Preliminary Geotechnical Report for
Bridge Development Report (BDR)
SOUTH SUMTER CONNECTOR TRAIL PD&E STUDY
From the Withlacoochee State Trail to the Van Fleet Trail
Hernando and Sumter Counties, Florida
Financial Project ID No. 435471-1-22-01
GEC Project No. 4037G

Geotechnical and Environmental Consultants, Inc.
At the very foundation of our community

May 9, 2019
Revised February 6, 2020
Revised February 12, 2020

TranSystems Corporation
200 East Robinson Street, Suite 600
Orlando, Florida 32801

Attention: Ms. Lynne Marie Whately, AICP
Vice President

Subject: Preliminary Geotechnical Report for Bridge Development Report (BDR)
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From the Withlacoochee State Trail to the Van Fleet Trail
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Dear Ms. Whately:

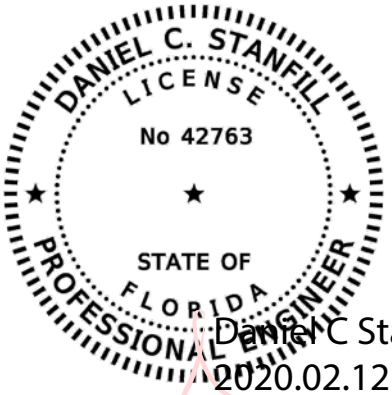
Geotechnical and Environmental Consultants, Inc. (GEC) is pleased to present this Preliminary Geotechnical Report for Bridge Development Report (BDR) for the above-referenced project. The purpose of our investigation was to explore subsurface conditions at three bridge sites and to perform a preliminary evaluation of bridge foundation alternatives for the BDR. This report presents the results of our field and laboratory investigations and includes our foundation alternatives analyses.

The analyses and recommendations in this report are based on bridge locations provided by TranSystems and data collected by GEC during the current planning phase and are subject to change as project plans develop.

GEC appreciates the opportunity to be of service to TranSystems and FDOT on this project. If you should have any questions concerning the contents of this report, please contact us.

Very truly yours,

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS, INC.
Certificate of Authorization No. 5882



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This Report has been digitally signed and sealed by Daniel C. Stanfill, P.E. on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

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1.0 SITE AND PROJECT DESCRIPTION

The South Sumter Connector Trail PD&E Study is being conducted to evaluate the multi-use trail …between the Good Neighbor Trail …and the Van Fleet Trail…

The South Sumter Connector Trail PD&E Study is being conducted to evaluate the multi-use trail that will close the 22-mile gap between the Good Neighbor Trail in Hernando County and the Van Fleet Trail in Sumter County. The South Sumter Connector Trail is part of the larger Coast to Coast Trail, which extends approximately 275 miles, connecting St. Petersburg on the west coast with Titusville on the east coast.

The corridor identified for this segment of the Coast to Coast Trail would connect to the Good Neighbor Trail on the western limit. The corridor would cross under I-75 and then continue along CR 673 until US 301. Utilizing US 301 and the existing CR 478 alignment, the corridor continues along CR 478 until it reaches SR 471 and the City of Webster. The trail will then turn south along SR 471 and connect to SR 50. The project alignment is depicted on an excerpt of the U.S. Geological Survey (USGS) Saint Catherine, Florida and Webster, Florida Quadrangle Maps (**Figure 1**) in the **Appendix**.

Based on our review of the project plans, we understand the following project elements are proposed along the project alignment:

- Construction of the multi-use trail
- Bridge crossings at the Withlacoochee River and US 301 / CSX railroad
- Drainage improvements and design
- Utility adjustments

The project alignment and alternative bridge locations are depicted on an excerpt of the U.S. Geological Survey (USGS) Saint Catherine, Florida and Webster, Florida Quadrangle Maps (**Figure 1**) in the **Appendix**.

This report describes our exploration procedures, exhibits the data obtained and presents our conclusions and recommendations regarding the geotechnical engineering aspects of the bridge alternatives for this project.

2.0 REVIEW OF AVAILABLE DATA

To obtain general information on soil and groundwater conditions in the project area, GEC reviewed available data including the USGS Quadrangle Maps, the Natural Resources Conservation Service (NRCS) Soil Survey of Sumter County, and other published sources. A summary of this information is presented in the following report sections.

2.1 NRCS Soil Survey

The Natural Resources Conservation Service (NRCS) Soil Survey of Hernando and Sumter Counties was reviewed to obtain near-surface soils information in the vicinity of the proposed bridge sites. According to the NRCS map, the soil classifications in the vicinity of the proposed bridge sites are summarized in **Table 1**. The NRCS Soil Survey map of the bridge locations are shown on **Figure 1** in the **Appendix.**

Table 1
NRCS Soil Survey Classifications

Unit No.	Soil Name	Depth (inches)	Soil Description	Unified Soil Classification Symbol (USCS)	Depth to Seasonal High Groundwater (feet)	Hydrologic Group
11	Millhopper sand, 0 to 5 percent slopes	0 - 9 9 - 58 58 - 64 64 - 89	Sand Fine sand, sand Sandy loam, sandy clay loam, loamy sand, loamy fine sand Sandy clay loam, fine sandy loam, sandy loam	SP-SM, SC-SM SP-SM, SC-SM SC, SC-SM SC-SM, SC	3.5 - 6.0	A
21	EauGallie fine sand, bouldery subsurface	0 - 8 8 - 25 25 - 36 36 - 57 57 - 80	Fine sand Sand, fine sand Sand, fine sand Sand, fine sand Sandy loam, fine sandy loam, sandy clay loam	SP SP SM, SP-SM SP, SP-SM SC, SC-SM, SM	0.5 - 1.5	A/D
29	Nittaw muck, frequently ponded	0 - 5 5 - 12 12 - 65 65 – 80	Muck Loamy fine sand, fine sand, fine sandy loam Sandy clay, clay Loamy fine sand, fine sand, fine sandy loam	PT SC-SM, SM, SP, SP-SM CH, CL SC-SM, SM, SP, SP-SM	0.0 - 1.0	C/D

The NRCS Soil Survey depicts Soil Unit 29, Nittaw muck, as the predominant soil type in the vicinity of the bridge alternatives crossing the Withlacoochee River. The Nittaw series consists of nearly level, very poorly drained, slowly permeable soils in hardwood swamps and on lake and river flood plains. These soil types include high organic content soils such as muck, and are classified as PT in the Unified Soil Classification System (USCS) system. These organic soils can have severe limitations for roadway construction. The NRCS soil survey predicts the seasonal high groundwater levels for this soil type to be from the ground surface to 1.0 foot below the natural ground surface.

The NRCS Soil Survey map also depicts Soil Unit 21, EauGallie fine sand, in the vicinity of the US 301/CSX railroad crossing. This soil is characterized by nearly level, poorly drained, moderately permeable soils on the flatwoods. Soil classifications for these soils include SP, SP-SM, and SM

sands underlain by SC, SC-SM, and SM loamy sand, fine sandy loam, and sandy clay loam. The SP, SP-SM, and SM soils can be treated as Select (S) soil types and are generally appropriate for use as fill; however, the SC and SC-SM material should be treated as either Plastic (P) or High Plastic (H) in accordance with Index 505. The NRCS estimates seasonal high groundwater levels to range from 0.5 to 1.5 feet below natural ground surface for this soil type.

Information contained in the NRCS Soil Survey is very general and may be outdated. It may not be reflective of actual soil and groundwater conditions, particularly if recent development in the site vicinity has modified soil conditions or surface/subsurface drainage. The soils and groundwater data collected as part of this study should be considered a more accurate representation of soil conditions along the project alignment.

2.2 USGS Quadrangle Map

The project alignment and alternative bridge locations are depicted on an excerpt of the U.S. Geological Survey (USGS) Saint Catherine, Florida and Webster, Florida Quadrangle Maps (**Figure 1**) in the **Appendix**.

Based on our review of the referenced USGS Quadrangle maps, the existing ground surface elevation at the proposed bridge sites ranges from approximately +50 to +70 feet NAVD88.

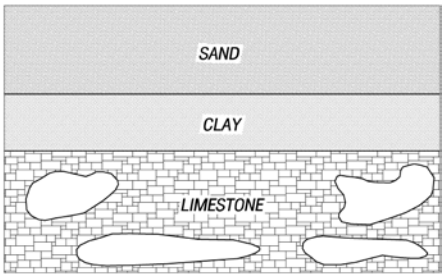
2.3 USGS Potentiometric Map

According to the September 2014 Potentiometric Contours USGS Map, "Upper Floridan Aquifer Potentiometric Surface", the potentiometric surface of the Floridan Aquifer in the vicinity of the Withlacoochee River ranges from approximately +40 to +50 feet NAVD88, and ranges from +50 to +60 feet NAVD at the US 301 / CSX railroad crossing. According to the USGS Quadrangle Map, ground surface elevations at Standard Penetration Test (SPT) -1 and SPT-2 are approximately +50 feet NAVD88, and +70 feet NAVD88 feet at SPT-3.

…artesian flow conditions are not anticipated at the project sites.

Since the existing ground surface elevations at the proposed bridges are at or above the predicted potentiometric surface, artesian flow conditions are not anticipated at the project sites. Artesian flow conditions were not encountered at our boring locations during the field exploration program.

2.4 Regional Geology



KARST GEOLOGY OF CENTRAL FLORIDA

The Florida Department of Natural Resources (FDNR) Bureau of Geology "Tarpon Springs Sheet" and Hernando and Sumter Counties Soil Conservation Service were reviewed to obtain information on the geologic conditions within the study area. The geology of Sumter County consists of three general sedimentary sequences (layers). The surficial sequence that comprises the surficial aquifer (upper aquifer) typically consists of sands, clay and trace phosphate, and ranges in thickness of 0 to 70 feet. The Hawthorn formation that consists of silty to clayey sands, phosphate, clays, and dense beds of dolomite and limestone and known as an aquitard (or flow-retarding layer) is generally absent in Sumter County due to erosion. The third sequence is the massive cavernous limestone formation known as the Floridan aquifer (lower aquifer). According to the FDNR Bureau of Geology limestone can be found within 10 feet of the ground surface across the project alignment.

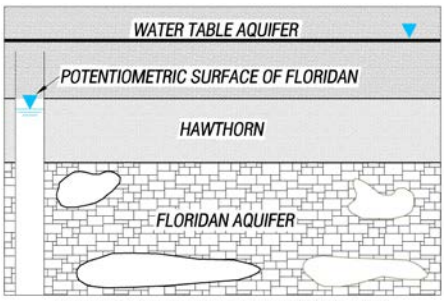
One dominant structural feature, the Ocala Uplift, controls the outcrop patterns in the area. This feature has also been called the Ocala High or Ocala Arch and is described by Puri and Vernon (1964) as, "...a gentle anticlinal flexure about 230 miles long and 70 miles wide exposed near the surface in west-central Florida." The Ocala Uplift is not expressed topographically but is apparent in the outcrop patterns of the rocks.

The west-central peninsula of Florida consists of igneous and metamorphic basement rocks overlain by 4,000 feet of sediments. The sediments are composed of a thick sequence of carbonates (limestones and dolomites) which are overlain by clastics that include quartz sands, silts, clayey sands, and clays. Sediments exposed at the surface range in age from Middle Eocene (40-49 million years ago) to Holocene. The oldest rocks found near the surface are dolomites of the Avon Park Limestone. Other Eocene formations found in the area include the Inglis, Williston, and Crystal River formations which are collectively called the Ocala Group. Over most of the area, sands of variable thickness overlie these formations. This sand is believed to have been deposited during higher stands of sea level, and is not associated with any particular stratigraphic formation.

Limestone is found near the surface over much of Hernando and Sumter Counties. These limestones may be within 10 to 20 feet of the surface. They are generally overlain by sands and by clayey sands. These limestone units dip to the southwest away from the crest of the Ocala Uplift. Limestones found near the surface are usually associated with the Eocene Ocala Group. The limestones in the Sumter County area are highly variable, ranging from soft and friable to hard, well indurated, recrystallized varieties. They may be composed almost entirely of calcium

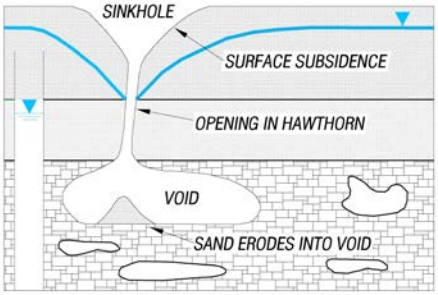
carbonate or contain impurities such as sand, clay or chert. Color varies from white to cream to gray or tan, and the limestone may be very fossiliferous or almost barren of fossils.

Sands of varying thickness occur over most of the Hernando and Sumter Counties area. The sands are generally medium to fine grained, light in color, and usually do not contain appreciable amounts of gravel or heavy minerals. Thickness of the sand ranges from about 10 feet to over 100 feet in some areas.



CENTRAL FLORIDA AQUIFER SYSTEMS

Clayey sand has been mapped in the Hernando and Sumter Counties as well. Much of the clayey sand is associated with the Hawthorn Formation and is mapped above the 90-foot contour. Usually, there is a sand veneer over the clayey sand, which obscures the sand-clayey sand boundary. The thickness of the clayey sand is highly variable due to the irregular surface of the underlying limestone. This clayey sand is generally an orange to reddish orange in color.



SINKHOLE FORMATION MECHANISM

Due to its geology, Central Florida is prone to the formation of sinkholes, or large, circular depressions created by local subsidence of the ground surface. The nature and relationship of the three sedimentary layers cause sinkholes. The likelihood of sinkhole occurrence at a given site within the region is determined by the relationship among these layers, specifically by the water (and soil)-transmitting capacity through the Hawthorn Formation at that location.

Since the thickness and consistency of the Hawthorn layer is variable and most likely absent, the likelihood of groundwater flow from the upper to the lower aquifer (known as aquifer recharge) will also vary by geographical location. In areas where the Hawthorn formation is absent, surficial groundwater (and associated sands) can flow downward to cavities within the limestone aquifer, like sand through an hourglass, recharging the Floridan aquifer, and sometimes causing the formation of surface sinkholes. This process of subsurface erosion associated with recharging the Floridan aquifer is known as raveling. Thus areas of effective groundwater recharge to the Floridan aquifer have a higher potential for the formation of surface sinkholes.

No method of geological, geotechnical, or geophysical exploration is known that can accurately predict the occurrence of sinkholes. It is common geotechnical practice in Central Florida to make a qualitative prediction of sinkhole risk on the basis of local geological conditions in the vicinity of a particular site.

…the proposed bridge structures are located in an area where the relative risk of sinkhole formation is low to moderate…

Based on our review of the U.S. Geological Survey Map entitled "Recharge and Discharge Areas of the Floridan Aquifer in the St. Johns River Water Management District and Vicinity, Florida," 1984, the proposed bridge structures are located in an area of low to moderate recharge. Therefore, we can conclude based solely on this data that the proposed bridge structures are located in an area where the relative risk of sinkhole formation is low to moderate compared to the overall risk across Central Florida.

3.0 SUBSURFACE EXPLORATION

Subsurface conditions at the proposed bridge sites were evaluated by performing one SPT boring at each of the proposed bridge locations. A total of 3 SPT borings were completed to depths ranging from 130.5 feet to 150.5 feet below existing ground surface.

The locations of the borings drilled for this study are shown on the Boring Location Plan sheet (**Figure 2**) in the **Appendix**. Boring locations were established in the field using project plans and measuring distances from existing site features. The approximate method used to locate them is sufficient to meet the intent of this study.

3.1 SPT Borings

SPT borings were drilled in general accordance with ASTM Procedure D-1586. The boreholes were advanced by the rotary wash method with bentonite-based mud used as the circulating fluid to stabilize the borehole. Casing was used as necessary to stabilize the borehole and prevent loose surficial sands from raveling into the lower more stable portions of the borehole. After first augering by hand to 6 feet to avoid damaging utilities, continuous SPT samples were obtained to a depth of 10 feet and at 2.5-foot depth intervals thereafter. An engineering technician monitored the drilling operation, and collected, examined and visually classified each sample. Representative portions of each sample were packaged for transport to the laboratory for further examination and laboratory testing.

3.2 Groundwater Measurement

Since all SPT borings were grout-sealed upon completion, an engineering technician performed a hand auger boring adjacent to the grouted borehole to obtain a stabilized groundwater depth. Once a 24-hour groundwater measurement was recorded, the hand auger boreholes were then backfilled with soil cuttings to prevailing ground surface. Due to its location along the railroad corridor, groundwater was not encountered within the hand auger performed adjacent to SPT-2. However, groundwater was estimated at the time of drilling.

3.3 Undisturbed Samples

Undisturbed samples of compressible soils at the proposed bridge sites were collected using a thin-walled "Shelby" tube sampler. The sampler was hydraulically pushed into the soil at the desired sample depth. After allowing the sampler to sit for a short period of time it was retrieved from the borehole where the soil at the top and bottom of the tube was sampled and classified. The 3-inch diameter tube was moisture sealed in the field immediately after sampling and returned to our laboratory for further examination and testing. The sample depth is noted on the SPT Boring Results sheets (**Figures 3 - 4**) in the **Appendix**.

4.0 LABORATORY TESTING

Selected soil samples obtained from the borings were tested in accordance with Florida Standard Testing Methods (FM). Florida Standard Testing Methods are adaptations of recognized standard methods, e.g., ASTM and AASHTO, which have been modified to accommodate Florida's geological conditions. The GEC laboratory is reviewed annually by the Construction Materials Engineering Council, Inc. (CMEC) to verify compliance with FM. Our laboratory testing program is summarized in **Table 2**.

Table 2
Summary of Laboratory Testing Program

Type of Test	Number of Tests
Percent Fines (FM 1-T88)	15
Atterberg Limits (FM 1-T89/90)	4
Natural Moisture Content (FM 1-T265)	4
Corrosion Series (FM 5-550/551/552/553)	3

The results of our laboratory tests are shown adjacent to the soil profiles on the SPT Boring Results sheets (**Figures 3 - 4**) in the **Appendix**.

Corrosion series tests were performed on representative soil samples obtained at the bridge sites to evaluate the substructure environmental classification. In accordance with the FDOT Structure Design Guidelines and based on the results of the corrosion series test results (**Table 5** in the **Appendix**) the substructure environmental classification for the bridge sites are summarized in **Table 3**. The superstructure environmental classification is estimated to be slightly aggressive for concrete and steel bridge components at the bridge sites.

Table 3
Substructure Environmental Classification Summary

Boring No.	Substructure Environmental Classification	
	Concrete	Steel
SPT-1	Moderately Aggressive (pH = 5.8)	Extremely Aggressive (pH = 5.8)
SPT-2	Slightly Aggressive (pH = 7.4)	Slightly Aggressive (pH = 7.4)
SPT-3	Slightly Aggressive (pH = 7.7)	Slightly Aggressive (pH = 7.7)

5.0 SUBSURFACE CONDITIONS

The results of the SPT borings are shown on the SPT Boring Results sheets (**Figures 3 - 4**) in the **Appendix**. The boring logs describe the soil layers using the USCS symbol (e.g., SP-SM) and ASTM soil descriptions (e.g., sand with silt). Soil classifications and descriptions are based on visual examination and the limited laboratory testing shown adjacent to the boring profiles on the SPT Boring Results sheets.

The boring logs indicate subsurface conditions only at the specific boring locations at the time of the field exploration. Subsurface conditions, including groundwater levels, at other locations of the subject site may differ from conditions encountered at the boring locations. Moreover, conditions at the boring locations can change over time. Groundwater levels fluctuate seasonally, and soil conditions can be altered by earthmoving operations.

The depths and thicknesses of the subsurface strata indicated on the boring logs were interpolated between samples obtained at different depths in the borings. The actual transition between soil layers may be different than indicated. These stratification lines were used for our analytical purposes. Quantity estimates based on the results of the borings will vary from the actual quantities measured during construction.

5.1 Bridge SPT Boring Results

Tables 4A, 4B and **4C** summarize the subsurface conditions encountered in the SPT borings (SPT-1 through SPT-3) performed:

Table 4A
Generalized Subsurface Profile – SPT-1

Layer Number	Elevation NAVD (feet)	Description	[1]Typical Range of N-Values
1	+48 to +40	Loose fine sand (SP) to fine sand with silt (SP-SM), occasional trace limerock	Hand Auger
2	+40 to +32	Firm fat clay (CH), occasional trace limerock	4 - 6
3	+32 to -18	Very loose to medium dense weathered limestone	2 - 22
4	-18 to -80	Medium dense to very dense weathered limestone	23 – 50/0”

Notable exceptions to this generalized profile include:

- Boring SPT-1 encountered a very dense layer of weather limestone from 7 and 8 feet below ground surface.
- Boring SPT-1 encountered a void between 23 and 28 feet below ground surface.
- Boring SPT-1 encountered a layer of medium dense silty fine sand (SM) from 41.5 to 49 feet below ground surface.
- 100% loss of drilling fluid circulation occurred at SPT-1 from 24 to 41 feet below ground surface.

