine sand
H3 - 30 to 60 inches: fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (1.98 to 19.98 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A/D
Hydric soil rating: No

Minor Components

Colonie

Percent of map unit: 5 percent

Hydric soil rating: No

Unnamed soils

Percent of map unit: 5 percent

Elnora

Percent of map unit: 5 percent
Hydric soil rating: No

Granby

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Albany County, New York
Survey Area Data: Version 15, Oct 8, 2017

Albany County, New York

Uf—Udipsamments-Urban land complex

Map Unit Setting

National map unit symbol: 9pj0
Mean annual precipitation: 36 to 41 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 100 to 170 days
Farmland classification: Not prime farmland

Map Unit Composition

Udipsamments and similar soils: 50 percent
Urban land: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udipsamments

Typical profile

H1 - 0 to 70 inches: coarse sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very high (19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.6 inches)

Description of Urban Land

Typical profile

H1 - 0 to 6 inches: variable

Minor Components

Psammaquents

Percent of map unit: 10 percent
Landform: Depressions
Hydric soil rating: Yes

Unnamed soils

Percent of map unit: 10 percent

Data Source Information

Soil Survey Area: Albany County, New York
Survey Area Data: Version 15, Oct 8, 2017

MAP REFERENCES

THE FOLLOWING NOTES AND SURVEY MAP ARE REFERENCED FROM A MAP ENTITLED "MAP AND SURVEY LANDS OF ALBANY COUNTY" PREPARED BY CREIGHTON MANNING ENGINEERING, LLC. DATED MAY 16 2014

NOTES:

1. SURVEY SHOWN WAS PREPARED FROM A MARCH 2014 FIELD SURVEY.
2. SURVEY SHOWN WAS PREPARED WITHOUT THE BENEFIT OF AN UP TO DATE ABSTRACT OF TITLE OR TITLE REPORT AND IS SUBJECT TO ANY STATEMENTS OF FACT THAT SUCH AN ABSTRACT OF TITLE OR TITLE REPORT MAY REVEAL.
3. SURVEY SHOWN IS SUBJECT TO ANY SUBSURFACE CONDITIONS THAT MAY EXIST, IF ANY.
4. UNAUTHORIZED ALTERATIONS OR ADDITIONS TO A SURVEY MAP BEARING A LICENSED LAND SURVEYORS SEAL IS A VIOLATION OF SECTION 7209, SUBDIVISION 2, OF THE NEW YORK STATE EDUCATION LAW
5. ONLY COPIES FROM THE ORIGINAL OF THIS SURVEY MARKED WITH AN ORIGINAL OF THE LAND SURVEYORS EMBOSSED SEAL AND SIGNATURE IN RED, SHALL BE CONSIDERED TO BE TRUE AND VALID COPIES.
6. THIS SURVEY WAS PREPARED IN ACCORDANCE WITH THE EXISTING CODE OF PRACTICE FOR LAND SURVEYS ADOPTED BY THE NEW YORK STATE ASSOCIATION OF PROFESSIONAL LAND SURVEYORS.
7. DECLARATION IS MADE TO ORIGINAL PURCHASER OF THE SURVEY. IT IS NOT TRANSFERRABLE TO ADDITIONAL INSTITUTIONS OR SUBSEQUENT OWNERS.
8. THIS PLAT REPRESENTS A BOUNDARY SURVEY OF A PORTION OF THE PARCEL DESCRIBED IN ALBANY COUNTY DEED RECORDS AT LIBER 764, PAGE 294.
9. SHAKERS CREEK IS A PROTECTED WATERCOURSE AREA.

MAP REFERENCES:

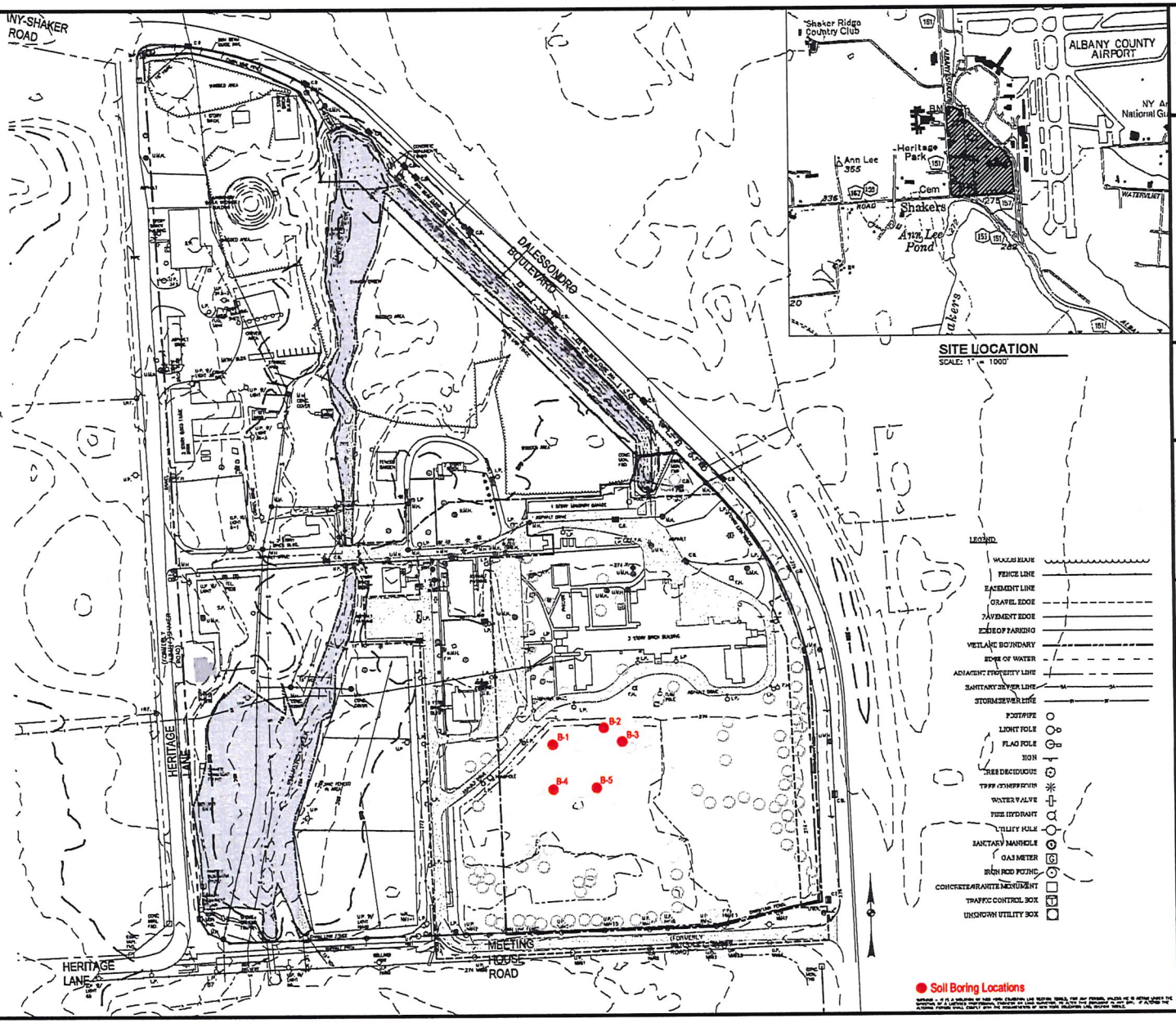
1. MAP ENTITLED "COUNTY OF ALBANY- NEW YORK, ALBANY COUNTY AIRPORT BOUNDARY MAP" PREPARED BY PARSONS, BRINKERHOFF, QUADE & DOUGLAS, INC. DATED JULY 28, 1971.
2. MAP ENTITLED "COUNTY OF ALBANY-NEW YORK, ALBANY COUNTY AIRPORT PLAN SHEET ALIGNMENT, PAVING & GRADING, ACCESS ROAD "A" SHEET NOS 12 & 13 PREPARED BY PARSONS, BRINKERHOFF, QUADE & DOUGLAS, INC., DATED SEPTEMBER 30, 1976, REVISED THRU MARCH (?7).
3. RIGHT ACQUISITION MAPS PREPARED FOR ALBANY SHAKER ROAD, COUNTY ROAD 151, MAP NO. 265, PARCEL NOS. 207 & 208, PREPARED BY CLOUGH, HARBOUR, & ASSOCIATES, LLP., DATED NOVEMBER 30, 2001.
4. RIGHT ACQUISITION MAPS PREPARED FOR ALBANY SHAKER ROAD, COUNTY ROAD 151, MAP NO. 265, PARCEL NOS. 215 & 239, PREPARED BY CLOUGH, HARBOUR, & ASSOCIATES, LLP., DATED MARCH 14, 2001.
5. MAP ENTITLED " ALBANY COUNTY AIRPORT AUTHORITY MAP SHOWING LANDS LEASED TO THE ALBANY COUNTY AIRPORT AUTHORITY & ADJACENT LANDS OF THE COUNTY OF ALBANY, SHEET NO. 2, PREPARED BY SMITH & MAHONEY P.C., DATED SEPTEMBER 14, 1994.