Table 4B
Generalized Subsurface Profile – SPT-2

Layer Number	Elevation NAVD (feet)	Description	[1]Typical Range of N-Values
1	+59 to +22	Loose to very dense fine sand (SP) to fine sand with silt (SP-SM)	4 - 48
2	+22 to +15	Loose to medium dense clayey fine sand (SC)	7 - 10
3	+15 to -8	Very loose to medium dense weathered limestone	1 - 25
4	-8 to -92	Medium dense to very dense weathered limestone	9 – 50/0”

A notable exception to this generalized profile includes:

- 100% loss of drilling fluid circulation was experienced 4 times in the layers of limestone.

Table 4C
Generalized Subsurface Profile – SPT-3

Layer Number	Elevation NAVD (feet)	Description	[1]Typical Range of N-Values
1	+70 to +59	Loose fine sand (SP) to fine sand with silt (SP-SM), occasional trace limerock	5 – 6
2	+59 to +50	Loose to medium dense clayey fine sand (SC)	6 – 12
3	+50 to +22	Very loose to medium dense weathered limestone	4 – 30
4	+22 to -81	Medium dense to very dense weathered limestone	13 – 80/1"

Notable exceptions to this generalized profile include:

- 100% loss of drilling fluid circulation occurred at SPT-3 from 84 to 97 feet below ground surface.

For detailed subsurface profiles encountered at each boring location, please refer to the SPT Boring Results sheets (**Figures 3 - 4**) in the **Appendix**.

5.2 Groundwater Levels

Because the SPT borings were grout-sealed upon completion, an engineering technician performed a hand auger boring to a depth of 10 feet adjacent to the grouted borehole to obtain a stabilized groundwater depth. In general, encountered groundwater depths at the bridge locations ranged from 3.3 to 7.6 feet below the existing ground surface. Due to its location along the railroad corridor, groundwater was not encountered within the hand auger performed adjacent to SPT-2. However, groundwater was estimated to be approximately 23 feet below the existing ground surface at the time of drilling.

Groundwater levels can vary seasonally and with changes in subsurface conditions between boring locations. Alterations in surface and/or subsurface drainage brought about by site development can also affect groundwater levels. *Therefore, groundwater depths measured at different times or at different locations on the site can be expected to vary from those measured during this investigation.*

For purposes of this report, estimated seasonal high groundwater levels are defined as groundwater levels that are anticipated at the end of the wet season during a "normal rainfall" year under current site conditions. We define a "normal rainfall" year as a year in which rainfall quantity and distribution were at or near historical averages.

…seasonal high groundwater levels... are estimated to range approximately 1.3 to 10 feet below the existing ground surface.

Seasonal high groundwater levels at the bridge SPT boring locations are estimated to range approximately 1.3 to 10 feet below the existing ground surface. The encountered and estimated seasonal high groundwater levels are depicted adjacent to the boring profiles on the SPT Boring Results sheets (**Figures 3 - 4**) in the **Appendix**.

6.0 PRELIMINARY FOUNDATION ALTERNATIVES ANALYSIS

GEC performed an evaluation of foundation alternatives that included shallow spread footings, drilled shafts, steel pipe piles, steel H piles and driven precast prestressed concrete (PPC) piles. In addition, preliminary axial capacity recommendations were provided for 18-inch PPC, 24-inch PPC, 14x89 steel H piles, and 24-inch steel pipe piles. The results of these foundation analyses are presented in the following report sections. Once a foundation type is selected, detailed analyses and recommendations for the design and installation of the selected bridge foundations can be provided.

6.1 Shallow Foundations

The surficial soils at the proposed bridge sites may be suitable for shallow foundation support. However, loose sands and firm shallow clay layers encountered at our boring locations may settle significantly under large footing loads. Detailed foundation settlement analyses would be needed to verify that subsoil settlement is within tolerable limits.

Sinkholes are a geologic hazard to shallow foundations due to the potential to undermine foundation support. As documented previously, the relative risk of sinkhole formation at the bridge sites is considered to be low to moderate when compared to the overall background risk in Central Florida.

…shallow foundations are not a viable alternative for this project.

In general, shallow foundations, including Geosynthetic Reinforced Soil (GRS) abutments, to support large bridge footing loads in these conditions, especially if the bridge structure cannot tolerate moderate total and differential settlements are not recommended. Based on these considerations, shallow foundations are not a viable alternative for this project.

6.2 Drilled Shafts

…drilled shafts are not a viable foundation alternative for this project.

Drilled shafts are most cost-effective for sites that have a shallow hard clay or competent rock bearing layer, which allows high end bearing and side-friction capacity. A shallow rock or bearing layer was encountered at the boring locations. However, loss of drilling fluids was experienced in all the borings and casing would be required for drilled shaft installation. Therefore, drilled shafts are not a viable foundation alternative for this project.

6.3 Steel H and Pipe Piles

Steel piles are typically not the most cost effective foundation alternative due to the relatively high cost per ton of capacity in comparison to other foundation alternatives. However, steel pile sections are utilized in Central Florida for specific site conditions, including when low headroom conditions (overhead power lines) exist nearby. Steel pipe piles are often used when there are highly irregular subsurface conditions that would require the use of variable pile lengths and pile splices would be needed. Low displacement steel H piles are typically used when there are nearby structures that would be affected by pile driving-generated ground vibrations.

The substructure environmental classification for steel substructure is extremely aggressive at SPT-1 due to a measured soil pH of 5.8. In accordance with FDOT Structures Design Guidelines Table 3.1-1 - Usage Limitations and Corrosion Mitigation Measures for Steel Piles and Wall Anchor Bars, if steel piles are selected, additional sacrificial steel should be specified.

The axial capacity for 14x89 steel H piles and 24-inch steel pipe piles was analyzed using the FDOT computer program FB-Deep Version 2.05, which is based on FDOT Research Bulletin RB-121. Graphs of Davisson Pile Capacity vs. Pile Tip Depth for these pile types are included in the **Appendix**.

Based upon the generated Davisson Pile Capacity vs. Pile Tip Depth curves, the recommended preliminary pile design parameters for steel H and steel pipe piles are summarized in the Preliminary Pile Capacity Recommendations Table (**Table 6**) in the **Appendix**.

Depth and capacities recommended in this report are for individual piles. The analyses and recommendations apply for piles spaced at minimum distances of three pile widths as measured from center to center. Group reductions would be required for more closely spaced piles.

A minimum pile tip elevation ranging from -10 to -50 feet NAVD is recommended to penetrate below the soft soil strata and drilling fluid losses encountered at the various bridge sites.

6.4 Driven PPC Piles

Eighteen inch and 24-inch square PPC driven displacement piles are the most widely used type of deep foundation support for highway bridges in Central Florida. PPC piles are typically not used when there are highly variable subsurface conditions that would require the use of variable pile lengths and/or if extensive pile splices are required which can complicate installation of PPC piles and lead to longer pile installation times.

Axial capacity for 18-inch and 24-inch concrete piles was analyzed using the FDOT computer program FB-Deep Version 2.05. Graphs of Davisson Pile Capacity vs. Pile Tip Depth for these pile types are included in the **Appendix** for each representative bridge site.

Based upon the generated Davisson Pile Capacity vs. Pile Tip Depth, GEC's recommended preliminary pile design parameters for 18-inch and 24-inch concrete piles are summarized in the Preliminary Pile Capacity Recommendations Table (**Table 6**) in the **Appendix**.

Depths and capacities recommended in this report are for individual piles. The analyses and recommendations apply for piles spaced at minimum distances of three pile widths as measured from center to center. Group reductions would be required for more closely spaced piles.

A minimum pile tip elevation ranging from -10 to -50 feet NAVD is recommended to penetrate below the soft soil strata and drilling fluid losses encountered at the various bridge sites.

6.5 Test Pile Program Recommendations

A test pile program is recommended for the proposed structures. The test piles should be instrumented for Dynamic Testing in accordance with FDOT Specification 455. Based on the recommended maximum Nominal Bearing Resistance (NBR) values and the final pile design loading conditions, a resistance factor should be selected such that the NBR is greater than the factored design load divided by the resistance factor. The level of dynamic testing required should be in accordance with the FDOT Structures Design Guidelines Table 3.5.6-1 and the resistance factor specified.

6.6 Downdrag Settlement Considerations

Embankment fill will be placed at the bridge abutments. This fill will likely need to be placed after the abutment piles are driven. Therefore, soil settlement caused by fill loads at the end bent pile locations could generate downdrag loads on the piles.

As previously described, the soil profile encountered in the borings is composed primarily of loose to dense fine sands underlain by weathered limestone. Due to the cohesionless, granular nature of the majority of the shallow subsurface profile, settlement of the subsurface soils caused by placement of the new embankment fill will occur concurrently during embankment construction. Once the embankment fill is complete, subsoil settlement will essentially cease and the superstructure can be constructed with negligible post-construction abutment fill settlement. A stiff clay layer was encountered in the borings but will likely not have long term settlements large enough to generate downdrag. This should be further evaluated in the final design phase for the selected bridge locations.

6.7 Noise and Vibration Considerations

Due to the presence of residential structures in the surrounding area of the US 301 / CSX railroad crossing, consideration should be given to the noise and vibrations that will be generated from the use of an impact hammer to drive the piles at the proposed bridge site. Based on the proximity of the existing structures to the proposed bridge sites, as detailed in **Section 1.0**, it is anticipated that vibration from pile driving will not damage nearby structures; however, vibrations will likely be perceptible to occupants of the structures. A thorough preconstruction condition survey should be performed on any adjacent structures prior to pile driving. Noise and vibration monitoring should be conducted in accordance with the Standard Specifications at these structures during pile driving to verify that specified limits are not exceed.

Gas utility owners should be notified of pile driving operations and should be present to monitor gas pipelines during pile driving operations. Additional vibration monitoring requirements for gas pipelines will be determined during the next project design phase based on discussions with the gas utility owners.

For structures greater than 150 feet from pile driving operations, special pile types or installation procedures should not be necessary. However, we recommend that at a minimum, a preconstruction survey be performed on the building closest to the pile driving operations, and that noise and vibrations be monitored at that location. Noise levels of the impact hammer can be reduced by using various materials to shroud the hammer (i.e., hammer blanket). Further evaluation of specific requirements for noise and vibration monitoring is recommended.

7.0 USE OF THIS REPORT

This report has been prepared for the exclusive use of TranSystems and FDOT, and for specific application to this project. GEC will not be held responsible for any other party's interpretation or use of this report's subsurface data or engineering analysis without our written authorization.

The sole purpose of the borings performed for this project was to obtain indications of subsurface conditions as part of a geotechnical exploration program. Soil and groundwater from bridge borings have not been evaluated for the potential presence of contamination or subjected to analysis for contaminants. The Contamination Evaluation Report (CSER) is submitted under separate cover.

GEC has strived to provide the services described in this report in a manner consistent with that level of care and skill ordinarily exercised by members of our profession currently practicing in Central Florida. No other representation is made or implied in this document.

The preliminary conclusions or recommendations of this report should be disregarded if the nature, design, or location of the facilities is changed. If such changes are contemplated, GEC should be retained to review the new plans to assess the applicability of this report in light of proposed changes.

APPENDIX

USGS QUADRANGLE AND NRCS SOIL SURVEY MAPS

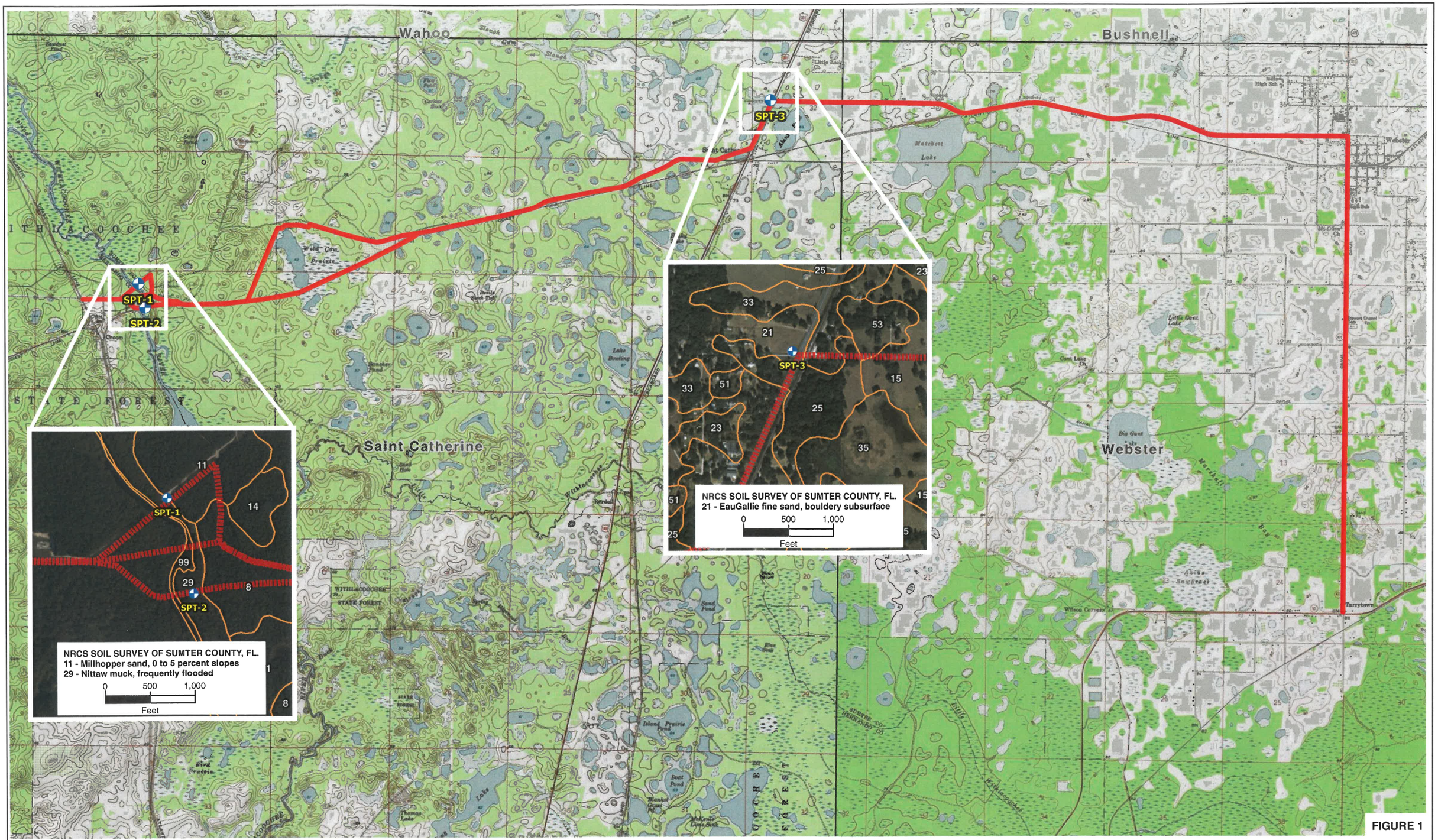


FIGURE 1

USGS Saint Catherine, Fl. and Webster, Fl. Quadrangle Maps
Sections: 1, 2, 3, 4, 8, 9, 10, 31, 32, 33, 34 / 8, 32
Townships: 21, 22 South
Range: 21, 22 East

APPROXIMATE SPT BORING LOCATION

N W E S

0 2,000 4,000
Feet

USGS Quadrangle Map

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CERTIFICATE OF AUTHORIZATION 00005882

STATE OF FLORIDA
DEPARTMENT OF TRANSPORATATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	SUMTER	4354471-1-22-01

USGS QUADRANGLE AND NRCS SOIL SURVEY MAPS

SHEET NO.

J:\Jobs - Drafting\4037G Sumter Trail Alignment\1-16-18\4037G PLAN.mxd 2/2/2018

BORING LOCATION PLAN

FIGURE 2

APPROXIMATE SPT BORING LOCATION

N W E S

0 100 200
Feet

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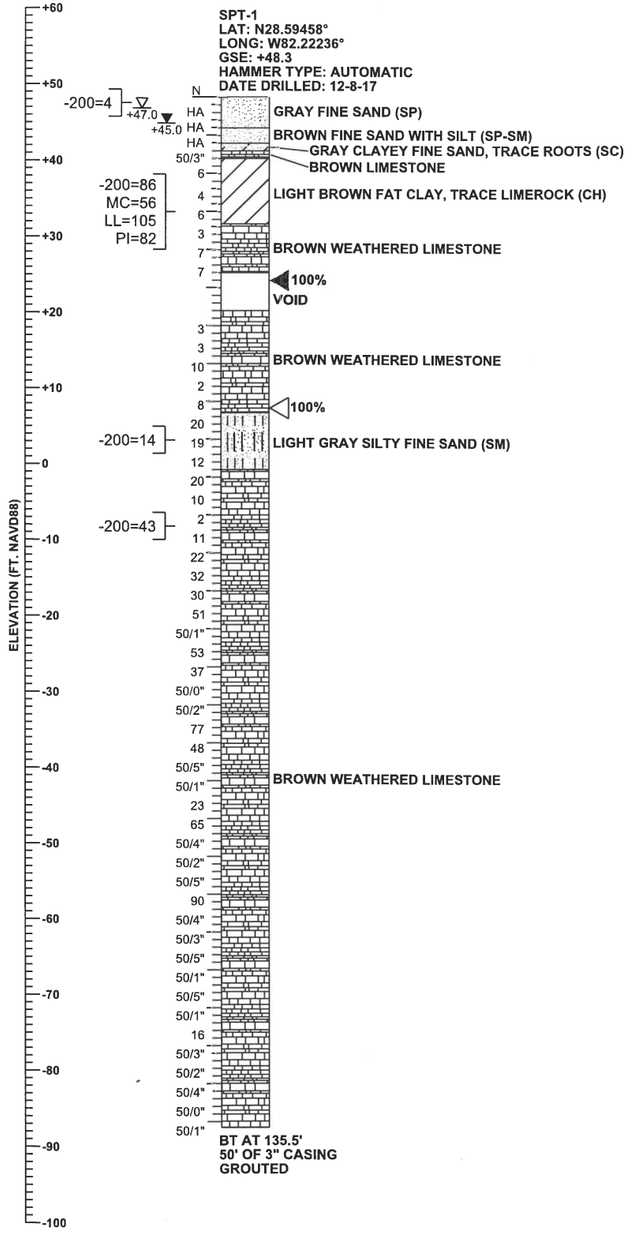
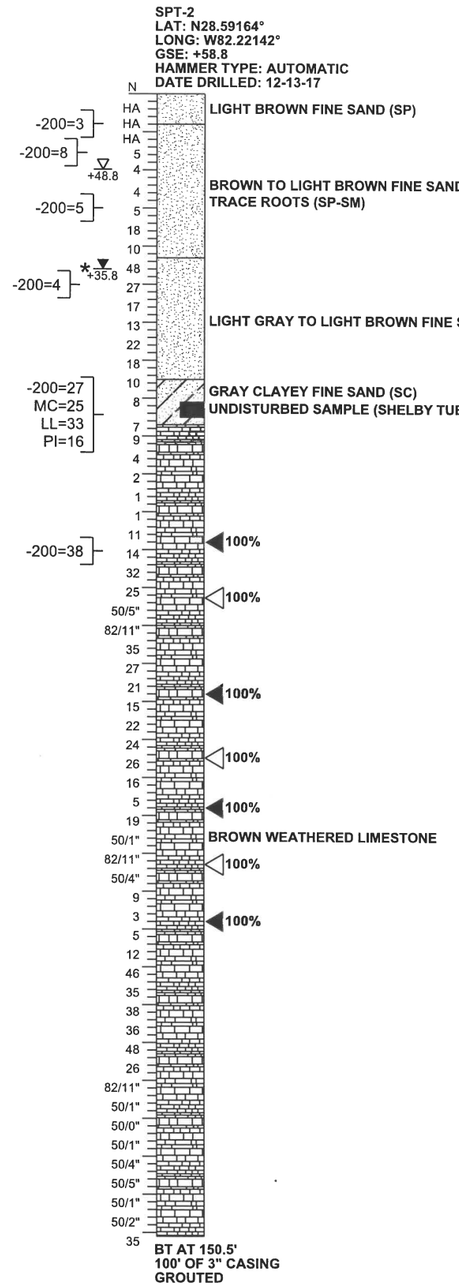
BORING LOCATION PLAN

SHEET NO.