WETLAND INFORMATION

1. WETLANDS WERE DELINEATED BY MARK KIBURZ ON APRIL 24, 2014 & LOCATED ON APRIL 30, 2014.

PROPERTY SURVEY

SCALE: 1" = 100'



DELAWARE ENGINEERING, D.P.C.
CIVIL AND ENVIRONMENTAL ENGINEERING
28 HUSKOW AVENUE EXTENSION, ALBANY, NY 12203 - 518.453.7300
8-11 DIETZ STREET, SUITE 303, OneONTA, NY 13820 - 607.432.8173

DATE: 5/13/2015
DRAWN BY: LG
SCALE: AS SHOWN
REVIEWED BY: MB
PROJECT NO.: 14-1124
FILE:

REVISIONS

NO.	DATE	DESCRIPTION

SOLDIER ON, INC.
GORDON H. MANSFIELD
VETERANS VILLAGE

PROPERTY SURVEY

SHEET
C-30

INTERPRETATION OF SUBSURFACE LOGS

The Subsurface Logs present observations and the results of tests performed in the field by the Driller, Technicians, Geologists and Geotechnical Engineers as noted. Soil/Rock Classifications are made visually, unless otherwise noted, on a portion of the materials recovered through the sampling process and may not necessarily be representative of the materials between sampling intervals or locations.

The following defines some of the terms utilized in the preparation of the Subsurface Logs.

SOIL CLASSIFICATIONS

Soil Classifications are visual descriptions on the basis of the Unified Soil Classification ASTM D-2487 and USBR, 1973 with additional comments by weight of constituents by BUHRMASTER. The soil density or consistency is based on the penetration resistance determined by ASTM METHOD D1586. Soil Moisture of the recovered materials is described as DRY, MOIST, WET or SATURATED.

SIZE DESCRIPTION		RELATIVE DENSITY/CONSISTENCY (basis ASTM D1586)			
SOIL TYPE	PARTICLE SIZE	GRANULAR SOIL		COHESIVE SOIL	
BOULDER	> 12	DENSITY	BLOWS/FT.	CONSISTENCY	BLOWS/FT.
COBBLE	3" - 12"	LOOSE	< 10	VERY SOFT	< 3
GRAVEL-COARSE	3" - 3/4"	FIRM	11 - 30	SOFT	4 - 5
GRAVEL - FINE	3/4" - #4	COMPACT	31 - 50	MEDIUM	6 - 15
SAND - COARSE	#4 - #10	VERY COMPACT	50 +	STIFF	16 - 25
SAND - MEDIUM	#10 - #40			HARD	25 +
SAND - FINE	#40 - #200				
SILT/NONPLASTIC	< #200				
CLAY/PLASTIC	< #200				

SOIL STRUCTURE		RELATIVE PROPORTION OF SOIL TYPES	
STRUCTURE	DESCRIPTION	DESCRIPTION	% OF SAMPLE BY WEIGHT
LAYER	6" THICK OR GREATER	AND	35 - 50
SEAM	6" THICK OR LESS	SOME	20 - 35
PARTING	LESS THAN 1/4" THICK	LITTLE	10 - 20
VARVED	UNIFORM HORIZONTAL PARTINGS OR SEAMS	TRACE	LESS THAN 10

Note that the classification of soils or soil like materials is subject to the limitations imposed by the size of the sampler, the size of the sample and its degree of disturbance and moisture.

ROCK CLASSIFICATIONS

Rock Classifications are visual descriptions on the basis of the Driller's, Technician's, Geologist's or Geotechnical Engineer's observations of the coring activity and the recovered samples applying the following classifications.

CLASSIFICATION TERM	DESCRIPTION
VERY HARD	NOT SCRATCHED BY KNIFE
HARD	SCRATCHED WITH DIFFICULTY
MEDIUM HARD	SCRATCHED EASILY
SOFT	SCRATCHED WITH FINGERNAIL
VERY WEATHERED	DISINTEGRATED WITH NUMEROUS SOIL SEAM
WEATHERED	SLIGHT DISINTEGRATION, STAINING, NO SEAMS
SOUND	NO EVIDENCE OF ABOVE
MASSIVE	ROCK LAYER GREATER THAN 36" THICK
THICK BEDDED	ROCK LAYER 12" - 36"
BEDDED	ROCK LAYER 4" - 12"
THIN BEDDED	ROCK LAYER 1" - 4"
LAMINATED	ROCK LAYER LESS THAN 1"
FRACTURES	NATURAL BREAKS AT SOME ANGLE TO BEDS

Core sample recovery is expressed as percent recovered of total sampled. The ROCK QUALITY DESIGNATION (RQD) is the total length of core sample pieces exceeding 4" length divided by the total core sample length for N size cored.

GENERAL

- Soil and Rock classifications are made visually on samples recovered. The presence of Gravel, Cobbles and Boulders will influence sample recovery classification density/consistency determination.
- Groundwater, if encountered, was measured and its depth recorded at the time and under the conditions as noted.
- Topsoil or pavements, if present, were measured and recorded at the time and under the conditions as noted.
- Stratification Lines are approximate boundaries between soil types. These transitions may be gradual or distinct and are approximated.