J:\Jobs - Drafting\4037G Sumter Trail Alignment\4037G PLANVIEW.mxd 2/2/2018

SPT BORINGS RESULTS





LEGEND

N	STANDARD PENETRATION RESISTANCE, BLOWS PER FOOT
HA	HAND AUGERED FOR UTILITY CLEARANCE
GSE	GROUND SURFACE ELEVATION
50/3"	NUMBER OF BLOWS FOR 3 INCHES OF PENETRATION
▽ +47.0	ESTIMATED SEASONAL HIGH GROUNDWATER ELEVATION (FT. NAVD88)
▼ +45.0	ENCOUNTERED GROUNDWATER ELEVATION (FT. NAVD88) 24 HRS. AFTER DATE DRILLED
* ▼ +35.8	ENCOUNTERED GROUNDWATER DEPTH (FT.) AT THE TIME OF DRILLING
◀	PERCENT LOSS OF DRILLING FLUID CIRCULATION
◁	PERCENT RETURN OF DRILLING FLUID CIRCULATION
BT	BORING TERMINATED AT DEPTH INDICATED
-200=	PERCENT PASSING NO. 200 U.S. STANDARD SIEVE
MC=	PERCENT NATURAL MOISTURE CONTENT
LL=	LIQUID LIMIT
PI=	PLASTICITY INDEX

SAND — SAND AND CLAY — LIMESTONE

SAND AND SILT — CLAY

GENERAL NOTES

SUBSURFACE CONDITIONS SHOWN ON THE BORINGS REPRESENT THE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. ACTUAL CONDITIONS BETWEEN THE BORINGS MAY VARY FROM THOSE SHOWN. UNIFIED SOIL CLASSIFICATIONS SHOWN ON THE BORINGS ARE BASED ON VISUAL EXAMINATION AND THE LABORATORY TESTING SHOWN.

STANDARD PENETRATION TEST BORINGS WERE PERFORMED IN ACCORDANCE WITH ASTM D-1586. STANDARD PENETRATION RESISTANCES ARE SHOWN ON THE BORINGS AT THE TEST DEPTHS IN IN BLOWS PER FOOT UNLESS OTHERWISE NOTED.

ACCORDING TO THE SEPTEMBER, 2014 POTENTIOMETRIC CONTOURS USGS MAP, "UPPER FLORIDAN AQUIFER POTENTIOMETRIC SURFACE", THE POTENTIOMETRIC SURFACE OF THE FLORIDAN AQUIFER IN THE VICINITY OF THE PROJECT AREA RANGES FROM APPROXIMATELY +40 TO +50 FT. NAVD88. THE CONTRACTOR SHALL BE PREPARED TO HANDLE ARTESIAN HEAD LEVELS UP TO +50 FT. NAVD88.

THE BORING LOCATIONS WERE SURVEYED BY JONES WOOD AND GENTRY INC.

SPLIT SPOON SAMPLER:
INSIDE DIAMETER: 1.375 IN.
OUTSIDE DIAMETER: 2.0 IN.
AVERAGE HAMMER DROP: 30 IN.
HAMMER WEIGHT: 140 LBS.

ENVIRONMENTAL CLASSIFICATION (SPT-1):
SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE
SUBSTRUCTURE:
STEEL: EXTREMELY AGGESSIVE (pH=5.8)
CONCRETE: MODERATELY AGGRESSIVE (pH=5.8)

ENVIRONMENTAL CLASSIFICATION (SPT-2):
SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE
SUBSTRUCTURE:
STEEL: SLIGHTLY AGGESSIVE (pH=7.4)
CONCRETE: SLIGHTLY AGGRESSIVE (pH=7.4)

CORRELATION OF STANDARD PENETRATION RESISTANCE WITH RELATIVE DENSITY AND CONSISTENCY OF SOIL

GRANULAR SOILS	AUTOMATIC HAMMER N VALUE (blows per foot)	RELATIVE DENSITY
SANDS	0-3	VERY LOOSE
	3-8	LOOSE
	8-24	MEDIUM DENSE
	24-40	DENSE
	OVER 40	VERY DENSE

NON-GRANULAR SOILS	AUTOMATIC HAMMER N VALUE (blows per foot)	CONSISTENCY
SILTS, CLAYS, MUCK, PEAT	0-1	VERY SOFT
	1-3	SOFT
	3-6	FIRM
	6-12	STIFF
	12-24	VERY STIFF
	OVER 24	HARD

SECTION: 8
TOWNSHIP: 22 SOUTH
RANGE: 21 EAST

FIGURE 3

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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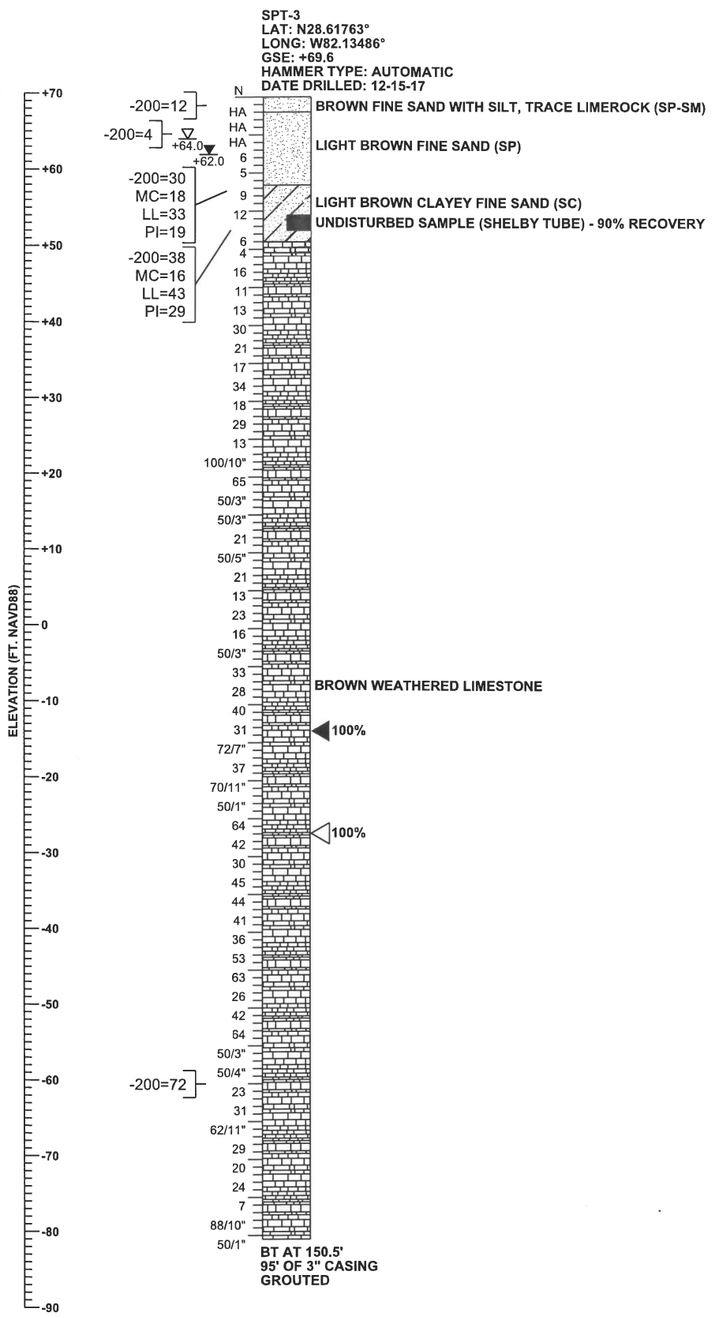
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	SUMTER HERNANDO	435471-1-22-01

SPT BORING RESULTS

SHEET NO.



LEGEND

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50/3"	NUMBER OF BLOWS FOR 3 INCHES OF PENETRATION
▽ 5.6	ESTIMATED SEASONAL HIGH GROUNDWATER ELEVATION (FT. NAVD88)
▼ 7.6	ENCOUNTERED GROUNDWATER ELEVATION (FT. NAVD88) 24 HRS. AFTER DATE DRILLED
◀	PERCENT LOSS OF DRILLING FLUID CIRCULATION
◁	PERCENT RETURN OF DRILLING FLUID CIRCULATION
BT	BORING TERMINATED AT DEPTH INDICATED
-200=	PERCENT PASSING NO. 200 U.S. STANDARD SIEVE
MC=	PERCENT NATURAL MOISTURE CONTENT
LL=	LIQUID LIMIT
PI=	PLASTICITY INDEX

SAND — LIMESTONE — SAND AND CLAY

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SUBSURFACE CONDITIONS SHOWN ON THE BORING REPRESENT THE CONDITIONS ENCOUNTERED AT THE BORING LOCATION. ACTUAL CONDITIONS NEAR THE BORING MAY VARY FROM THOSE SHOWN. UNIFIED SOIL CLASSIFICATIONS SHOWN ON THE BORING ARE BASED ON VISUAL EXAMINATION AND THE LABORATORY TESTING SHOWN.

STANDARD PENETRATION TEST BORING WAS PERFORMED IN ACCORDANCE WITH ASTM D-1586. STANDARD PENETRATION RESISTANCES ARE SHOWN ON THE BORING AT THE TEST DEPTHS IN IN BLOWS PER FOOT UNLESS OTHERWISE NOTED.

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SPLIT SPOON SAMPLER:
INSIDE DIAMETER: 1.375 IN.
OUTSIDE DIAMETER: 2.0 IN.
AVERAGE HAMMER DROP: 30 IN.
HAMMER WEIGHT: 140 LBS.

ENVIRONMENTAL CLASSIFICATION:
SUPERSTRUCTURE: SLIGHTLY AGGRESSIVE
SUBSTRUCTURE:
STEEL: SLIGHTLY AGGESSIVE (pH=7.7)
CONCRETE: SLIGHTLY AGGRESSIVE (pH=7.7)

CORRELATION OF STANDARD PENETRATION RESISTANCE WITH RELATIVE DENSITY AND CONSISTENCY OF SOIL

GRANULAR SOILS	AUTOMATIC HAMMER N VALUE (blows per foot)	RELATIVE DENSITY
SANDS	0-3	VERY LOOSE
	3-8	LOOSE
	8-24	MEDIUM DENSE
	24-40	DENSE
	OVER 40	VERY DENSE

NON-GRANULAR SOILS	AUTOMATIC HAMMER N VALUE (blows per foot)	CONSISTENCY
SILTS, CLAYS, MUCK, PEAT	0-1	VERY SOFT
	1-3	SOFT
	3-6	FIRM
	6-12	STIFF
	12-24	VERY STIFF
	OVER 24	HARD

SECTION: 32
TOWNSHIP: 21 SOUTH
RANGE: 22 EAST

FIGURE 4

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	SUMTER HERNANDO	435471-1-22-01

SPT BORING RESULTS

SHEET NO.

CORROSION SERIES TEST RESULTS

Table 5

Corrosion Series Test Results

SOUTH SUMTER CONNECTOR TRAIL PD&E STUDY

Financial Project ID 435471-1-22-01

GEC Project No. 4037G

Boring No.	Unified Soil Classification Symbol	Sample Depth (ft)	pH	Minimum Resistivity (ohm-cm)	Chlorides (ppm)	Sulfates (ppm)	Substructural Environmental Classification	
							Concrete	Steel
SPT-1	SP	0 - 2	5.8	70000	15	< 6	Moderately Aggressive	Extremely Aggressive
SPT-2	SP	2 - 4	7.4	41000	15	< 6	Slightly Aggressive	Slightly Aggressive
SPT-3	SP-SM[1]	0 - 2	7.7	19000	15	< 6	Slightly Aggressive	Slightly Aggressive

[1] - Trace Limerock

PRELIMINARY PILE CAPACITY RECOMMENDATIONS & DAVISSON PILE CAPACITY CURVES

Table 6

Preliminary Pile Capacity Recommendations

SOUTH SUMTER CONNECTOR TRAIL PD&E STUDY

Financial Project ID 435471-1-22-01

GEC Project No. 4037G

Preliminary Pile Recommendations: 14x89 Steel H								
Boring No.	Estimated Pile Cutoff Depth (feet)	Recommended Maximum Nominal Bearing Resistance (tons)	Scour Resistance (tons)	Anticipated Pile Tip Elevation NAVD (feet)	Minimum Pile Tip Elevation NAVD (feet)	Required Preform Elevation NAVD (feet)	Anticipated Production Pile Length (feet)	Recommended Test Pile Length (feet)
SPT-1	N/A	200	N/A	-50	-10	N/A	N/A	N/A
SPT-2	N/A	200	N/A	-70	-50	N/A	N/A	N/A
SPT-3	N/A	200	N/A	-50	-15	N/A	N/A	N/A

Preliminary Pile Recommendations: 24-inch Steel Pipe								
Boring No.	Estimated Pile Cutoff Depth (feet)	Recommended Maximum Nominal Bearing Resistance (tons)	Scour Resistance (tons)	Anticipated Pile Tip Elevation NAVD (feet)	Minimum Pile Tip Elevation NAVD (feet)	Required Preform Elevation NAVD (feet)	Anticipated Production Pile Length (feet)	Recommended Test Pile Length (feet)
SPT-1	N/A	250	N/A	-45	-10	N/A	N/A	N/A
SPT-2	N/A	250	N/A	-60	-50	N/A	N/A	N/A
SPT-3	N/A	250	N/A	-25	-15	N/A	N/A	N/A

Table 6
Preliminary Pile Capacity Recommendations
SOUTH SUMTER CONNECTOR TRAIL PD&E STUDY
Financial Project ID 435471-1-22-01
GEC Project No. 4037G

Preliminary Pile Recommendations: 18-inch Square PPC								
Boring No.	Estimated Pile Cutoff Depth (feet)	Recommended Maximum Nominal Bearing Resistance (tons)	Scour Resistance (tons)	Anticipated Pile Tip Elevation NAVD (feet)	Minimum Pile Tip Elevation NAVD (feet)	Required Preform Elevation NAVD (feet)	Anticipated Production Pile Length (feet)	Recommended Test Pile Length (feet)
SPT-1	N/A	250	N/A	-45	-10	N/A	N/A	N/A
SPT-2	N/A	250	N/A	-65	-50	N/A	N/A	N/A
SPT-3	N/A	250	N/A	-28	-15	N/A	N/A	N/A

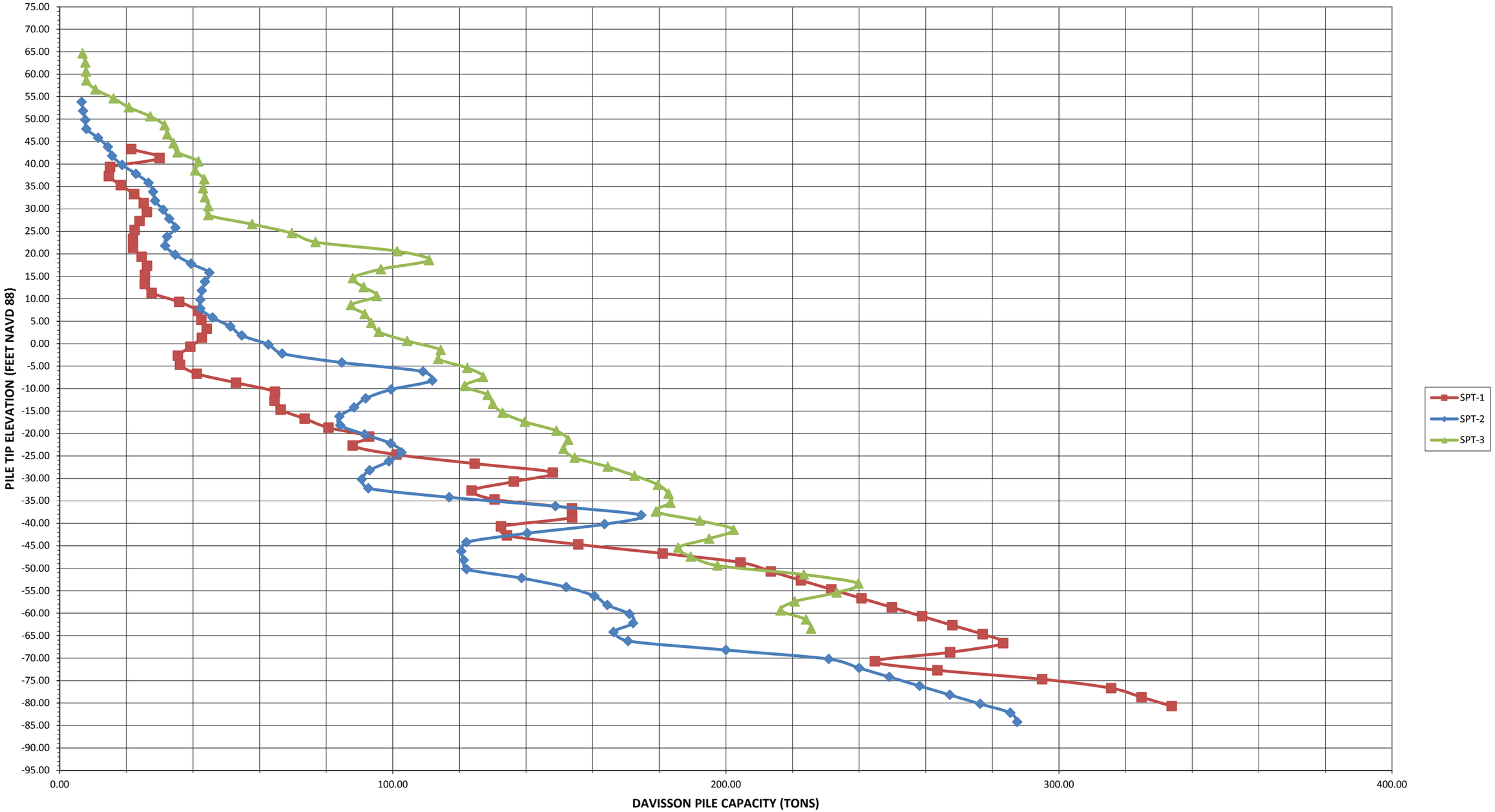
Preliminary Pile Recommendations: 24-inch Square PPC								
Boring No.	Estimated Pile Cutoff Depth (feet)	Recommended Maximum Nominal Bearing Resistance (tons)	Scour Resistance (tons)	Anticipated Pile Tip Elevation NAVD (feet)	Minimum Pile Tip Elevation NAVD (feet)	Required Preform Elevation NAVD (feet)	Anticipated Production Pile Length (feet)	Recommended Test Pile Length (feet)
SPT-1	N/A	350	N/A	-40	-10	N/A	N/A	N/A
SPT-2	N/A	350	N/A	-55	-50	N/A	N/A	N/A
SPT-3	N/A	350	N/A	-20	-15	N/A	N/A	N/A

14x89 Steel H-PILES

SOUTH SUMTER CONNECTOR TRAIL PD&E STUDY

Financial Project ID No. 435471-1-22-01

GEC Project No. 4037G

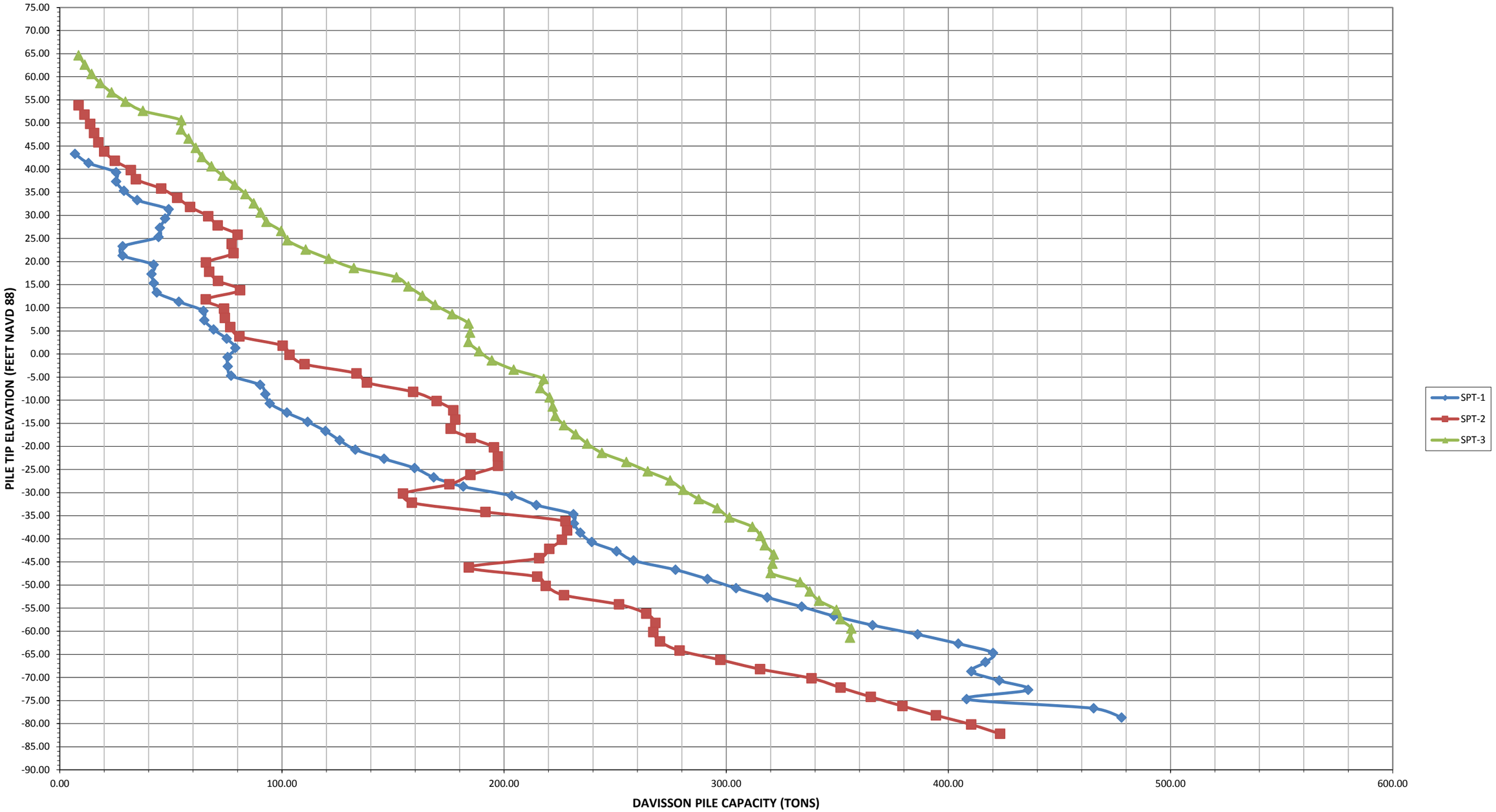


24-IN STEEL PIPE PILES

SOUTH SUMTER CONNECTOR TRAIL PD&E STUDY

Financial Project ID No. 435471-1-22-01

GEC Project No. 4037G

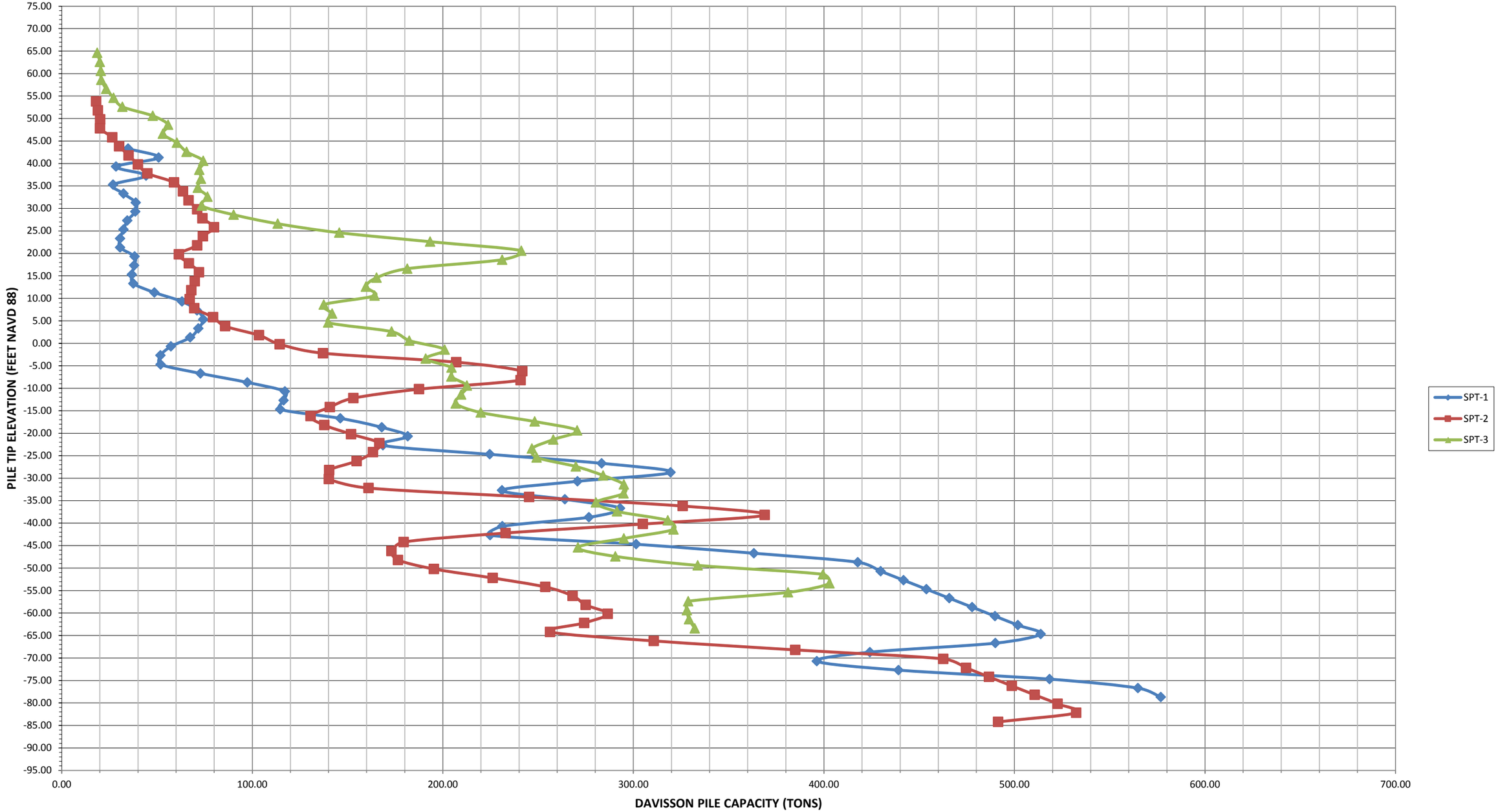


18-IN SQUARE PPC PILES

SOUTH SUMTER CONNECTOR TRAIL PD&E STUDY

Financial Project ID No. 435471-1-22-01

GEC Project No. 4037G

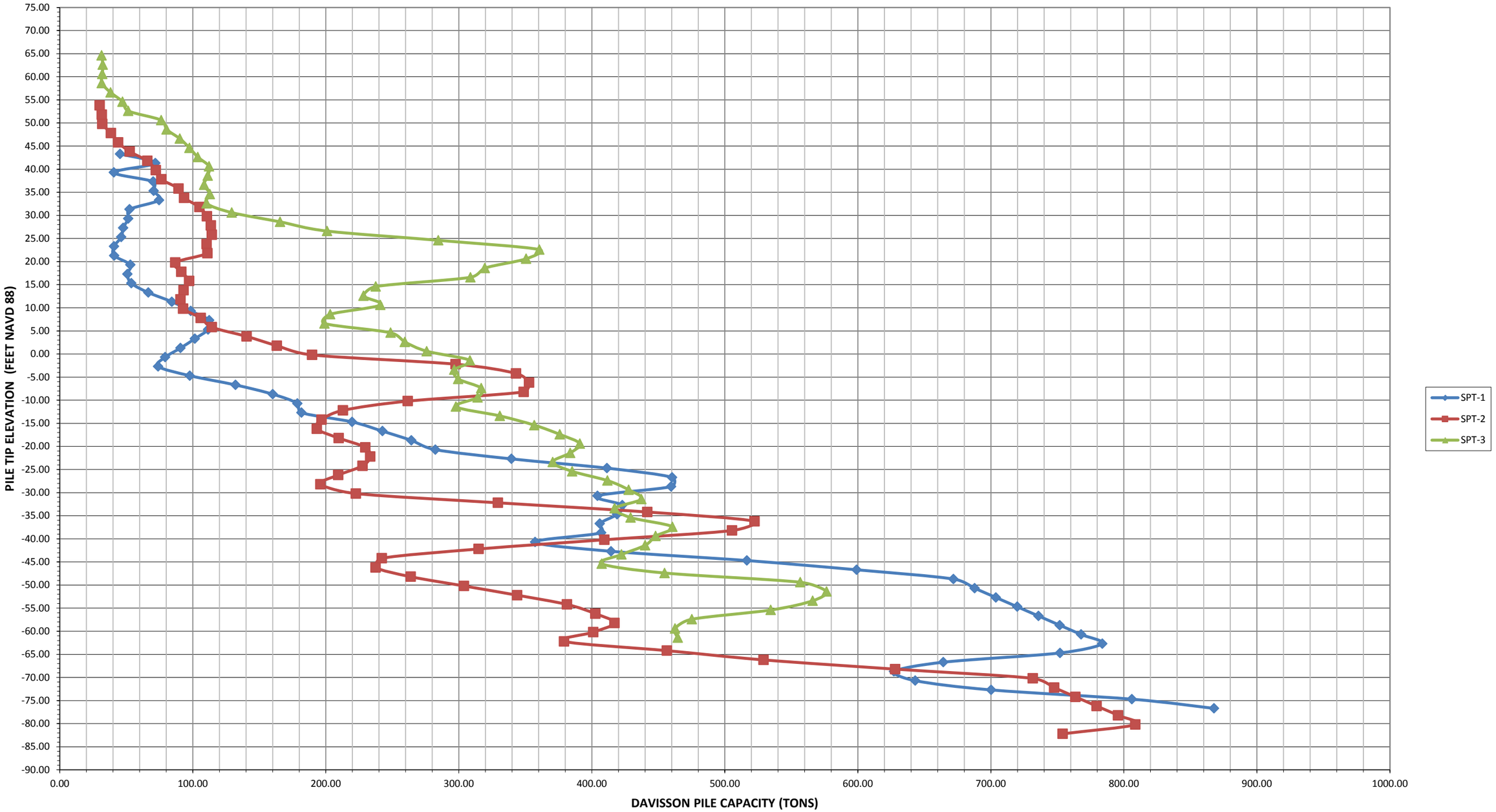


24-IN SQUARE PPC PILES

SOUTH SUMTER CONNECTOR TRAIL PD&E STUDY

Financial Project ID No. 435471-1-22-01

GEC Project No. 4037G



APPENDIX A

FB-DEEP ANALYSES

General Information:
====================
Input file: .....l PD&E Study\Geotechnical\6 Miscellaneous\FB-Deep\SPT-1_18.spc
Project number: 4037G
Job name: South Sumter
Engineer: BMM/DCS
Units: English

Analysis Information:
=====================
Analysis Type: SPT

Soil Information:
=================
Boring date: , Boring Number: SPT-1
Station number: Offset:

Ground Elevation: 48.300(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	5.00	3- Clean sand
2	2.00	5.00	3- Clean sand
3	4.00	5.00	3- Clean sand
4	6.00	5.00	3- Clean sand
5	7.00	5.00	2- Clay and silty sand
6	8.00	100.00	4- Lime Stone/Very shelly sand
7	10.00	6.00	1- Plastic Clay
8	11.50	4.00	1- Plastic Clay
9	14.00	6.00	1- Plastic Clay
10	16.50	3.00	4- Lime Stone/Very shelly sand
11	18.90	0.00	2- Clay and silty sand
12	19.00	7.00	4- Lime Stone/Very shelly sand
13	21.50	7.00	4- Lime Stone/Very shelly sand
14	24.00	0.00	5- Cavity layer
15	26.50	0.00	5- Cavity layer
16	29.00	3.00	4- Lime Stone/Very shelly sand
17	31.50	3.00	4- Lime Stone/Very shelly sand
18	33.90	0.00	2- Clay and silty sand
19	34.00	10.00	4- Lime Stone/Very shelly sand

20	36.40	0.00	2-	Clay and silty sand
21	36.50	2.00	4-	Lime Stone/Very shelly sand
22	38.90	0.00	2-	Clay and silty sand
23	39.00	8.00	4-	Lime Stone/Very shelly sand
24	41.40	0.00	2-	Clay and silty sand
25	41.50	20.00	4-	Lime Stone/Very shelly sand
26	44.00	19.00	4-	Lime Stone/Very shelly sand
27	46.50	12.00	4-	Lime Stone/Very shelly sand
28	49.00	20.00	4-	Lime Stone/Very shelly sand
29	51.40	0.00	2-	Clay and silty sand
30	51.50	10.00	4-	Lime Stone/Very shelly sand
31	53.90	0.00	2-	Clay and silty sand
32	54.00	2.00	4-	Lime Stone/Very shelly sand
33	56.40	0.00	2-	Clay and silty sand
34	56.50	11.00	4-	Lime Stone/Very shelly sand
35	58.90	0.00	2-	Clay and silty sand
36	59.00	22.00	4-	Lime Stone/Very shelly sand
37	61.50	32.00	4-	Lime Stone/Very shelly sand
38	64.00	30.00	4-	Lime Stone/Very shelly sand
39	66.40	0.00	2-	Clay and silty sand
40	66.50	51.00	4-	Lime Stone/Very shelly sand
41	68.90	0.00	2-	Clay and silty sand
42	69.00	100.00	4-	Lime Stone/Very shelly sand
43	71.40	0.00	2-	Clay and silty sand
44	71.50	53.00	4-	Lime Stone/Very shelly sand
45	74.00	37.00	4-	Lime Stone/Very shelly sand
46	76.40	0.00	2-	Clay and silty sand
47	76.50	100.00	4-	Lime Stone/Very shelly sand
48	79.00	100.00	4-	Lime Stone/Very shelly sand
49	81.50	77.00	4-	Lime Stone/Very shelly sand
50	83.90	0.00	2-	Clay and silty sand
51	84.00	48.00	4-	Lime Stone/Very shelly sand
52	86.40	0.00	2-	Clay and silty sand
53	86.50	100.00	4-	Lime Stone/Very shelly sand
54	89.00	100.00	4-	Lime Stone/Very shelly sand
55	91.40	0.00	2-	Clay and silty sand
56	91.50	23.00	4-	Lime Stone/Very shelly sand
57	93.90	0.00	2-	Clay and silty sand
58	94.00	65.00	4-	Lime Stone/Very shelly sand
59	96.40	0.00	2-	Clay and silty sand
60	96.50	100.00	4-	Lime Stone/Very shelly sand
61	99.00	100.00	4-	Lime Stone/Very shelly sand
62	101.50	100.00	4-	Lime Stone/Very shelly sand
63	104.00	90.00	4-	Lime Stone/Very shelly sand
64	106.50	100.00	4-	Lime Stone/Very shelly sand
65	109.00	100.00	4-	Lime Stone/Very shelly sand
66	111.50	100.00	4-	Lime Stone/Very shelly sand
67	114.00	100.00	4-	Lime Stone/Very shelly sand
68	116.50	100.00	4-	Lime Stone/Very shelly sand
69	119.00	100.00	4-	Lime Stone/Very shelly sand

70	121.40	0.00	2- Clay and silty sand
71	121.50	16.00	4- Lime Stone/Very shelly sand
72	123.90	0.00	2- Clay and silty sand
73	124.00	100.00	4- Lime Stone/Very shelly sand
74	126.50	100.00	4- Lime Stone/Very shelly sand
75	129.00	100.00	4- Lime Stone/Very shelly sand
76	131.50	100.00	4- Lime Stone/Very shelly sand
77	134.00	100.00	4- Lime Stone/Very shelly sand
78	134.10	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	48.30	41.30	7.00	5.00	3-Clean Sand
2	41.30	40.30	1.00	5.00	2-Clay and Silty Sand
3	40.30	38.30	2.00	100.00	4-Limestone, Very Shelly Sand
4	38.30	31.80	6.50	5.23	1-Plastic Clay
5	31.80	29.40	2.40	3.00	4-Limestone, Very Shelly Sand
6	29.40	29.30	0.10	0.00	2-Clay and Silty Sand
7	29.30	24.30	5.00	7.00	4-Limestone, Very Shelly Sand
8	24.30	19.30	5.00	0.00	5-Void
9	19.30	14.40	4.90	3.00	4-Limestone, Very Shelly Sand
10	14.40	14.30	0.10	0.00	2-Clay and Silty Sand
11	14.30	11.90	2.40	10.00	4-Limestone, Very Shelly Sand
12	11.90	11.80	0.10	0.00	2-Clay and Silty Sand
13	11.80	9.40	2.40	2.00	4-Limestone, Very Shelly Sand
14	9.40	9.30	0.10	0.00	2-Clay and Silty Sand
15	9.30	6.90	2.40	8.00	4-Limestone, Very Shelly Sand
16	6.90	6.80	0.10	0.00	2-Clay and Silty Sand
17	6.80	-3.10	9.90	17.73	4-Limestone, Very Shelly Sand
18	-3.10	-3.20	0.10	0.00	2-Clay and Silty Sand
19	-3.20	-5.60	2.40	10.00	4-Limestone, Very Shelly Sand
20	-5.60	-5.70	0.10	0.00	2-Clay and Silty Sand
21	-5.70	-8.10	2.40	2.00	4-Limestone, Very

Shelly Sand					
22	-8.10	-8.20	0.10	0.00	2-Clay and Silty Sand
23	-8.20	-10.60	2.40	11.00	4-Limestone, Very
Shelly Sand					
24	-10.60	-10.70	0.10	0.00	2-Clay and Silty Sand
25	-10.70	-18.10	7.40	27.97	4-Limestone, Very
Shelly Sand					
26	-18.10	-18.20	0.10	0.00	2-Clay and Silty Sand
27	-18.20	-20.60	2.40	51.00	4-Limestone, Very
Shelly Sand					
28	-20.60	-20.70	0.10	0.00	2-Clay and Silty Sand
29	-20.70	-23.10	2.40	100.00	4-Limestone, Very
Shelly Sand					
30	-23.10	-23.20	0.10	0.00	2-Clay and Silty Sand
31	-23.20	-28.10	4.90	45.16	4-Limestone, Very
Shelly Sand					
32	-28.10	-28.20	0.10	0.00	2-Clay and Silty Sand
33	-28.20	-35.60	7.40	92.54	4-Limestone, Very
Shelly Sand					
34	-35.60	-35.70	0.10	0.00	2-Clay and Silty Sand
35	-35.70	-38.10	2.40	48.00	4-Limestone, Very
Shelly Sand					
36	-38.10	-38.20	0.10	0.00	2-Clay and Silty Sand
37	-38.20	-43.10	4.90	100.00	4-Limestone, Very
Shelly Sand					
38	-43.10	-43.20	0.10	0.00	2-Clay and Silty Sand
39	-43.20	-45.60	2.40	23.00	4-Limestone, Very
Shelly Sand					
40	-45.60	-45.70	0.10	0.00	2-Clay and Silty Sand
41	-45.70	-48.10	2.40	65.00	4-Limestone, Very
Shelly Sand					
42	-48.10	-48.20	0.10	0.00	2-Clay and Silty Sand
43	-48.20	-73.10	24.90	99.00	4-Limestone, Very
Shelly Sand					
44	-73.10	-73.20	0.10	0.00	2-Clay and Silty Sand
45	-73.20	-75.60	2.40	16.00	4-Limestone, Very
Shelly Sand					
46	-75.60	-75.70	0.10	0.00	2-Clay and Silty Sand
47	-75.70	-85.80	10.10	100.00	4-Limestone, Very
Shelly Sand					
48	-85.80	-85.80	0.00	0.00	5-

Driven Pile Data:
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Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width	Length	Tip Elev.