DENTE GROUP, A TERRACON COMPANY	SUBSURFACE LOG: B-1

PROJECT: Soldier On	**DATE**	START: 11/21/17	FINISH: 11/21/17
LOCATION: Colonie, New York	**METHODS:** 3 1/4" Hollow Stem Augers, ASTM		
CLIENT: Delaware Engineering	D1586 Drilling Methods with Auto Hammer		
JOB NUMBER: JB175246	**SURFACE ELEVATION**: +/- 274.0'		
DRILL TYPE: CME 45C	**CLASSIFICATION:** O.Burns		

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	+/- 3" Topsoil
	1	1	1				**FILL:** Brown Mottled F-M SAND and SILT,
				1	1	2	Little Coal (MOIST), Grades Brown/Black
	2	1/12"	-				Mottled Fine SAND, SILT, and ORGANICS,
				1/12"	-	1	Little Ash (WET) **(MOIST TO WET, LOOSE)**
	3	1/12"	-				
5'				1	1	1	Brown/Gray Mottled Fine SAND, Some Silt
	4	1	1				
				1	2	2	
10'	5	1	1				Grades Gray
				2	3	3	
							(SATURATED, LOOSE)
15'	6	2	2				Gray Fine SAND and SILT
				3	4	5	
							(SATURATED, LOOSE)
20'	7	1	2				Gray Fine SAND, Some Silt
				3	4	5	
							(SATURATED, LOOSE)
25'	8	1	1				Gray SILT and CLAY, Silt Partings noted
				1	2	2	**(SATURATED, VERY SOFT)**

End of boring 27.0' depth. Groundwater measured at 4.5' depth within auger casings after Sample #4. Drilling mud was introduced to the borehole at 10.0' depth.

DENTE GROUP, A TERRACON COMPANY | SUBSURFACE LOG: B-2

PROJECT: Soldier On | **DATE** START: 11/21/17 FINISH: 11/21/17

LOCATION: Colonie, New York | **METHODS**: 3 1/4" Hollow Stem Augers, ASTM D1586 Drilling Methods with Auto Hammer

CLIENT: Delaware Engineering

JOB NUMBER: JB175246 | **SURFACE ELEVATION**: +/- 274.0'

DRILL TYPE: CME 45C | **CLASSIFICATION**: O.Burns

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	+/- 6" Topsoil
	1	WH	1				Brown F-M SAND, Some Silt, Little Mottling
				2	2	3	(MOIST)
	2	2	4				Grades (WET)
				2	3	6	
	3	2	1				Grades Gray Fine SAND, Some Silt
5'				1	2	2	(SATURATED)
	4	2	2				
				2	2	4	
10'	5	1	1				
				3	3	4	
15'	6	2	2				
				2	2	4	
20'	7	2	2				Grades Little Silt
				3	3	5	
25'	8	6	6				Grades Some Silt
				9	13	15	**(MOIST TO SATURATED, LOOSE TO FIRM)**

End of boring 27.0' depth. Groundwater measured at 6.0' depth within auger casings after Sample #5. Drilling mud was introduced to the borehole at 10.0' depth.

DENTE GROUP, A TERRACON COMPANY	SUBSURFACE LOG: B-3

PROJECT: Soldier On	**DATE**	START: 11/21/17	FINISH: 11/21/17
LOCATION: Colonie, New York	**METHODS:** 3 1/4" Hollow Stem Augers, ASTM		
CLIENT: Delaware Engineering	D1586 Drilling Methods with Auto Hammer		
JOB NUMBER: JB175246	**SURFACE ELEVATION**: +/- 274.0'		
DRILL TYPE: CME 45C	**CLASSIFICATION:** O.Burns		

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	+/- 3" Topsoil
	1	1	2				Brown F-M SAND, Some Silt, Little Mottling
				2	3	4	(MOIST)
	2	2	3				Grades (SATURATED)
				4	3	7	**(MOIST TO SATURATED, LOOSE)**
	3	1	2				Brown F-M SAND and SILT
5'				2	2	4	
	4	1	1				Grades Brown Fine SAND and SILT
				1	1	2	
10'	5	1	1				Grades Gray
				1	2	2	
							(SATURATED, LOOSE)
15'	6	2	3				Gray Fine SAND, Little Silt
				4	3	7	
20'	7	4	6				Grades Some Silt
				5	5	11	
25'	8	4	4				Grades Little Silt
				6	8	10	**(SATUARTED, LOOSE TO FIRM)**

End of boring 27.0' depth. Groundwater measured at 3.3' depth within auger casings after Sample #4. Drilling mud was introduced to the borehole at 10.0' depth.