(in)	(ft)	(ft)
18.00	5.00	43.30
18.00	7.00	41.30
18.00	9.00	39.30
18.00	11.00	37.30
18.00	13.00	35.30
18.00	15.00	33.30
18.00	17.00	31.30
18.00	19.00	29.30
18.00	21.00	27.30
18.00	23.00	25.30
18.00	25.00	23.30
18.00	27.00	21.30
18.00	29.00	19.30
18.00	31.00	17.30
18.00	33.00	15.30
18.00	35.00	13.30
18.00	37.00	11.30
18.00	39.00	9.30
18.00	41.00	7.30
18.00	43.00	5.30
18.00	45.00	3.30
18.00	47.00	1.30
18.00	49.00	-0.70
18.00	51.00	-2.70
18.00	53.00	-4.70
18.00	55.00	-6.70
18.00	57.00	-8.70
18.00	59.00	-10.70
18.00	61.00	-12.70
18.00	63.00	-14.70
18.00	65.00	-16.70
18.00	67.00	-18.70
18.00	69.00	-20.70
18.00	71.00	-22.70
18.00	73.00	-24.70
18.00	75.00	-26.70
18.00	77.00	-28.70
18.00	79.00	-30.70
18.00	81.00	-32.70
18.00	83.00	-34.70
18.00	85.00	-36.70
18.00	87.00	-38.70
18.00	89.00	-40.70
18.00	91.00	-42.70
18.00	93.00	-44.70
18.00	95.00	-46.70
18.00	97.00	-48.70
18.00	99.00	-50.70

18.00	101.00	-52.70
18.00	103.00	-54.70
18.00	105.00	-56.70
18.00	107.00	-58.70
18.00	109.00	-60.70
18.00	111.00	-62.70
18.00	113.00	-64.70
18.00	115.00	-66.70
18.00	117.00	-68.70
18.00	119.00	-70.70
18.00	121.00	-72.70
18.00	123.00	-74.70
18.00	125.00	-76.70
18.00	127.00	-78.70
18.00	129.00	-80.70
18.00	131.00	-82.70
18.00	133.00	-84.70
18.00	135.00	-86.70
18.00	137.00	-88.70
18.00	139.00	-90.70
18.00	141.00	-92.70
18.00	143.00	-94.70
18.00	145.00	-96.70
18.00	147.00	-98.70
18.00	149.00	-100.70

Driven Pile Capacity:
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Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
5.00	18.0	1.78	33.07	34.84	17.42	100.98
7.00	18.0	5.44	45.44	50.88	25.44	141.77
9.00	18.0	14.35	14.16	28.51	14.25	56.82
11.00	18.0	19.61	24.68	44.29	22.15	93.66
13.00	18.0	23.12	3.88	26.99	13.50	34.74
15.00	18.0	27.13	5.31	32.43	16.22	43.04
17.00	18.0	28.49	10.34	38.83	19.41	59.50
19.00	18.0	28.69	9.89	38.58	19.29	58.37
21.00	18.0	29.73	4.67	34.40	17.20	43.75
23.00	18.0	30.53	1.92	32.45	16.23	36.29
25.00	18.0	30.64	0.00	30.64	15.32	30.64
27.00	18.0	30.65	0.00	30.65	15.32	30.65
29.00	18.0	30.92	7.33	38.25	19.12	52.90

31.00	18.0	31.36	6.66	38.03	19.01	51.35
33.00	18.0	31.71	5.11	36.82	18.41	47.04
35.00	18.0	32.37	5.24	37.61	18.81	48.10
37.00	18.0	32.67	15.96	48.63	24.32	80.55
39.00	18.0	32.70	30.40	63.10	31.55	123.90
41.00	18.0	33.40	37.59	70.99	35.50	146.18
43.00	18.0	35.69	38.59	74.28	37.14	151.47
45.00	18.0	38.43	33.31	71.74	35.87	138.35
47.00	18.0	40.48	26.97	67.45	33.73	121.40
49.00	18.0	42.98	14.35	57.32	28.66	86.02
51.00	18.0	44.71	7.14	51.85	25.93	66.13
53.00	18.0	45.57	6.36	51.93	25.96	64.65
55.00	18.0	45.69	27.13	72.82	36.41	127.08
57.00	18.0	46.10	51.34	97.44	48.72	200.11
59.00	18.0	46.80	70.35	117.15	58.58	257.86
61.00	18.0	50.67	65.76	116.43	58.22	247.96
63.00	18.0	55.32	59.30	114.62	57.31	233.21
65.00	18.0	59.35	86.86	146.21	73.11	319.93
67.00	18.0	62.15	105.80	167.95	83.98	379.54
69.00	18.0	65.31	116.30	181.60	90.80	414.19
71.00	18.0	72.31	96.28	168.59	84.29	361.15
73.00	18.0	78.08	146.57	224.65	112.33	517.78
75.00	18.0	83.25	200.13	283.38	141.69	683.64
77.00	18.0	87.68	231.86	319.54	159.77	783.25
79.00	18.0	99.68	170.98	270.66	135.33	612.62
81.00	18.0	111.46	119.65	231.11	115.56	470.41
83.00	18.0	120.25	143.79	264.04	132.02	551.62
85.00	18.0	124.22	168.81	293.03	146.52	630.66
87.00	18.0	128.98	147.73	276.71	138.35	572.17
89.00	18.0	140.98	90.27	231.24	115.62	411.78
91.00	18.0	147.98	76.84	224.82	112.41	378.50
93.00	18.0	150.03	151.40	301.43	150.71	604.22
95.00	18.0	154.39	208.86	363.25	181.63	780.98
97.00	18.0	159.66	258.14	417.80	208.90	934.09
99.00	18.0	171.66	258.14	429.80	214.90	946.09
101.00	18.0	183.66	258.14	441.80	220.90	958.09
103.00	18.0	195.66	258.14	453.80	226.90	970.09
105.00	18.0	207.66	258.14	465.80	232.90	982.09
107.00	18.0	219.66	258.14	477.80	238.90	994.09
109.00	18.0	231.66	258.14	489.80	244.90	1006.09
111.00	18.0	243.66	258.14	501.80	250.90	1018.09
113.00	18.0	255.66	258.14	513.80	256.90	1030.09
115.00	18.0	267.66	222.29	489.95	244.98	934.53
117.00	18.0	279.66	144.46	424.12	212.06	713.03
119.00	18.0	291.66	104.64	396.30	198.15	605.59
121.00	18.0	298.66	140.49	439.16	219.58	720.15
123.00	18.0	300.15	218.33	518.48	259.24	955.13
125.00	18.0	306.65	258.14	564.79	282.40	1081.08
127.00	18.0	318.65	258.14	576.79	288.40	1093.08
129.00	18.0 Soil Elevations Must Extend At or Below Contribution Zone					

131.00	18.0	Soil Elevations Must Extend At or Below Contribution Zone
133.00	18.0	Soil Elevations Must Extend At or Below Contribution Zone
135.00	18.0	Soil Elevations Must Extend At or Below Contribution Zone
137.00	18.0	Soil Elevations Must Extend At or Below Contribution Zone
139.00	18.0	Soil Elevations Must Extend At or Below Contribution Zone
141.00	18.0	Soil Elevations Must Extend At or Below Contribution Zone
143.00	18.0	Soil Elevations Must Extend At or Below Contribution Zone
145.00	18.0	Soil Elevations Must Extend At or Below Contribution Zone
147.00	18.0	Soil Elevations Must Extend At or Below Contribution Zone
149.00	18.0	Soil Elevations Must Extend At or Below Contribution Zone

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.

2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.

3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.

4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
   EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:
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Input file: .....l PD&E Study\Geotechnical\6 Miscellaneous\FB-Deep\SPT-1_24.spc
Project number: 4037G
Job name: South Sumter
Engineer: BMM/DCS
Units: English

Analysis Information:
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Analysis Type: SPT

Soil Information:
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Boring date: , Boring Number: SPT-1
Station number: Offset:

Ground Elevation: 48.300(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	5.00	3- Clean sand
2	2.00	5.00	3- Clean sand
3	4.00	5.00	3- Clean sand
4	6.00	5.00	3- Clean sand
5	7.00	5.00	2- Clay and silty sand
6	8.00	100.00	4- Lime Stone/Very shelly sand
7	10.00	6.00	1- Plastic Clay
8	11.50	4.00	1- Plastic Clay
9	14.00	6.00	1- Plastic Clay
10	16.50	3.00	4- Lime Stone/Very shelly sand
11	18.90	0.00	2- Clay and silty sand
12	19.00	7.00	4- Lime Stone/Very shelly sand
13	21.50	7.00	4- Lime Stone/Very shelly sand
14	24.00	0.00	5- Cavity layer
15	26.50	0.00	5- Cavity layer
16	29.00	3.00	4- Lime Stone/Very shelly sand
17	31.50	3.00	4- Lime Stone/Very shelly sand
18	33.90	0.00	2- Clay and silty sand
19	34.00	10.00	4- Lime Stone/Very shelly sand

20	36.40	0.00	2- Clay and silty sand
21	36.50	2.00	4- Lime Stone/Very shelly sand
22	38.90	0.00	2- Clay and silty sand
23	39.00	8.00	4- Lime Stone/Very shelly sand
24	41.40	0.00	2- Clay and silty sand
25	41.50	20.00	4- Lime Stone/Very shelly sand
26	44.00	19.00	4- Lime Stone/Very shelly sand
27	46.50	12.00	4- Lime Stone/Very shelly sand
28	49.00	20.00	4- Lime Stone/Very shelly sand
29	51.40	0.00	2- Clay and silty sand
30	51.50	10.00	4- Lime Stone/Very shelly sand
31	53.90	0.00	2- Clay and silty sand
32	54.00	2.00	4- Lime Stone/Very shelly sand
33	56.40	0.00	2- Clay and silty sand
34	56.50	11.00	4- Lime Stone/Very shelly sand
35	58.90	0.00	2- Clay and silty sand
36	59.00	22.00	4- Lime Stone/Very shelly sand
37	61.50	32.00	4- Lime Stone/Very shelly sand
38	64.00	30.00	4- Lime Stone/Very shelly sand
39	66.40	0.00	2- Clay and silty sand
40	66.50	51.00	4- Lime Stone/Very shelly sand
41	68.90	0.00	2- Clay and silty sand
42	69.00	100.00	4- Lime Stone/Very shelly sand
43	71.40	0.00	2- Clay and silty sand
44	71.50	53.00	4- Lime Stone/Very shelly sand
45	74.00	37.00	4- Lime Stone/Very shelly sand
46	76.40	0.00	2- Clay and silty sand
47	76.50	100.00	4- Lime Stone/Very shelly sand
48	79.00	100.00	4- Lime Stone/Very shelly sand
49	81.50	77.00	4- Lime Stone/Very shelly sand
50	83.90	0.00	2- Clay and silty sand
51	84.00	48.00	4- Lime Stone/Very shelly sand
52	86.40	0.00	2- Clay and silty sand
53	86.50	100.00	4- Lime Stone/Very shelly sand
54	89.00	100.00	4- Lime Stone/Very shelly sand
55	91.40	0.00	2- Clay and silty sand
56	91.50	23.00	4- Lime Stone/Very shelly sand
57	93.90	0.00	2- Clay and silty sand
58	94.00	65.00	4- Lime Stone/Very shelly sand
59	96.40	0.00	2- Clay and silty sand
60	96.50	100.00	4- Lime Stone/Very shelly sand
61	99.00	100.00	4- Lime Stone/Very shelly sand
62	101.50	100.00	4- Lime Stone/Very shelly sand
63	104.00	90.00	4- Lime Stone/Very shelly sand
64	106.50	100.00	4- Lime Stone/Very shelly sand
65	109.00	100.00	4- Lime Stone/Very shelly sand
66	111.50	100.00	4- Lime Stone/Very shelly sand
67	114.00	100.00	4- Lime Stone/Very shelly sand
68	116.50	100.00	4- Lime Stone/Very shelly sand
69	119.00	100.00	4- Lime Stone/Very shelly sand

70	121.40	0.00	2- Clay and silty sand
71	121.50	16.00	4- Lime Stone/Very shelly sand
72	123.90	0.00	2- Clay and silty sand
73	124.00	100.00	4- Lime Stone/Very shelly sand
74	126.50	100.00	4- Lime Stone/Very shelly sand
75	129.00	100.00	4- Lime Stone/Very shelly sand
76	131.50	100.00	4- Lime Stone/Very shelly sand
77	134.00	100.00	4- Lime Stone/Very shelly sand
78	134.10	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	48.30	41.30	7.00	5.00	3-Clean Sand
2	41.30	40.30	1.00	5.00	2-Clay and Silty Sand
3	40.30	38.30	2.00	100.00	4-Limestone, Very Shelly Sand
4	38.30	31.80	6.50	5.23	1-Plastic Clay
5	31.80	29.40	2.40	3.00	4-Limestone, Very Shelly Sand
6	29.40	29.30	0.10	0.00	2-Clay and Silty Sand
7	29.30	24.30	5.00	7.00	4-Limestone, Very Shelly Sand
8	24.30	19.30	5.00	0.00	5-Void
9	19.30	14.40	4.90	3.00	4-Limestone, Very Shelly Sand
10	14.40	14.30	0.10	0.00	2-Clay and Silty Sand
11	14.30	11.90	2.40	10.00	4-Limestone, Very Shelly Sand
12	11.90	11.80	0.10	0.00	2-Clay and Silty Sand
13	11.80	9.40	2.40	2.00	4-Limestone, Very Shelly Sand
14	9.40	9.30	0.10	0.00	2-Clay and Silty Sand
15	9.30	6.90	2.40	8.00	4-Limestone, Very Shelly Sand
16	6.90	6.80	0.10	0.00	2-Clay and Silty Sand
17	6.80	-3.10	9.90	17.73	4-Limestone, Very Shelly Sand
18	-3.10	-3.20	0.10	0.00	2-Clay and Silty Sand
19	-3.20	-5.60	2.40	10.00	4-Limestone, Very Shelly Sand
20	-5.60	-5.70	0.10	0.00	2-Clay and Silty Sand
21	-5.70	-8.10	2.40	2.00	4-Limestone, Very

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Shelly Sand
   22       -8.10      -8.20       0.10        0.00          2-Clay and Silty Sand
   23       -8.20     -10.60       2.40       11.00          4-Limestone, Very
Shelly Sand
   24      -10.60     -10.70       0.10        0.00          2-Clay and Silty Sand
   25      -10.70     -18.10       7.40       27.97          4-Limestone, Very
Shelly Sand
   26      -18.10     -18.20       0.10        0.00          2-Clay and Silty Sand
   27      -18.20     -20.60       2.40       51.00          4-Limestone, Very
Shelly Sand
   28      -20.60     -20.70       0.10        0.00          2-Clay and Silty Sand
   29      -20.70     -23.10       2.40      100.00          4-Limestone, Very
Shelly Sand
   30      -23.10     -23.20       0.10        0.00          2-Clay and Silty Sand
   31      -23.20     -28.10       4.90       45.16          4-Limestone, Very
Shelly Sand
   32      -28.10     -28.20       0.10        0.00          2-Clay and Silty Sand
   33      -28.20     -35.60       7.40       92.54          4-Limestone, Very
Shelly Sand
   34      -35.60     -35.70       0.10        0.00          2-Clay and Silty Sand
   35      -35.70     -38.10       2.40       48.00          4-Limestone, Very
Shelly Sand
   36      -38.10     -38.20       0.10        0.00          2-Clay and Silty Sand
   37      -38.20     -43.10       4.90      100.00          4-Limestone, Very
Shelly Sand
   38      -43.10     -43.20       0.10        0.00          2-Clay and Silty Sand
   39      -43.20     -45.60       2.40       23.00          4-Limestone, Very
Shelly Sand
   40      -45.60     -45.70       0.10        0.00          2-Clay and Silty Sand
   41      -45.70     -48.10       2.40       65.00          4-Limestone, Very
Shelly Sand
   42      -48.10     -48.20       0.10        0.00          2-Clay and Silty Sand
   43      -48.20     -73.10      24.90       99.00          4-Limestone, Very
Shelly Sand
   44      -73.10     -73.20       0.10        0.00          2-Clay and Silty Sand
   45      -73.20     -75.60       2.40       16.00          4-Limestone, Very
Shelly Sand
   46      -75.60     -75.70       0.10        0.00          2-Clay and Silty Sand
   47      -75.70     -85.80      10.10      100.00          4-Limestone, Very
Shelly Sand
   48      -85.80     -85.80       0.00        0.00          5-


Driven Pile Data:
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  Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:
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     Width     Length    Tip Elev.
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(in)	(ft)	(ft)
24.00	5.00	43.30
24.00	7.00	41.30
24.00	9.00	39.30
24.00	11.00	37.30
24.00	13.00	35.30
24.00	15.00	33.30
24.00	17.00	31.30
24.00	19.00	29.30
24.00	21.00	27.30
24.00	23.00	25.30
24.00	25.00	23.30
24.00	27.00	21.30
24.00	29.00	19.30
24.00	31.00	17.30
24.00	33.00	15.30
24.00	35.00	13.30
24.00	37.00	11.30
24.00	39.00	9.30
24.00	41.00	7.30
24.00	43.00	5.30
24.00	45.00	3.30
24.00	47.00	1.30
24.00	49.00	-0.70
24.00	51.00	-2.70
24.00	53.00	-4.70
24.00	55.00	-6.70
24.00	57.00	-8.70
24.00	59.00	-10.70
24.00	61.00	-12.70
24.00	63.00	-14.70
24.00	65.00	-16.70
24.00	67.00	-18.70
24.00	69.00	-20.70
24.00	71.00	-22.70
24.00	73.00	-24.70
24.00	75.00	-26.70
24.00	77.00	-28.70
24.00	79.00	-30.70
24.00	81.00	-32.70
24.00	83.00	-34.70
24.00	85.00	-36.70
24.00	87.00	-38.70
24.00	89.00	-40.70
24.00	91.00	-42.70
24.00	93.00	-44.70
24.00	95.00	-46.70
24.00	97.00	-48.70
24.00	99.00	-50.70

24.00	101.00	-52.70
24.00	103.00	-54.70
24.00	105.00	-56.70
24.00	107.00	-58.70
24.00	109.00	-60.70
24.00	111.00	-62.70
24.00	113.00	-64.70
24.00	115.00	-66.70
24.00	117.00	-68.70
24.00	119.00	-70.70
24.00	121.00	-72.70
24.00	123.00	-74.70
24.00	125.00	-76.70
24.00	127.00	-78.70
24.00	129.00	-80.70
24.00	131.00	-82.70
24.00	133.00	-84.70
24.00	135.00	-86.70
24.00	137.00	-88.70
24.00	139.00	-90.70
24.00	141.00	-92.70
24.00	143.00	-94.70
24.00	145.00	-96.70
24.00	147.00	-98.70
24.00	149.00	-100.70

Driven Pile Capacity:
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Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
5.00	24.0	2.39	42.99	45.38	22.69	131.36
7.00	24.0	7.25	64.55	71.79	35.90	200.89
9.00	24.0	19.13	21.49	40.62	20.31	83.60
11.00	24.0	26.14	44.07	70.21	35.11	158.35
13.00	24.0	30.82	39.78	70.60	35.30	150.15
15.00	24.0	36.17	38.55	74.72	37.36	151.81
17.00	24.0	37.99	14.48	52.47	26.24	81.44
19.00	24.0	38.25	13.27	51.51	25.76	78.05
21.00	24.0	39.64	8.01	47.65	23.82	63.67
23.00	24.0	40.71	5.52	46.23	23.12	57.28
25.00	24.0	40.85	0.00	40.85	20.43	40.85
27.00	24.0	40.87	0.00	40.87	20.43	40.87
29.00	24.0	41.22	11.85	53.07	26.54	76.77

31.00	24.0	41.82	9.09	50.90	25.45	69.08
33.00	24.0	42.27	11.53	53.80	26.90	76.85
35.00	24.0	43.16	23.36	66.52	33.26	113.23
37.00	24.0	43.56	40.74	84.30	42.15	165.77
39.00	24.0	43.60	54.84	98.44	49.22	208.11
41.00	24.0	44.53	67.82	112.35	56.18	247.99
43.00	24.0	47.59	63.87	111.45	55.73	239.19
45.00	24.0	51.24	50.27	101.51	50.75	202.04
47.00	24.0	53.97	36.82	90.80	45.40	164.45
49.00	24.0	57.30	21.93	79.23	39.62	123.09
51.00	24.0	59.62	14.34	73.96	36.98	102.63
53.00	24.0	60.76	37.03	97.79	48.89	171.85
55.00	24.0	60.92	71.25	132.17	66.09	274.67
57.00	24.0	61.47	98.62	160.09	80.05	357.34
59.00	24.0	62.40	116.24	178.63	89.32	411.11
61.00	24.0	67.56	114.14	181.69	90.85	409.97
63.00	24.0	73.77	145.99	219.75	109.88	511.73
65.00	24.0	79.14	163.49	242.63	121.32	569.62
67.00	24.0	82.87	181.51	264.39	132.19	627.41
69.00	24.0	87.08	195.30	282.38	141.19	672.98
71.00	24.0	96.41	243.11	339.52	169.76	825.73
73.00	24.0	104.11	307.29	411.40	205.70	1025.99
75.00	24.0	111.01	349.38	460.39	230.19	1159.15
77.00	24.0	116.90	342.70	459.61	229.80	1145.02
79.00	24.0	132.90	271.40	404.31	202.15	947.11
81.00	24.0	148.62	274.26	422.88	211.44	971.41
83.00	24.0	160.33	258.65	418.98	209.49	936.27
85.00	24.0	165.63	240.40	406.03	203.02	886.84
87.00	24.0	171.97	235.08	407.06	203.53	877.22
89.00	24.0	187.97	169.38	357.35	178.67	696.11
91.00	24.0	197.30	217.18	414.49	207.24	848.85
93.00	24.0	200.04	316.59	516.63	258.32	1149.82
95.00	24.0	205.85	393.21	599.06	299.53	1385.49
97.00	24.0	212.88	458.92	671.80	335.90	1589.64
99.00	24.0	228.88	458.92	687.80	343.90	1605.64
101.00	24.0	244.88	458.92	703.80	351.90	1621.64
103.00	24.0	260.88	458.92	719.80	359.90	1637.64
105.00	24.0	276.88	458.92	735.80	367.90	1653.64
107.00	24.0	292.88	458.92	751.80	375.90	1669.64
109.00	24.0	308.88	458.92	767.80	383.90	1685.64
111.00	24.0	324.88	458.92	783.80	391.90	1701.64
113.00	24.0	340.88	411.12	752.00	376.00	1574.23
115.00	24.0	356.88	307.34	664.22	332.11	1278.90
117.00	24.0	372.88	254.25	627.13	313.57	1135.64
119.00	24.0	388.88	254.25	643.13	321.57	1151.64
121.00	24.0	398.22	302.06	700.27	350.14	1304.38
123.00	24.0	400.20	405.83	806.03	403.02	1617.70
125.00	24.0	408.87	458.92	867.79	433.89	1785.63
127.00	24.0	0.00	0.00	0.00	0.00	0.00
129.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone				

131.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone
133.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone
135.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone
137.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone
139.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone
141.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone
143.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone
145.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone
147.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone
149.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.

2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.

3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.

4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
   EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:
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Input file: ..... PD&E Study\Geotechnical\6 Miscellaneous\FB-Deep\SPT-1_H 2.spc
Project number: 4037G
Job name: South Sumter
Engineer: BMM/DCS
Units: English

Analysis Information:
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Analysis Type: SPT

Soil Information:
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Boring date: , Boring Number: SPT-1
Station number: Offset:

Ground Elevation: 48.300(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	5.00	3- Clean sand
2	2.00	5.00	3- Clean sand
3	4.00	5.00	3- Clean sand
4	6.00	5.00	3- Clean sand
5	7.00	5.00	2- Clay and silty sand
6	8.00	100.00	4- Lime Stone/Very shelly sand
7	10.00	6.00	1- Plastic Clay
8	11.50	4.00	1- Plastic Clay
9	14.00	6.00	1- Plastic Clay
10	16.50	3.00	4- Lime Stone/Very shelly sand
11	18.90	0.00	2- Clay and silty sand
12	19.00	7.00	4- Lime Stone/Very shelly sand
13	21.50	7.00	4- Lime Stone/Very shelly sand
14	24.00	0.00	5- Cavity layer
15	26.50	0.00	5- Cavity layer
16	29.00	3.00	4- Lime Stone/Very shelly sand
17	31.50	3.00	4- Lime Stone/Very shelly sand
18	33.90	0.00	2- Clay and silty sand
19	34.00	10.00	4- Lime Stone/Very shelly sand

20	36.40	0.00	2- Clay and silty sand
21	36.50	2.00	4- Lime Stone/Very shelly sand
22	38.90	0.00	2- Clay and silty sand
23	39.00	8.00	4- Lime Stone/Very shelly sand
24	41.40	0.00	2- Clay and silty sand
25	41.50	20.00	4- Lime Stone/Very shelly sand
26	44.00	19.00	4- Lime Stone/Very shelly sand
27	46.50	12.00	4- Lime Stone/Very shelly sand
28	49.00	20.00	4- Lime Stone/Very shelly sand
29	51.40	0.00	2- Clay and silty sand
30	51.50	10.00	4- Lime Stone/Very shelly sand
31	53.90	0.00	2- Clay and silty sand
32	54.00	2.00	4- Lime Stone/Very shelly sand
33	56.40	0.00	2- Clay and silty sand
34	56.50	11.00	4- Lime Stone/Very shelly sand
35	58.90	0.00	2- Clay and silty sand
36	59.00	22.00	4- Lime Stone/Very shelly sand
37	61.50	32.00	4- Lime Stone/Very shelly sand
38	64.00	30.00	4- Lime Stone/Very shelly sand
39	66.40	0.00	2- Clay and silty sand
40	66.50	51.00	4- Lime Stone/Very shelly sand
41	68.90	0.00	2- Clay and silty sand
42	69.00	100.00	4- Lime Stone/Very shelly sand
43	71.40	0.00	2- Clay and silty sand
44	71.50	53.00	4- Lime Stone/Very shelly sand
45	74.00	37.00	4- Lime Stone/Very shelly sand
46	76.40	0.00	2- Clay and silty sand
47	76.50	100.00	4- Lime Stone/Very shelly sand
48	79.00	100.00	4- Lime Stone/Very shelly sand
49	81.50	77.00	4- Lime Stone/Very shelly sand
50	83.90	0.00	2- Clay and silty sand
51	84.00	48.00	4- Lime Stone/Very shelly sand
52	86.40	0.00	2- Clay and silty sand
53	86.50	100.00	4- Lime Stone/Very shelly sand
54	89.00	100.00	4- Lime Stone/Very shelly sand
55	91.40	0.00	2- Clay and silty sand
56	91.50	23.00	4- Lime Stone/Very shelly sand
57	93.90	0.00	2- Clay and silty sand
58	94.00	65.00	4- Lime Stone/Very shelly sand
59	96.40	0.00	2- Clay and silty sand
60	96.50	100.00	4- Lime Stone/Very shelly sand
61	99.00	100.00	4- Lime Stone/Very shelly sand
62	101.50	100.00	4- Lime Stone/Very shelly sand
63	104.00	90.00	4- Lime Stone/Very shelly sand
64	106.50	100.00	4- Lime Stone/Very shelly sand
65	109.00	100.00	4- Lime Stone/Very shelly sand
66	111.50	100.00	4- Lime Stone/Very shelly sand
67	114.00	100.00	4- Lime Stone/Very shelly sand
68	116.50	100.00	4- Lime Stone/Very shelly sand
69	119.00	100.00	4- Lime Stone/Very shelly sand

70	121.40	0.00	2- Clay and silty sand
71	121.50	16.00	4- Lime Stone/Very shelly sand
72	123.90	0.00	2- Clay and silty sand
73	124.00	100.00	4- Lime Stone/Very shelly sand
74	126.50	100.00	4- Lime Stone/Very shelly sand
75	129.00	100.00	4- Lime Stone/Very shelly sand
76	131.50	100.00	4- Lime Stone/Very shelly sand
77	134.00	100.00	4- Lime Stone/Very shelly sand
78	134.10	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	48.30	41.30	7.00	5.00	3-Clean Sand
2	41.30	40.30	1.00	5.00	2-Clay and Silty Sand
3	40.30	38.30	2.00	100.00	4-Limestone, Very Shelly Sand
4	38.30	31.80	6.50	5.23	1-Plastic Clay
5	31.80	29.40	2.40	3.00	4-Limestone, Very Shelly Sand
6	29.40	29.30	0.10	0.00	2-Clay and Silty Sand
7	29.30	24.30	5.00	7.00	4-Limestone, Very Shelly Sand
8	24.30	19.30	5.00	0.00	5-Void
9	19.30	14.40	4.90	3.00	4-Limestone, Very Shelly Sand
10	14.40	14.30	0.10	0.00	2-Clay and Silty Sand
11	14.30	11.90	2.40	10.00	4-Limestone, Very Shelly Sand
12	11.90	11.80	0.10	0.00	2-Clay and Silty Sand
13	11.80	9.40	2.40	2.00	4-Limestone, Very Shelly Sand
14	9.40	9.30	0.10	0.00	2-Clay and Silty Sand
15	9.30	6.90	2.40	8.00	4-Limestone, Very Shelly Sand
16	6.90	6.80	0.10	0.00	2-Clay and Silty Sand
17	6.80	-3.10	9.90	17.73	4-Limestone, Very Shelly Sand
18	-3.10	-3.20	0.10	0.00	2-Clay and Silty Sand
19	-3.20	-5.60	2.40	10.00	4-Limestone, Very Shelly Sand
20	-5.60	-5.70	0.10	0.00	2-Clay and Silty Sand
21	-5.70	-8.10	2.40	2.00	4-Limestone, Very

Shelly Sand					
22	-8.10	-8.20	0.10	0.00	2-Clay and Silty Sand
23	-8.20	-10.60	2.40	11.00	4-Limestone, Very
Shelly Sand					
24	-10.60	-10.70	0.10	0.00	2-Clay and Silty Sand
25	-10.70	-18.10	7.40	27.97	4-Limestone, Very
Shelly Sand					
26	-18.10	-18.20	0.10	0.00	2-Clay and Silty Sand
27	-18.20	-20.60	2.40	51.00	4-Limestone, Very
Shelly Sand					
28	-20.60	-20.70	0.10	0.00	2-Clay and Silty Sand
29	-20.70	-23.10	2.40	100.00	4-Limestone, Very
Shelly Sand					
30	-23.10	-23.20	0.10	0.00	2-Clay and Silty Sand
31	-23.20	-28.10	4.90	45.16	4-Limestone, Very
Shelly Sand					
32	-28.10	-28.20	0.10	0.00	2-Clay and Silty Sand
33	-28.20	-35.60	7.40	92.54	4-Limestone, Very
Shelly Sand					
34	-35.60	-35.70	0.10	0.00	2-Clay and Silty Sand
35	-35.70	-38.10	2.40	48.00	4-Limestone, Very
Shelly Sand					
36	-38.10	-38.20	0.10	0.00	2-Clay and Silty Sand
37	-38.20	-43.10	4.90	100.00	4-Limestone, Very
Shelly Sand					
38	-43.10	-43.20	0.10	0.00	2-Clay and Silty Sand
39	-43.20	-45.60	2.40	23.00	4-Limestone, Very
Shelly Sand					
40	-45.60	-45.70	0.10	0.00	2-Clay and Silty Sand
41	-45.70	-48.10	2.40	65.00	4-Limestone, Very
Shelly Sand					
42	-48.10	-48.20	0.10	0.00	2-Clay and Silty Sand
43	-48.20	-73.10	24.90	99.00	4-Limestone, Very
Shelly Sand					
44	-73.10	-73.20	0.10	0.00	2-Clay and Silty Sand
45	-73.20	-75.60	2.40	16.00	4-Limestone, Very
Shelly Sand					
46	-75.60	-75.70	0.10	0.00	2-Clay and Silty Sand
47	-75.70	-85.80	10.10	100.00	4-Limestone, Very
Shelly Sand					
48	-85.80	-85.80	0.00	0.00	5-

Driven Pile Data:
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Pile unit weight = 150.00(pcf), Section Type: H-Section

Pile Geometry:

Width	Length	Tip Elev.	Depth

(in)	(ft)	(ft)	(in)
14.69	5.00	43.30	13.83
14.69	7.00	41.30	13.83
14.69	9.00	39.30	13.83
14.69	11.00	37.30	13.83
14.69	13.00	35.30	13.83
14.69	15.00	33.30	13.83
14.69	17.00	31.30	13.83
14.69	19.00	29.30	13.83
14.69	21.00	27.30	13.83
14.69	23.00	25.30	13.83
14.69	25.00	23.30	13.83
14.69	27.00	21.30	13.83
14.69	29.00	19.30	13.83
14.69	31.00	17.30	13.83
14.69	33.00	15.30	13.83
14.69	35.00	13.30	13.83
14.69	37.00	11.30	13.83
14.69	39.00	9.30	13.83
14.69	41.00	7.30	13.83
14.69	43.00	5.30	13.83
14.69	45.00	3.30	13.83
14.69	47.00	1.30	13.83
14.69	49.00	-0.70	13.83
14.69	51.00	-2.70	13.83
14.69	53.00	-4.70	13.83
14.69	55.00	-6.70	13.83
14.69	57.00	-8.70	13.83
14.69	59.00	-10.70	13.83
14.69	61.00	-12.70	13.83
14.69	63.00	-14.70	13.83
14.69	65.00	-16.70	13.83
14.69	67.00	-18.70	13.83
14.69	69.00	-20.70	13.83
14.69	71.00	-22.70	13.83
14.69	73.00	-24.70	13.83
14.69	75.00	-26.70	13.83
14.69	77.00	-28.70	13.83
14.69	79.00	-30.70	13.83
14.69	81.00	-32.70	13.83
14.69	83.00	-34.70	13.83
14.69	85.00	-36.70	13.83
14.69	87.00	-38.70	13.83
14.69	89.00	-40.70	13.83
14.69	91.00	-42.70	13.83
14.69	93.00	-44.70	13.83
14.69	95.00	-46.70	13.83
14.69	97.00	-48.70	13.83
14.69	99.00	-50.70	13.83

14.69	101.00	-52.70	13.83
14.69	103.00	-54.70	13.83
14.69	105.00	-56.70	13.83
14.69	107.00	-58.70	13.83
14.69	109.00	-60.70	13.83
14.69	111.00	-62.70	13.83
14.69	113.00	-64.70	13.83
14.69	115.00	-66.70	13.83
14.69	117.00	-68.70	13.83
14.69	119.00	-70.70	13.83
14.69	121.00	-72.70	13.83
14.69	123.00	-74.70	13.83
14.69	125.00	-76.70	13.83
14.69	127.00	-78.70	13.83
14.69	129.00	-80.70	13.83
14.69	131.00	-82.70	13.83
14.69	133.00	-84.70	13.83
14.69	135.00	-86.70	13.83
14.69	137.00	-88.70	13.83
14.69	139.00	-90.70	13.83
14.69	141.00	-92.70	13.83
14.69	143.00	-94.70	13.83
14.69	145.00	-96.70	13.83
14.69	147.00	-98.70	13.83
14.69	149.00	-100.70	13.83

Driven Pile Capacity:
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Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
5.00	14.7	0.93	20.56	21.49	10.75	42.05
7.00	14.7	3.19	26.80	29.99	15.00	83.60
9.00	14.7	9.79	5.32	15.11	7.55	20.43
11.00	14.7	13.52	1.22	14.74	7.37	17.19
13.00	14.7	16.36	1.99	18.35	9.18	22.33
15.00	14.7	19.37	2.98	22.35	11.17	28.31
17.00	14.7	20.39	4.86	25.25	12.62	30.11
19.00	14.7	20.54	5.62	26.16	13.08	31.78
21.00	14.7	21.33	2.63	23.95	11.98	26.58
23.00	14.7	21.94	0.55	22.49	11.24	23.04
25.00	14.7	22.02	0.00	22.02	11.01	22.02
27.00	14.7	22.02	0.00	22.02	11.01	22.02
29.00	14.7	22.23	2.38	24.61	12.30	26.99

31.00	14.7	22.56	3.66	26.23	13.11	29.89
33.00	14.7	22.82	2.79	25.61	12.81	28.40
35.00	14.7	23.33	2.21	25.54	12.77	27.75
37.00	14.7	23.56	4.06	27.62	13.81	31.67
39.00	14.7	23.58	12.31	35.89	17.94	48.20
41.00	14.7	24.10	17.37	41.48	20.74	58.85
43.00	14.7	25.84	16.69	42.53	21.27	59.22
45.00	14.7	27.91	16.24	44.15	22.08	60.39
47.00	14.7	29.47	13.24	42.70	21.35	55.94
49.00	14.7	31.36	7.82	39.18	19.59	47.01
51.00	14.7	32.67	2.82	35.50	17.75	38.32
53.00	14.7	33.32	2.82	36.14	18.07	38.95
55.00	14.7	33.42	7.77	41.18	20.59	48.95
57.00	14.7	33.73	19.20	52.92	26.46	72.12
59.00	14.7	34.25	30.43	64.68	32.34	95.11
61.00	14.7	37.18	27.32	64.50	32.25	91.81
63.00	14.7	40.71	25.61	66.32	33.16	91.94
65.00	14.7	43.76	29.78	73.54	36.77	103.32
67.00	14.7	45.88	34.82	80.70	40.35	115.52
69.00	14.7	48.27	44.62	92.89	46.44	137.50
71.00	14.7	53.57	34.36	87.93	43.97	122.30
73.00	14.7	57.95	43.17	101.12	50.56	144.29
75.00	14.7	61.86	62.73	124.59	62.29	187.31
77.00	14.7	65.21	82.85	148.06	74.03	230.90
79.00	14.7	74.30	62.05	136.35	68.17	198.40
81.00	14.7	83.22	40.42	123.64	61.82	164.07
83.00	14.7	89.88	40.69	130.56	65.28	171.25
85.00	14.7	92.89	60.91	153.79	76.90	214.70
87.00	14.7	96.49	57.37	153.86	76.93	211.22
89.00	14.7	105.58	26.91	132.48	66.24	159.39
91.00	14.7	110.88	23.43	134.30	67.15	157.73
93.00	14.7	112.43	43.29	155.72	77.86	199.00
95.00	14.7	115.73	65.30	181.03	90.52	246.34
97.00	14.7	119.73	84.68	204.41	102.20	289.09
99.00	14.7	128.81	84.68	213.49	106.75	298.17
101.00	14.7	137.90	84.68	222.58	111.29	307.26
103.00	14.7	146.99	84.68	231.67	115.83	316.35
105.00	14.7	156.08	84.68	240.76	120.38	325.44
107.00	14.7	165.16	84.68	249.84	124.92	334.52
109.00	14.7	174.25	84.68	258.93	129.47	343.61
111.00	14.7	183.34	84.68	268.02	134.01	352.70
113.00	14.7	192.43	84.68	277.11	138.55	361.79
115.00	14.7	201.52	81.77	283.29	141.64	365.06
117.00	14.7	210.60	56.74	267.35	133.67	324.09
119.00	14.7	219.69	25.03	244.72	122.36	269.76
121.00	14.7	224.99	38.55	263.54	131.77	302.08
123.00	14.7	226.12	68.84	294.95	147.48	363.79
125.00	14.7	231.04	84.68	315.72	157.86	400.40
127.00	14.7	240.13	84.68	324.81	162.40	409.49
129.00	14.7	249.22	84.68	333.90	166.95	418.58

131.00	14.7	Soil Elevations Must Extend At or Below Contribution Zone
133.00	14.7	Soil Elevations Must Extend At or Below Contribution Zone
135.00	14.7	Soil Elevations Must Extend At or Below Contribution Zone
137.00	14.7	Soil Elevations Must Extend At or Below Contribution Zone
139.00	14.7	Soil Elevations Must Extend At or Below Contribution Zone
141.00	14.7	Soil Elevations Must Extend At or Below Contribution Zone
143.00	14.7	Soil Elevations Must Extend At or Below Contribution Zone
145.00	14.7	Soil Elevations Must Extend At or Below Contribution Zone
147.00	14.7	Soil Elevations Must Extend At or Below Contribution Zone
149.00	14.7	Soil Elevations Must Extend At or Below Contribution Zone

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.

2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.

3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.