DENTE GROUP, A TERRACON COMPANY	SUBSURFACE LOG: B-4

PROJECT: Soldier On	**DATE**	START: 11/21/17	FINISH: 11/21/17
LOCATION: Colonie, New York	**METHODS:** 3 1/4" Hollow Stem Augers, ASTM		
CLIENT: Delaware Engineering	D1586 Drilling Methods with Auto Hammer		
JOB NUMBER: JB175246	**SURFACE ELEVATION**: +/- 273.0'		
DRILL TYPE: CME 45C	**CLASSIFICATION:** O.Burns		

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	+/- 4" Topsoil
	1	1	1				Dark Brown Mottled to Brown F-M SAND and
				1	2	2	SILT **(MOIST, LOOSE)**
	2	2	4				Brown F-M SAND, Little Silt (SATURATED)
				4	5	8	
	3	3	5				Grades Some Silt
5'				5	4	10	**(SATURATED, LOOSE)**
	4	2	2				Brown Fine SAND and SILT
				3	4	5	
							(SATURATED, LOOSE)
10'	5	1	3				Gray Fine SAND, Some Silt
				3	4	6	
15'	6	1	3				
				4	4	7	
							(SATURATED, LOOSE)
20'	7	1	1				Gray Fine SAND and SILT
				1	1	2	
							(SATURATED, LOOSE)
25'	8	2	5				Gray Fine SAND, Little Silt
				6	9	11	
							(SATURATED, FIRM)

DENTE GROUP, A TERRACON COMPANY	SUBSURFACE LOG: B-4 contin.

PROJECT: Soldier On	**DATE**	START: 11/21/17	FINISH: 11/21/17
LOCATION: Colonie, New York	**METHODS:** 3 1/4" Hollow Stem Augers, ASTM		
CLIENT: Delaware Engineering	D1586 Drilling Methods with Auto Hammer		
JOB NUMBER: JB175246	**SURFACE ELEVATION**: +/- 273.0'		
DRILL TYPE: CME 45C	**CLASSIFICATION:** O.Burns		

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	
30'	9	4	1				
				2	2	3	Gray SILT and CLAY
35'	10	WH	1				
				1	1	2	
40'	11	WH	WH				
				WH	1	WH	
45'	12	WH	1				
				1	2	2	**(SATURATED, VERY SOFT)**
50'	13	WH	3				
				5	9	8	Gray F-M SAND, trace silt **(SATURATED, LOOSE)**
55'							End of boring 52.0' depth. Groundwater measured at 5.5' depth within auger casings after Sample #4. Drilling mud was introduced to borehole at 10.0' depth.

DENTE GROUP, A TERRACON COMPANY	SUBSURFACE LOG: B-5		
PROJECT: Soldier On	**DATE**	START: 11/20/17	FINISH: 11/20/17
LOCATION: Colonie, New York	**METHODS:** 3 1/4" Hollow Stem Augers, ASTM		
CLIENT: Delaware Engineering	D1586 Drilling Methods with Auto Hammer		
JOB NUMBER: JB175246	**SURFACE ELEVATION**: +/- 273.0'		
DRILL TYPE: CME 45C	**CLASSIFICATION:** O.Burns		

SAMPLE		BLOWS ON SAMPLER					CLASSIFICATION / OBSERVATIONS
DEPTH	#	6"	12"	18"	24"	N	+/- 8" Topsoil
	1	WH	1				Dark Brown to Brown Mottled F-M SAND and
				1	1	2	SILT (MOIST)
	2	3	3				Grades (SATURATED)
				3	2	6	
	3	2	3				
5'				3	2	6	
	4	2	1				Grades Brown Fine SAND and SILT
				1	2	2	
							(MOIST TO SATURATED, LOOSE)
10'	5	2	1				
				1	1	2	Gray Fine SAND, Some Silt
							(SATURATED, LOOSE)
15'	6	2	4				Gray Fine SAND and SILT
				4	5	8	
							(SATURATED, LOOSE)
20'	7	WH	WH				Gray Fine SAND, Some Silt
				WH	1	WH	
							(SATURATED, LOOSE)
25'	8	2	2				Gray SILT and CLAY
				2	3	4	**(SATURATED, SOFT)**

End of boring 27.0' depth. Groundwater measured at 3.3' depth within auger casings after Sample #4. Drilling mud was introduced to the borehole at 10.0' depth.

Soilder On

Colonie, NY

Moisture Content Results - ASTM D2216

Boring No.	B-4 / S-2	B-4 / S-3	B-4 / S-5	B-4 / S-7		
Sample No.	362	363	364	365		
Sample Depth	2'-4'	4'-6'	10'-12'	20'-22'		
Tare Weight	273.20	271.30	270.40	265.00		
W_S + Tare	500.00	564.00	551.10	569.40		
W_D + Tare	423.60	503.10	490.20	500.10		
W_{WATER}	76.40	60.90	60.90	69.30		
$W_{DRY\ SOIL}$	150.40	231.80	219.80	235.10		
% Moisture (W_W / W_D)	50.8	26.3	27.7	29.5		

Boring No.						
Sample No.						
Sample Depth						
Tare Weight						
W_S + Tare						
W_D + Tare						
W_{WATER}						
$W_{DRY\ SOIL}$						
% Moisture (W_W / W_D)						

Boring No.						
Sample No.						
Sample Depth						
Tare Weight						
W_S + Tare						
W_D + Tare						
W_{WATER}						
$W_{DRY\ SOIL}$						
% Moisture (W_W / W_D)						

DENTE ENGINEERING
594 Broadway
Watervliet, NY 12189
Ph. 518-266-0310
Fax 518-266-9238

Client: Delaware Engineering
File No. JB175246
Date: November 30, 2017

Soldier One

Colonie, NY

Organic Content Results ASTM D2974

Boring No.	B-1 / S-2					
Sample No.	362					
Sample Depth	2'-4'					
Tare Weight	135.20					
W_S + Tare	191.50					
W_A + Tare	184.50					
W_S	56.30					
W_A	49.30					
%ASH = W_A / W_S	87.6					
%ORGANICS	12.4					

Boring No.						
Sample No.						
Sample Depth						
Tare Weight						
W_S + Tare						
W_A + Tare						
W_S						
W_A						
%ASH = W_A / W_S						
%ORGANICS						

Boring No.						
Sample No.						
Sample Depth						
Tare Weight						
W_S + Tare						
W_A + Tare						
W_S						
W_A						
%ASH = W_A / W_S						
%ORGANICS						

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Fax 518-266-9238

Client: Delaware Engineering
File No. JB175246
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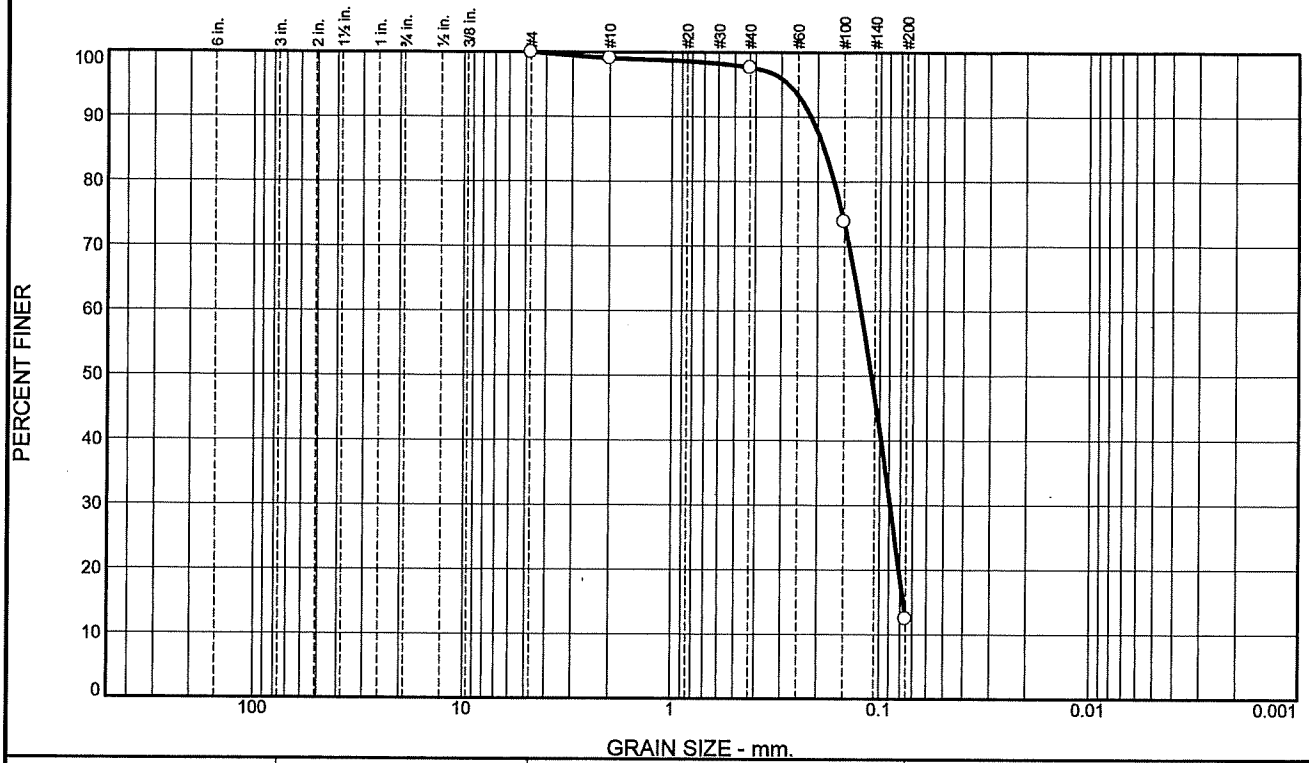
Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.9	1.4	85.3	12.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.1		
#40	97.7		
#100	73.9		
#200	12.4		