4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
   EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:
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Input file: .....PD&E Study\Geotechnical\6 Miscellaneous\FB-Deep\SPT-1_Pipe.spc
Project number: 4037G
Job name: South Sumter
Engineer: BMM/DCS
Units: English

Analysis Information:
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Analysis Type: SPT

Soil Information:
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Boring date: , Boring Number: SPT-1
Station number: Offset:

Ground Elevation: 48.300(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	5.00	3- Clean sand
2	2.00	5.00	3- Clean sand
3	4.00	5.00	3- Clean sand
4	6.00	5.00	3- Clean sand
5	7.00	5.00	2- Clay and silty sand
6	8.00	100.00	4- Lime Stone/Very shelly sand
7	10.00	6.00	1- Plastic Clay
8	11.50	4.00	1- Plastic Clay
9	14.00	6.00	1- Plastic Clay
10	16.50	3.00	4- Lime Stone/Very shelly sand
11	18.90	0.00	2- Clay and silty sand
12	19.00	7.00	4- Lime Stone/Very shelly sand
13	21.50	7.00	4- Lime Stone/Very shelly sand
14	24.00	0.00	5- Cavity layer
15	26.50	0.00	5- Cavity layer
16	29.00	3.00	4- Lime Stone/Very shelly sand
17	31.50	3.00	4- Lime Stone/Very shelly sand
18	33.90	0.00	2- Clay and silty sand
19	34.00	10.00	4- Lime Stone/Very shelly sand

20	36.40	0.00	2- Clay and silty sand
21	36.50	2.00	4- Lime Stone/Very shelly sand
22	38.90	0.00	2- Clay and silty sand
23	39.00	8.00	4- Lime Stone/Very shelly sand
24	41.40	0.00	2- Clay and silty sand
25	41.50	20.00	4- Lime Stone/Very shelly sand
26	44.00	19.00	4- Lime Stone/Very shelly sand
27	46.50	12.00	4- Lime Stone/Very shelly sand
28	49.00	20.00	4- Lime Stone/Very shelly sand
29	51.40	0.00	2- Clay and silty sand
30	51.50	10.00	4- Lime Stone/Very shelly sand
31	53.90	0.00	2- Clay and silty sand
32	54.00	2.00	4- Lime Stone/Very shelly sand
33	56.40	0.00	2- Clay and silty sand
34	56.50	11.00	4- Lime Stone/Very shelly sand
35	58.90	0.00	2- Clay and silty sand
36	59.00	22.00	4- Lime Stone/Very shelly sand
37	61.50	32.00	4- Lime Stone/Very shelly sand
38	64.00	30.00	4- Lime Stone/Very shelly sand
39	66.40	0.00	2- Clay and silty sand
40	66.50	51.00	4- Lime Stone/Very shelly sand
41	68.90	0.00	2- Clay and silty sand
42	69.00	100.00	4- Lime Stone/Very shelly sand
43	71.40	0.00	2- Clay and silty sand
44	71.50	53.00	4- Lime Stone/Very shelly sand
45	74.00	37.00	4- Lime Stone/Very shelly sand
46	76.40	0.00	2- Clay and silty sand
47	76.50	100.00	4- Lime Stone/Very shelly sand
48	79.00	100.00	4- Lime Stone/Very shelly sand
49	81.50	77.00	4- Lime Stone/Very shelly sand
50	83.90	0.00	2- Clay and silty sand
51	84.00	48.00	4- Lime Stone/Very shelly sand
52	86.40	0.00	2- Clay and silty sand
53	86.50	100.00	4- Lime Stone/Very shelly sand
54	89.00	100.00	4- Lime Stone/Very shelly sand
55	91.40	0.00	2- Clay and silty sand
56	91.50	23.00	4- Lime Stone/Very shelly sand
57	93.90	0.00	2- Clay and silty sand
58	94.00	65.00	4- Lime Stone/Very shelly sand
59	96.40	0.00	2- Clay and silty sand
60	96.50	100.00	4- Lime Stone/Very shelly sand
61	99.00	100.00	4- Lime Stone/Very shelly sand
62	101.50	100.00	4- Lime Stone/Very shelly sand
63	104.00	90.00	4- Lime Stone/Very shelly sand
64	106.50	100.00	4- Lime Stone/Very shelly sand
65	109.00	100.00	4- Lime Stone/Very shelly sand
66	111.50	100.00	4- Lime Stone/Very shelly sand
67	114.00	100.00	4- Lime Stone/Very shelly sand
68	116.50	100.00	4- Lime Stone/Very shelly sand
69	119.00	100.00	4- Lime Stone/Very shelly sand

70	121.40	0.00	2- Clay and silty sand
71	121.50	16.00	4- Lime Stone/Very shelly sand
72	123.90	0.00	2- Clay and silty sand
73	124.00	100.00	4- Lime Stone/Very shelly sand
74	126.50	100.00	4- Lime Stone/Very shelly sand
75	129.00	100.00	4- Lime Stone/Very shelly sand
76	131.50	100.00	4- Lime Stone/Very shelly sand
77	134.00	100.00	4- Lime Stone/Very shelly sand
78	134.10	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	48.30	41.30	7.00	5.00	3-Clean Sand
2	41.30	40.30	1.00	5.00	2-Clay and Silty Sand
3	40.30	38.30	2.00	100.00	4-Limestone, Very Shelly Sand
4	38.30	31.80	6.50	5.23	1-Plastic Clay
5	31.80	29.40	2.40	3.00	4-Limestone, Very Shelly Sand
6	29.40	29.30	0.10	0.00	2-Clay and Silty Sand
7	29.30	24.30	5.00	7.00	4-Limestone, Very Shelly Sand
8	24.30	19.30	5.00	0.00	5-Void
9	19.30	14.40	4.90	3.00	4-Limestone, Very Shelly Sand
10	14.40	14.30	0.10	0.00	2-Clay and Silty Sand
11	14.30	11.90	2.40	10.00	4-Limestone, Very Shelly Sand
12	11.90	11.80	0.10	0.00	2-Clay and Silty Sand
13	11.80	9.40	2.40	2.00	4-Limestone, Very Shelly Sand
14	9.40	9.30	0.10	0.00	2-Clay and Silty Sand
15	9.30	6.90	2.40	8.00	4-Limestone, Very Shelly Sand
16	6.90	6.80	0.10	0.00	2-Clay and Silty Sand
17	6.80	-3.10	9.90	17.73	4-Limestone, Very Shelly Sand
18	-3.10	-3.20	0.10	0.00	2-Clay and Silty Sand
19	-3.20	-5.60	2.40	10.00	4-Limestone, Very Shelly Sand
20	-5.60	-5.70	0.10	0.00	2-Clay and Silty Sand
21	-5.70	-8.10	2.40	2.00	4-Limestone, Very

Shelly Sand					
22	-8.10	-8.20	0.10	0.00	2-Clay and Silty Sand
23	-8.20	-10.60	2.40	11.00	4-Limestone, Very
Shelly Sand					
24	-10.60	-10.70	0.10	0.00	2-Clay and Silty Sand
25	-10.70	-18.10	7.40	27.97	4-Limestone, Very
Shelly Sand					
26	-18.10	-18.20	0.10	0.00	2-Clay and Silty Sand
27	-18.20	-20.60	2.40	51.00	4-Limestone, Very
Shelly Sand					
28	-20.60	-20.70	0.10	0.00	2-Clay and Silty Sand
29	-20.70	-23.10	2.40	100.00	4-Limestone, Very
Shelly Sand					
30	-23.10	-23.20	0.10	0.00	2-Clay and Silty Sand
31	-23.20	-28.10	4.90	45.16	4-Limestone, Very
Shelly Sand					
32	-28.10	-28.20	0.10	0.00	2-Clay and Silty Sand
33	-28.20	-35.60	7.40	92.54	4-Limestone, Very
Shelly Sand					
34	-35.60	-35.70	0.10	0.00	2-Clay and Silty Sand
35	-35.70	-38.10	2.40	48.00	4-Limestone, Very
Shelly Sand					
36	-38.10	-38.20	0.10	0.00	2-Clay and Silty Sand
37	-38.20	-43.10	4.90	100.00	4-Limestone, Very
Shelly Sand					
38	-43.10	-43.20	0.10	0.00	2-Clay and Silty Sand
39	-43.20	-45.60	2.40	23.00	4-Limestone, Very
Shelly Sand					
40	-45.60	-45.70	0.10	0.00	2-Clay and Silty Sand
41	-45.70	-48.10	2.40	65.00	4-Limestone, Very
Shelly Sand					
42	-48.10	-48.20	0.10	0.00	2-Clay and Silty Sand
43	-48.20	-73.10	24.90	99.00	4-Limestone, Very
Shelly Sand					
44	-73.10	-73.20	0.10	0.00	2-Clay and Silty Sand
45	-73.20	-75.60	2.40	16.00	4-Limestone, Very
Shelly Sand					
46	-75.60	-75.70	0.10	0.00	2-Clay and Silty Sand
47	-75.70	-85.80	10.10	100.00	4-Limestone, Very
Shelly Sand					
48	-85.80	-85.80	0.00	0.00	5-

Driven Pile Data:
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Pile unit weight = 150.00(pcf), Section Type: Pipe

Pile Geometry:

Width	Length	Tip Elev.	Thickness	Pile End

(in)	(ft)	(ft)	(in)	
24.00	5.00	43.30	0.50	OPEN
24.00	7.00	41.30	0.50	OPEN
24.00	9.00	39.30	0.50	OPEN
24.00	11.00	37.30	0.50	OPEN
24.00	13.00	35.30	0.50	OPEN
24.00	15.00	33.30	0.50	OPEN
24.00	17.00	31.30	0.50	OPEN
24.00	19.00	29.30	0.50	OPEN
24.00	21.00	27.30	0.50	OPEN
24.00	23.00	25.30	0.50	OPEN
24.00	25.00	23.30	0.50	OPEN
24.00	27.00	21.30	0.50	OPEN
24.00	29.00	19.30	0.50	OPEN
24.00	31.00	17.30	0.50	OPEN
24.00	33.00	15.30	0.50	OPEN
24.00	35.00	13.30	0.50	OPEN
24.00	37.00	11.30	0.50	OPEN
24.00	39.00	9.30	0.50	OPEN
24.00	41.00	7.30	0.50	OPEN
24.00	43.00	5.30	0.50	OPEN
24.00	45.00	3.30	0.50	OPEN
24.00	47.00	1.30	0.50	OPEN
24.00	49.00	-0.70	0.50	OPEN
24.00	51.00	-2.70	0.50	OPEN
24.00	53.00	-4.70	0.50	OPEN
24.00	55.00	-6.70	0.50	OPEN
24.00	57.00	-8.70	0.50	OPEN
24.00	59.00	-10.70	0.50	OPEN
24.00	61.00	-12.70	0.50	OPEN
24.00	63.00	-14.70	0.50	OPEN
24.00	65.00	-16.70	0.50	OPEN
24.00	67.00	-18.70	0.50	OPEN
24.00	69.00	-20.70	0.50	OPEN
24.00	71.00	-22.70	0.50	OPEN
24.00	73.00	-24.70	0.50	OPEN
24.00	75.00	-26.70	0.50	OPEN
24.00	77.00	-28.70	0.50	OPEN
24.00	79.00	-30.70	0.50	OPEN
24.00	81.00	-32.70	0.50	OPEN
24.00	83.00	-34.70	0.50	OPEN
24.00	85.00	-36.70	0.50	OPEN
24.00	87.00	-38.70	0.50	OPEN
24.00	89.00	-40.70	0.50	OPEN
24.00	91.00	-42.70	0.50	OPEN
24.00	93.00	-44.70	0.50	OPEN
24.00	95.00	-46.70	0.50	OPEN
24.00	97.00	-48.70	0.50	OPEN
24.00	99.00	-50.70	0.50	OPEN

24.00	101.00	-52.70	0.50 OPEN
24.00	103.00	-54.70	0.50 OPEN
24.00	105.00	-56.70	0.50 OPEN
24.00	107.00	-58.70	0.50 OPEN
24.00	109.00	-60.70	0.50 OPEN
24.00	111.00	-62.70	0.50 OPEN
24.00	113.00	-64.70	0.50 OPEN
24.00	115.00	-66.70	0.50 OPEN
24.00	117.00	-68.70	0.50 OPEN
24.00	119.00	-70.70	0.50 OPEN
24.00	121.00	-72.70	0.50 OPEN
24.00	123.00	-74.70	0.50 OPEN
24.00	125.00	-76.70	0.50 OPEN
24.00	127.00	-78.70	0.50 OPEN
24.00	129.00	-80.70	0.50 OPEN
24.00	131.00	-82.70	0.50 OPEN
24.00	133.00	-84.70	0.50 OPEN
24.00	135.00	-86.70	0.50 OPEN
24.00	137.00	-88.70	0.50 OPEN
24.00	139.00	-90.70	0.50 OPEN
24.00	141.00	-92.70	0.50 OPEN
24.00	143.00	-94.70	0.50 OPEN
24.00	145.00	-96.70	0.50 OPEN
24.00	147.00	-98.70	0.50 OPEN
24.00	149.00	-100.70	0.50 OPEN

Driven Pile Capacity:
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Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
5.00	24.0	4.81	2.04	6.85	3.42	10.93
7.00	24.0	10.56	2.42	12.99	6.49	17.83
9.00	24.0	22.83	2.55	25.38	12.69	30.47
11.00	24.0	19.22	6.15	25.36	12.68	37.66
13.00	24.0	21.23	7.70	28.93	14.46	44.32
15.00	24.0	22.86	11.98	34.84	17.42	58.79
17.00	24.0	26.08	22.93	49.02	24.51	94.88
19.00	24.0	26.29	21.15	47.43	23.72	89.72
21.00	24.0	27.38	17.67	45.05	22.52	80.38
23.00	24.0	28.22	16.30	44.52	22.26	77.11
25.00	24.0	28.33	0.00	28.33	14.17	28.33
27.00	24.0	28.34	0.00	28.34	14.17	28.34
29.00	24.0	28.62	13.65	42.27	21.14	69.57

31.00	24.0	29.09	12.25	41.34	20.67	65.84
33.00	24.0	29.45	12.90	42.35	21.18	68.16
35.00	24.0	30.06	13.64	43.70	21.85	70.97
37.00	24.0	30.46	23.17	53.63	26.82	99.97
39.00	24.0	59.72	5.00	64.72	32.36	74.72
41.00	24.0	61.14	3.90	65.04	32.52	72.83
43.00	24.0	65.59	3.70	69.29	34.64	76.68
45.00	24.0	71.46	3.66	75.12	37.56	82.44
47.00	24.0	75.66	3.37	79.03	39.52	85.77
49.00	24.0	41.25	34.32	75.57	37.79	144.21
51.00	24.0	43.07	32.61	75.68	37.84	140.89
53.00	24.0	43.85	33.27	77.12	38.56	143.66
55.00	24.0	86.36	3.83	90.19	45.09	97.84
57.00	24.0	87.16	5.41	92.57	46.28	103.38
59.00	24.0	88.62	5.95	94.57	47.29	106.47
61.00	24.0	96.56	5.68	102.24	51.12	113.59
63.00	24.0	106.11	5.51	111.62	55.81	122.64
65.00	24.0	114.37	5.25	119.62	59.81	130.11
67.00	24.0	120.04	5.98	126.02	63.01	137.98
69.00	24.0	126.58	6.45	133.03	66.52	145.94
71.00	24.0	139.39	6.60	145.98	72.99	159.17
73.00	24.0	151.92	7.84	159.76	79.88	175.44
75.00	24.0	160.08	8.24	168.32	84.16	184.81
77.00	24.0	172.46	9.16	181.62	90.81	199.94
79.00	24.0	100.63	102.83	203.46	101.73	409.13
81.00	24.0	112.97	101.61	214.58	107.29	417.80
83.00	24.0	122.17	109.08	231.26	115.63	449.42
85.00	24.0	126.33	105.13	231.46	115.73	441.71
87.00	24.0	131.31	103.04	234.36	117.18	440.44
89.00	24.0	143.88	95.63	239.51	119.76	430.78
91.00	24.0	151.21	99.41	250.62	125.31	449.45
93.00	24.0	153.21	105.12	258.33	129.17	468.58
95.00	24.0	157.86	119.32	277.18	138.59	515.82
97.00	24.0	163.44	128.16	291.60	145.80	547.91
99.00	24.0	175.73	128.70	304.43	152.21	561.82
101.00	24.0	187.15	131.34	318.49	159.24	581.16
103.00	24.0	198.17	135.85	334.02	167.01	605.73
105.00	24.0	210.27	138.22	348.49	174.24	624.93
107.00	24.0	221.60	144.34	365.93	182.97	654.60
109.00	24.0	233.07	153.12	386.18	193.09	692.42
111.00	24.0	245.63	158.88	404.51	202.25	722.26
113.00	24.0	258.20	161.96	420.16	210.08	744.09
115.00	24.0	270.76	145.93	416.70	208.35	708.56
117.00	24.0	283.33	127.05	410.38	205.19	664.48
119.00	24.0	295.90	127.05	422.95	211.47	677.05
121.00	24.0	303.42	132.55	435.98	217.99	701.09
123.00	24.0	310.56	97.66	408.22	204.11	603.55
125.00	24.0	317.37	148.07	465.44	232.72	761.57
127.00	24.0	329.94	148.07	478.00	239.00	774.13
129.00	24.0 Soil Elevations Must Extend At or Below Contribution Zone					

131.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone
133.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone
135.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone
137.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone
139.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone
141.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone
143.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone
145.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone
147.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone
149.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.

2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.

3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.

4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
   EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:
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Input file: .....l PD&E Study\Geotechnical\6 Miscellaneous\FB-Deep\SPT-2_18.spc
Project number: 4037G
Job name: South Sumter
Engineer: BMM/DCS
Units: English

Analysis Information:
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Analysis Type: SPT

Soil Information:
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Boring date: , Boring Number: SPT-2
Station number: Offset:

Ground Elevation: 58.800(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	5.00	3- Clean sand
2	2.00	5.00	3- Clean sand
3	4.00	5.00	3- Clean sand
4	6.00	5.00	3- Clean sand
5	8.00	5.00	3- Clean sand
6	10.00	4.00	3- Clean sand
7	11.50	4.00	3- Clean sand
8	14.00	5.00	3- Clean sand
9	16.40	0.00	2- Clay and silty sand
10	16.50	18.00	3- Clean sand
11	19.00	10.00	3- Clean sand
12	21.40	0.00	2- Clay and silty sand
13	21.50	48.00	3- Clean sand
14	23.90	0.00	2- Clay and silty sand
15	24.00	27.00	3- Clean sand
16	26.40	0.00	2- Clay and silty sand
17	26.50	17.00	3- Clean sand
18	29.00	13.00	3- Clean sand
19	31.40	0.00	2- Clay and silty sand

20	31.50	22.00	3- Clean sand
21	34.00	18.00	3- Clean sand
22	36.40	0.00	2- Clay and silty sand
23	36.50	10.00	3- Clean sand
24	39.00	8.00	1- Plastic Clay
25	42.50	7.00	1- Plastic Clay
26	44.00	9.00	4- Lime Stone/Very shelly sand
27	46.40	0.00	2- Clay and silty sand
28	46.50	4.00	4- Lime Stone/Very shelly sand
29	48.90	0.00	2- Clay and silty sand
30	49.00	2.00	4- Lime Stone/Very shelly sand
31	51.50	1.00	4- Lime Stone/Very shelly sand
32	54.00	1.00	4- Lime Stone/Very shelly sand
33	56.40	0.00	2- Clay and silty sand
34	56.50	11.00	4- Lime Stone/Very shelly sand
35	59.00	14.00	4- Lime Stone/Very shelly sand
36	61.40	0.00	2- Clay and silty sand
37	61.50	32.00	4- Lime Stone/Very shelly sand
38	64.00	25.00	4- Lime Stone/Very shelly sand
39	66.40	0.00	2- Clay and silty sand
40	66.50	100.00	4- Lime Stone/Very shelly sand
41	69.00	82.00	4- Lime Stone/Very shelly sand
42	71.40	0.00	2- Clay and silty sand
43	71.50	35.00	4- Lime Stone/Very shelly sand
44	74.00	27.00	4- Lime Stone/Very shelly sand
45	76.40	0.00	2- Clay and silty sand
46	76.50	21.00	4- Lime Stone/Very shelly sand
47	78.90	0.00	2- Clay and silty sand
48	79.00	15.00	4- Lime Stone/Very shelly sand
49	81.40	0.00	2- Clay and silty sand
50	81.50	22.00	4- Lime Stone/Very shelly sand
51	84.00	24.00	4- Lime Stone/Very shelly sand
52	86.50	26.00	4- Lime Stone/Very shelly sand
53	88.90	0.00	2- Clay and silty sand
54	89.00	16.00	4- Lime Stone/Very shelly sand
55	91.40	0.00	2- Clay and silty sand
56	91.50	5.00	4- Lime Stone/Very shelly sand
57	93.90	0.00	2- Clay and silty sand
58	94.00	19.00	4- Lime Stone/Very shelly sand
59	96.40	0.00	2- Clay and silty sand
60	96.50	100.00	4- Lime Stone/Very shelly sand
61	99.00	82.00	4- Lime Stone/Very shelly sand
62	101.50	100.00	4- Lime Stone/Very shelly sand
63	103.90	0.00	2- Clay and silty sand
64	104.00	9.00	4- Lime Stone/Very shelly sand
65	106.40	0.00	2- Clay and silty sand
66	106.50	3.00	4- Lime Stone/Very shelly sand
67	109.00	5.00	4- Lime Stone/Very shelly sand
68	111.40	0.00	2- Clay and silty sand
69	111.50	12.00	4- Lime Stone/Very shelly sand

70	113.90	0.00	1- Plastic Clay
71	114.00	46.00	4- Lime Stone/Very shelly sand
72	116.50	35.00	4- Lime Stone/Very shelly sand
73	119.00	38.00	4- Lime Stone/Very shelly sand
74	121.50	36.00	4- Lime Stone/Very shelly sand
75	124.00	48.00	4- Lime Stone/Very shelly sand
76	126.40	0.00	2- Clay and silty sand
77	126.50	26.00	4- Lime Stone/Very shelly sand
78	128.90	0.00	2- Clay and silty sand
79	129.00	82.00	4- Lime Stone/Very shelly sand
80	131.50	100.00	4- Lime Stone/Very shelly sand
81	134.00	100.00	4- Lime Stone/Very shelly sand
82	136.50	100.00	4- Lime Stone/Very shelly sand
83	139.00	100.00	4- Lime Stone/Very shelly sand
84	141.50	100.00	4- Lime Stone/Very shelly sand
85	144.00	100.00	4- Lime Stone/Very shelly sand
86	146.50	100.00	4- Lime Stone/Very shelly sand
87	148.90	0.00	2- Clay and silty sand
88	149.00	35.00	4- Lime Stone/Very shelly sand
89	149.10	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	58.80	42.40	16.40	4.76	3-Clean Sand
2	42.40	42.30	0.10	0.00	2-Clay and Silty Sand
3	42.30	37.40	4.90	14.08	3-Clean Sand
4	37.40	37.30	0.10	0.00	2-Clay and Silty Sand
5	37.30	34.90	2.40	48.00	3-Clean Sand
6	34.90	34.80	0.10	0.00	2-Clay and Silty Sand
7	34.80	32.40	2.40	27.00	3-Clean Sand
8	32.40	32.30	0.10	0.00	2-Clay and Silty Sand
9	32.30	27.40	4.90	15.04	3-Clean Sand
10	27.40	27.30	0.10	0.00	2-Clay and Silty Sand
11	27.30	22.40	4.90	20.04	3-Clean Sand
12	22.40	22.30	0.10	0.00	2-Clay and Silty Sand
13	22.30	19.80	2.50	10.00	3-Clean Sand
14	19.80	14.80	5.00	7.70	1-Plastic Clay
15	14.80	12.40	2.40	9.00	4-Limestone, Very Shelly Sand
16	12.40	12.30	0.10	0.00	2-Clay and Silty Sand
17	12.30	9.90	2.40	4.00	4-Limestone, Very Shelly Sand