* (no specification provided)

Material Description

F-M-C SAND, Little Silt

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{90}= 0.2156 D_{85}= 0.1864 D_{60}= 0.1238
D_{50}= 0.1102 D_{30}= 0.0893 D_{15}= 0.0769
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO= A-2-4(0)

Remarks

Per ASTM D422 Washed

Source of Sample: Soil Borings **Depth:** 4'-6'
Sample Number: 363 B-4 / S-3

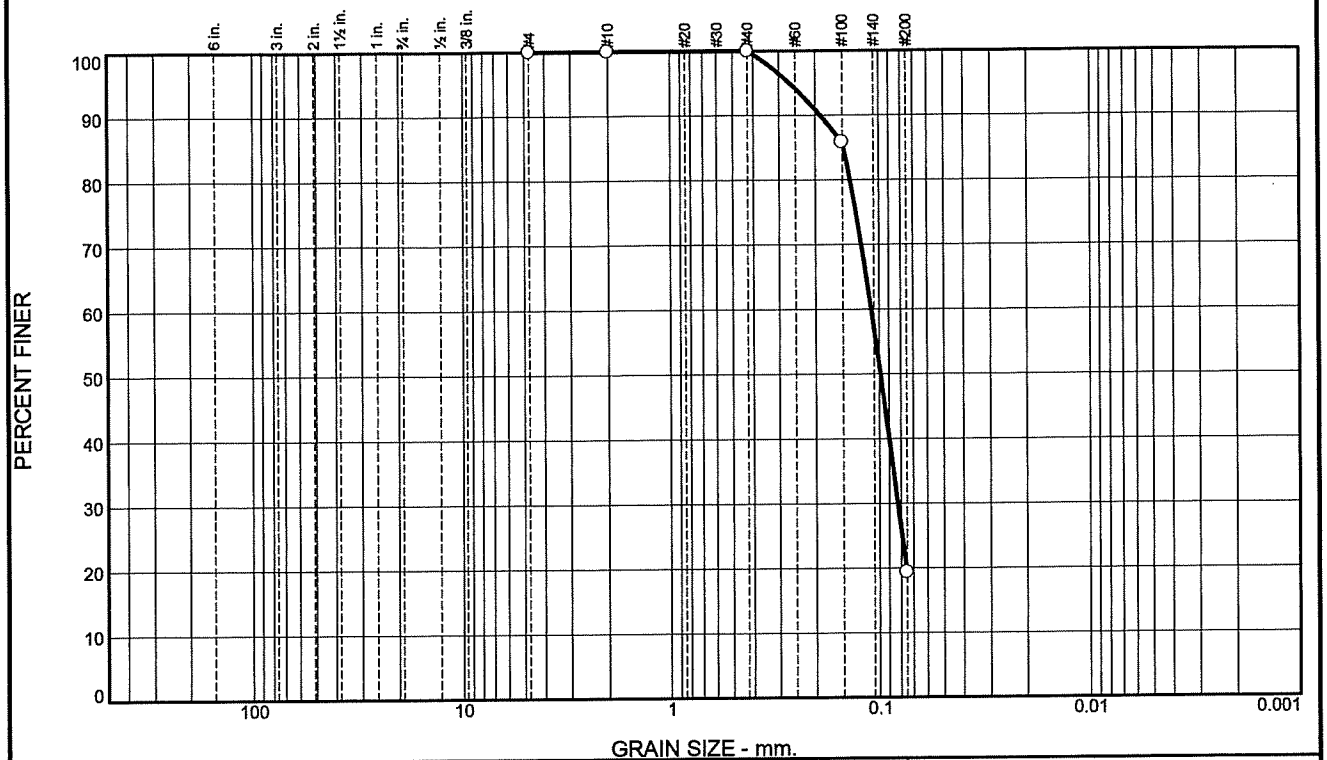
Date: 11-30-17

EVERGREEN TESTING, INC.
A Terracon Company
Watervliet, NY

Client: Delaware Engineering
Project: Soldier One
Colonie, NY
Project No: JB175246 **Figure** 363

Tested By: AB **Checked By:** FD

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.0	80.7	19.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#40	100.0		
#100	85.9		
#200	19.3		

* (no specification provided)

Material Description

FINE SAND, Little Silt

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{90}= 0.1893 D_{85}= 0.1480 D_{60}= 0.1093
D_{50}= 0.0991 D_{30}= 0.0824 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO= A-2-4(0)

Remarks

Per ASTM D422 Washed

Source of Sample: Soil Borings **Depth:** 10'-12'
Sample Number: 364 B-4 / S-5

Date: 11-30-17

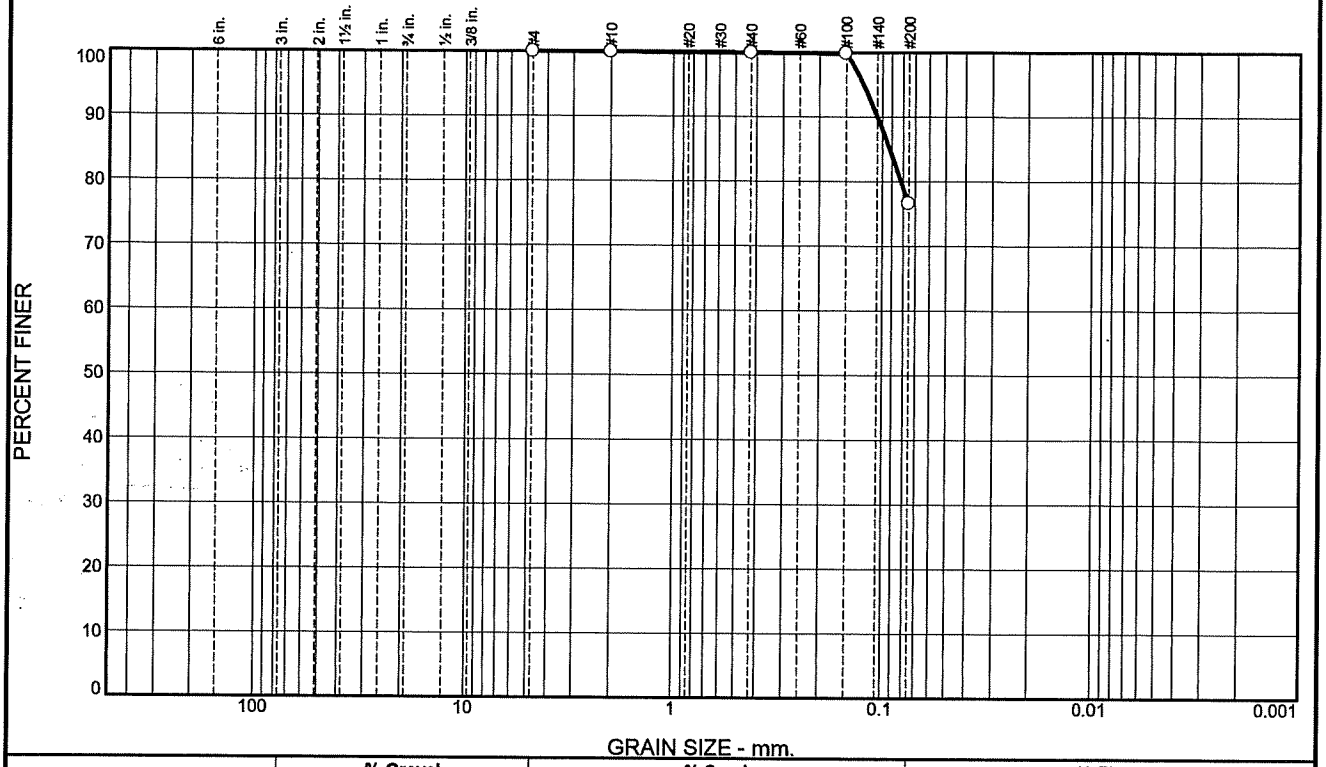
EVERGREEN TESTING, INC.
A Terracon Company
Watervliet, NY

Client: Delaware Engineering
Project: Soldier One
Colonie, NY
Project No: JB175246

Figure 364

Tested By: AB **Checked By:** FD

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.1	23.3	76.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#40	99.9		
#100	99.9		
#200	76.6		

* (no specification provided)

Material Description

SILT, Some F-C Sand

Atterberg Limits

PL= NP LL= NP PI= NP

Coefficients

D_{90}= 0.1058 D_{85}= 0.0925 D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO= A-4(0)

Remarks

Per ASTM D422 Washed

Source of Sample: Soil Borings **Depth:** 20'-22'
Sample Number: 365 B-4 / S-7

Date: 11-30-17

EVERGREEN TESTING, INC.
A Terracon Company
Watervliet, NY

Client: Delaware Engineering
Project: Soldier One
Colonie, NY
Project No: JB175246

Figure 365

Tested By: AB **Checked By:** FD