18	9.90	9.80	0.10	0.00	2-Clay and Silty Sand
19	9.80	2.40	7.40	1.34	4-Limestone, Very Shelly Sand
20	2.40	2.30	0.10	0.00	2-Clay and Silty Sand
21	2.30	-2.60	4.90	12.47	4-Limestone, Very Shelly Sand
22	-2.60	-2.70	0.10	0.00	2-Clay and Silty Sand
23	-2.70	-7.60	4.90	28.57	4-Limestone, Very Shelly Sand
24	-7.60	-7.70	0.10	0.00	2-Clay and Silty Sand
25	-7.70	-12.60	4.90	91.18	4-Limestone, Very Shelly Sand
26	-12.60	-12.70	0.10	0.00	2-Clay and Silty Sand
27	-12.70	-17.60	4.90	31.08	4-Limestone, Very Shelly Sand
28	-17.60	-17.70	0.10	0.00	2-Clay and Silty Sand
29	-17.70	-20.10	2.40	21.00	4-Limestone, Very Shelly Sand
30	-20.10	-20.20	0.10	0.00	2-Clay and Silty Sand
31	-20.20	-22.60	2.40	15.00	4-Limestone, Very Shelly Sand
32	-22.60	-22.70	0.10	0.00	2-Clay and Silty Sand
33	-22.70	-30.10	7.40	23.97	4-Limestone, Very Shelly Sand
34	-30.10	-30.20	0.10	0.00	2-Clay and Silty Sand
35	-30.20	-32.60	2.40	16.00	4-Limestone, Very Shelly Sand
36	-32.60	-32.70	0.10	0.00	2-Clay and Silty Sand
37	-32.70	-35.10	2.40	5.00	4-Limestone, Very Shelly Sand
38	-35.10	-35.20	0.10	0.00	2-Clay and Silty Sand
39	-35.20	-37.60	2.40	19.00	4-Limestone, Very Shelly Sand
40	-37.60	-37.70	0.10	0.00	2-Clay and Silty Sand
41	-37.70	-45.10	7.40	93.92	4-Limestone, Very Shelly Sand
42	-45.10	-45.20	0.10	0.00	2-Clay and Silty Sand
43	-45.20	-47.60	2.40	9.00	4-Limestone, Very Shelly Sand
44	-47.60	-47.70	0.10	0.00	2-Clay and Silty Sand
45	-47.70	-52.60	4.90	3.98	4-Limestone, Very Shelly Sand
46	-52.60	-52.70	0.10	0.00	2-Clay and Silty Sand
47	-52.70	-55.10	2.40	12.00	4-Limestone, Very Shelly Sand
48	-55.10	-55.20	0.10	0.00	1-Plastic Clay
49	-55.20	-67.60	12.40	40.54	4-Limestone, Very Shelly Sand
50	-67.60	-67.70	0.10	0.00	2-Clay and Silty Sand
51	-67.70	-70.10	2.40	26.00	4-Limestone, Very

Shelly Sand					
52	-70.10	-70.20	0.10	0.00	2-Clay and Silty Sand
53	-70.20	-90.10	19.90	97.74	4-Limestone, Very
Shelly Sand					
54	-90.10	-90.20	0.10	0.00	2-Clay and Silty Sand
55	-90.20	-90.30	0.10	35.00	4-Limestone, Very
Shelly Sand					
56	-90.30	-90.30	0.00	0.00	5-

Driven Pile Data:
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Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
18.00	5.00	53.80
18.00	7.00	51.80
18.00	9.00	49.80
18.00	11.00	47.80
18.00	13.00	45.80
18.00	15.00	43.80
18.00	17.00	41.80
18.00	19.00	39.80
18.00	21.00	37.80
18.00	23.00	35.80
18.00	25.00	33.80
18.00	27.00	31.80
18.00	29.00	29.80
18.00	31.00	27.80
18.00	33.00	25.80
18.00	35.00	23.80
18.00	37.00	21.80
18.00	39.00	19.80
18.00	41.00	17.80
18.00	43.00	15.80
18.00	45.00	13.80
18.00	47.00	11.80
18.00	49.00	9.80
18.00	51.00	7.80
18.00	53.00	5.80
18.00	55.00	3.80
18.00	57.00	1.80
18.00	59.00	-0.20
18.00	61.00	-2.20
18.00	63.00	-4.20
18.00	65.00	-6.20

18.00	67.00	-8.20
18.00	69.00	-10.20
18.00	71.00	-12.20
18.00	73.00	-14.20
18.00	75.00	-16.20
18.00	77.00	-18.20
18.00	79.00	-20.20
18.00	81.00	-22.20
18.00	83.00	-24.20
18.00	85.00	-26.20
18.00	87.00	-28.20
18.00	89.00	-30.20
18.00	91.00	-32.20
18.00	93.00	-34.20
18.00	95.00	-36.20
18.00	97.00	-38.20
18.00	99.00	-40.20
18.00	101.00	-42.20
18.00	103.00	-44.20
18.00	105.00	-46.20
18.00	107.00	-48.20
18.00	109.00	-50.20
18.00	111.00	-52.20
18.00	113.00	-54.20
18.00	115.00	-56.20
18.00	117.00	-58.20
18.00	119.00	-60.20
18.00	121.00	-62.20
18.00	123.00	-64.20
18.00	125.00	-66.20
18.00	127.00	-68.20
18.00	129.00	-70.20
18.00	131.00	-72.20
18.00	133.00	-74.20
18.00	135.00	-76.20
18.00	137.00	-78.20
18.00	139.00	-80.20
18.00	141.00	-82.20
18.00	143.00	-84.20
18.00	145.00	-86.20
18.00	147.00	-88.20
18.00	149.00	-90.20

Driven Pile Capacity:
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Test	Pile	Ultimate	Mobilized	Estimated	Allowable	Ultimate

Pile Length (ft)	Width (in)	Side Friction (tons)	End Bearing (tons)	Davisson Capacity (tons)	Pile Capacity (tons)	Pile Capacity (tons)
5.00	18.0	3.53	14.53	18.06	9.03	47.11
7.00	18.0	4.95	13.99	18.94	9.47	46.92
9.00	18.0	6.33	13.83	20.15	10.08	47.81
11.00	18.0	7.49	12.62	20.11	10.06	45.35
13.00	18.0	8.69	17.86	26.54	13.27	62.25
15.00	18.0	9.92	20.22	30.14	15.07	70.58
17.00	18.0	11.40	23.71	35.11	17.55	82.53
19.00	18.0	14.19	25.77	39.96	19.98	91.51
21.00	18.0	15.23	29.72	44.95	22.47	104.39
23.00	18.0	24.32	34.60	58.92	29.46	128.13
25.00	18.0	28.68	34.94	63.62	31.81	133.49
27.00	18.0	31.48	35.10	66.58	33.29	136.78
29.00	18.0	34.93	36.19	71.13	35.56	143.51
31.00	18.0	36.97	36.85	73.82	36.91	147.51
33.00	18.0	42.43	37.48	79.91	39.96	154.87
35.00	18.0	47.10	26.98	74.08	37.04	128.03
37.00	18.0	49.00	22.08	71.08	35.54	115.25
39.00	18.0	53.69	7.77	61.46	30.73	76.99
41.00	18.0	59.45	7.31	66.76	33.38	81.38
43.00	18.0	64.66	7.37	72.03	36.02	86.77
45.00	18.0	66.52	3.26	69.77	34.89	76.29
47.00	18.0	66.94	1.12	68.06	34.03	70.30
49.00	18.0	67.16	0.00	67.16	33.58	67.16
51.00	18.0	67.16	2.38	69.54	34.77	74.30
53.00	18.0	67.16	12.28	79.44	39.72	104.01
55.00	18.0	67.16	18.63	85.79	42.89	123.04
57.00	18.0	67.62	35.85	103.47	51.74	175.17
59.00	18.0	69.53	44.88	114.41	57.21	204.18
61.00	18.0	70.74	66.37	137.11	68.55	269.84
63.00	18.0	74.23	132.81	207.04	103.52	472.66
65.00	18.0	77.67	164.07	241.74	120.87	569.88
67.00	18.0	81.73	159.13	240.86	120.43	559.12
69.00	18.0	93.73	93.77	187.50	93.75	375.04
71.00	18.0	100.73	52.31	153.04	76.52	257.65
73.00	18.0	104.70	36.04	140.74	70.37	212.82
75.00	18.0	108.42	22.18	130.60	65.30	174.96
77.00	18.0	110.01	27.77	137.79	68.89	193.33
79.00	18.0	111.24	40.65	151.90	75.95	233.20
81.00	18.0	112.55	54.17	166.72	83.36	275.07
83.00	18.0	115.19	48.18	163.37	81.68	259.73
85.00	18.0	118.76	36.00	154.75	77.38	226.75
87.00	18.0	122.46	17.87	140.33	70.17	176.08
89.00	18.0	123.97	16.21	140.19	70.09	172.61
91.00	18.0	125.36	35.64	161.00	80.50	232.29
93.00	18.0	125.81	119.46	245.26	122.63	484.18
95.00	18.0	127.06	198.84	325.90	162.95	723.58

97.00	18.0	130.93	237.98	368.91	184.45	844.86
99.00	18.0	142.93	162.07	305.00	152.50	629.14
101.00	18.0	154.93	78.07	233.00	116.50	389.13
103.00	18.0	164.12	15.32	179.44	89.72	210.08
105.00	18.0	165.70	7.36	173.06	86.53	187.78
107.00	18.0	166.10	10.37	176.47	88.24	197.22
109.00	18.0	166.73	28.61	195.34	97.67	252.57
111.00	18.0	167.16	59.01	226.17	113.09	344.19
113.00	18.0	168.14	85.68	253.82	126.91	425.17
115.00	18.0	171.72	96.43	268.15	134.08	461.01
117.00	18.0	177.31	97.68	274.99	137.49	470.35
119.00	18.0	182.78	103.77	286.55	143.28	494.09
121.00	18.0	188.32	85.86	274.18	137.09	445.89
123.00	18.0	194.08	62.20	256.28	128.14	380.68
125.00	18.0	200.30	110.43	310.73	155.37	531.59
127.00	18.0	202.73	182.26	384.99	192.49	749.51
129.00	18.0	204.48	258.14	462.62	231.31	978.91
131.00	18.0	216.48	258.14	474.62	237.31	990.91
133.00	18.0	228.48	258.14	486.62	243.31	1002.91
135.00	18.0	240.48	258.14	498.62	249.31	1014.91
137.00	18.0	252.48	258.14	510.62	255.31	1026.91
139.00	18.0	264.48	258.14	522.62	261.31	1038.91
141.00	18.0	276.48	255.90	532.38	266.19	1044.18
143.00	18.0	288.48	202.96	491.44	245.72	897.36
145.00	18.0	Soil Elevations Must Extend At or Below Contribution Zone				
147.00	18.0	Soil Elevations Must Extend At or Below Contribution Zone				
149.00	18.0	Soil Elevations Must Extend At or Below Contribution Zone				

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.

2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.

3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.

4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
   EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:
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Input file: .....l PD&E Study\Geotechnical\6 Miscellaneous\FB-Deep\SPT-2_24.spc
Project number: 4037G
Job name: South Sumter
Engineer: BMM/DCS
Units: English

Analysis Information:
=====================
Analysis Type: SPT

Soil Information:
=================
Boring date: , Boring Number: SPT-2
Station number: Offset:

Ground Elevation: 58.800(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	5.00	3- Clean sand
2	2.00	5.00	3- Clean sand
3	4.00	5.00	3- Clean sand
4	6.00	5.00	3- Clean sand
5	8.00	5.00	3- Clean sand
6	10.00	4.00	3- Clean sand
7	11.50	4.00	3- Clean sand
8	14.00	5.00	3- Clean sand
9	16.40	0.00	2- Clay and silty sand
10	16.50	18.00	3- Clean sand
11	19.00	10.00	3- Clean sand
12	21.40	0.00	2- Clay and silty sand
13	21.50	48.00	3- Clean sand
14	23.90	0.00	2- Clay and silty sand
15	24.00	27.00	3- Clean sand
16	26.40	0.00	2- Clay and silty sand
17	26.50	17.00	3- Clean sand
18	29.00	13.00	3- Clean sand
19	31.40	0.00	2- Clay and silty sand

20	31.50	22.00	3- Clean sand
21	34.00	18.00	3- Clean sand
22	36.40	0.00	2- Clay and silty sand
23	36.50	10.00	3- Clean sand
24	39.00	8.00	1- Plastic Clay
25	42.50	7.00	1- Plastic Clay
26	44.00	9.00	4- Lime Stone/Very shelly sand
27	46.40	0.00	2- Clay and silty sand
28	46.50	4.00	4- Lime Stone/Very shelly sand
29	48.90	0.00	2- Clay and silty sand
30	49.00	2.00	4- Lime Stone/Very shelly sand
31	51.50	1.00	4- Lime Stone/Very shelly sand
32	54.00	1.00	4- Lime Stone/Very shelly sand
33	56.40	0.00	2- Clay and silty sand
34	56.50	11.00	4- Lime Stone/Very shelly sand
35	59.00	14.00	4- Lime Stone/Very shelly sand
36	61.40	0.00	2- Clay and silty sand
37	61.50	32.00	4- Lime Stone/Very shelly sand
38	64.00	25.00	4- Lime Stone/Very shelly sand
39	66.40	0.00	2- Clay and silty sand
40	66.50	100.00	4- Lime Stone/Very shelly sand
41	69.00	82.00	4- Lime Stone/Very shelly sand
42	71.40	0.00	2- Clay and silty sand
43	71.50	35.00	4- Lime Stone/Very shelly sand
44	74.00	27.00	4- Lime Stone/Very shelly sand
45	76.40	0.00	2- Clay and silty sand
46	76.50	21.00	4- Lime Stone/Very shelly sand
47	78.90	0.00	2- Clay and silty sand
48	79.00	15.00	4- Lime Stone/Very shelly sand
49	81.40	0.00	2- Clay and silty sand
50	81.50	22.00	4- Lime Stone/Very shelly sand
51	84.00	24.00	4- Lime Stone/Very shelly sand
52	86.50	26.00	4- Lime Stone/Very shelly sand
53	88.90	0.00	2- Clay and silty sand
54	89.00	16.00	4- Lime Stone/Very shelly sand
55	91.40	0.00	2- Clay and silty sand
56	91.50	5.00	4- Lime Stone/Very shelly sand
57	93.90	0.00	2- Clay and silty sand
58	94.00	19.00	4- Lime Stone/Very shelly sand
59	96.40	0.00	2- Clay and silty sand
60	96.50	100.00	4- Lime Stone/Very shelly sand
61	99.00	82.00	4- Lime Stone/Very shelly sand
62	101.50	100.00	4- Lime Stone/Very shelly sand
63	103.90	0.00	2- Clay and silty sand
64	104.00	9.00	4- Lime Stone/Very shelly sand
65	106.40	0.00	2- Clay and silty sand
66	106.50	3.00	4- Lime Stone/Very shelly sand
67	109.00	5.00	4- Lime Stone/Very shelly sand
68	111.40	0.00	2- Clay and silty sand
69	111.50	12.00	4- Lime Stone/Very shelly sand

70	113.90	0.00	1- Plastic Clay
71	114.00	46.00	4- Lime Stone/Very shelly sand
72	116.50	35.00	4- Lime Stone/Very shelly sand
73	119.00	38.00	4- Lime Stone/Very shelly sand
74	121.50	36.00	4- Lime Stone/Very shelly sand
75	124.00	48.00	4- Lime Stone/Very shelly sand
76	126.40	0.00	2- Clay and silty sand
77	126.50	26.00	4- Lime Stone/Very shelly sand
78	128.90	0.00	2- Clay and silty sand
79	129.00	82.00	4- Lime Stone/Very shelly sand
80	131.50	100.00	4- Lime Stone/Very shelly sand
81	134.00	100.00	4- Lime Stone/Very shelly sand
82	136.50	100.00	4- Lime Stone/Very shelly sand
83	139.00	100.00	4- Lime Stone/Very shelly sand
84	141.50	100.00	4- Lime Stone/Very shelly sand
85	144.00	100.00	4- Lime Stone/Very shelly sand
86	146.50	100.00	4- Lime Stone/Very shelly sand
87	148.90	0.00	2- Clay and silty sand
88	149.00	35.00	4- Lime Stone/Very shelly sand
89	149.10	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	58.80	42.40	16.40	4.76	3-Clean Sand
2	42.40	42.30	0.10	0.00	2-Clay and Silty Sand
3	42.30	37.40	4.90	14.08	3-Clean Sand
4	37.40	37.30	0.10	0.00	2-Clay and Silty Sand
5	37.30	34.90	2.40	48.00	3-Clean Sand
6	34.90	34.80	0.10	0.00	2-Clay and Silty Sand
7	34.80	32.40	2.40	27.00	3-Clean Sand
8	32.40	32.30	0.10	0.00	2-Clay and Silty Sand
9	32.30	27.40	4.90	15.04	3-Clean Sand
10	27.40	27.30	0.10	0.00	2-Clay and Silty Sand
11	27.30	22.40	4.90	20.04	3-Clean Sand
12	22.40	22.30	0.10	0.00	2-Clay and Silty Sand
13	22.30	19.80	2.50	10.00	3-Clean Sand
14	19.80	14.80	5.00	7.70	1-Plastic Clay
15	14.80	12.40	2.40	9.00	4-Limestone, Very Shelly Sand
16	12.40	12.30	0.10	0.00	2-Clay and Silty Sand
17	12.30	9.90	2.40	4.00	4-Limestone, Very Shelly Sand

18	9.90	9.80	0.10	0.00	2-Clay and Silty Sand
19	9.80	2.40	7.40	1.34	4-Limestone, Very Shelly Sand
20	2.40	2.30	0.10	0.00	2-Clay and Silty Sand
21	2.30	-2.60	4.90	12.47	4-Limestone, Very Shelly Sand
22	-2.60	-2.70	0.10	0.00	2-Clay and Silty Sand
23	-2.70	-7.60	4.90	28.57	4-Limestone, Very Shelly Sand
24	-7.60	-7.70	0.10	0.00	2-Clay and Silty Sand
25	-7.70	-12.60	4.90	91.18	4-Limestone, Very Shelly Sand
26	-12.60	-12.70	0.10	0.00	2-Clay and Silty Sand
27	-12.70	-17.60	4.90	31.08	4-Limestone, Very Shelly Sand
28	-17.60	-17.70	0.10	0.00	2-Clay and Silty Sand
29	-17.70	-20.10	2.40	21.00	4-Limestone, Very Shelly Sand
30	-20.10	-20.20	0.10	0.00	2-Clay and Silty Sand
31	-20.20	-22.60	2.40	15.00	4-Limestone, Very Shelly Sand
32	-22.60	-22.70	0.10	0.00	2-Clay and Silty Sand
33	-22.70	-30.10	7.40	23.97	4-Limestone, Very Shelly Sand
34	-30.10	-30.20	0.10	0.00	2-Clay and Silty Sand
35	-30.20	-32.60	2.40	16.00	4-Limestone, Very Shelly Sand
36	-32.60	-32.70	0.10	0.00	2-Clay and Silty Sand
37	-32.70	-35.10	2.40	5.00	4-Limestone, Very Shelly Sand
38	-35.10	-35.20	0.10	0.00	2-Clay and Silty Sand
39	-35.20	-37.60	2.40	19.00	4-Limestone, Very Shelly Sand
40	-37.60	-37.70	0.10	0.00	2-Clay and Silty Sand
41	-37.70	-45.10	7.40	93.92	4-Limestone, Very Shelly Sand
42	-45.10	-45.20	0.10	0.00	2-Clay and Silty Sand
43	-45.20	-47.60	2.40	9.00	4-Limestone, Very Shelly Sand
44	-47.60	-47.70	0.10	0.00	2-Clay and Silty Sand
45	-47.70	-52.60	4.90	3.98	4-Limestone, Very Shelly Sand
46	-52.60	-52.70	0.10	0.00	2-Clay and Silty Sand
47	-52.70	-55.10	2.40	12.00	4-Limestone, Very Shelly Sand
48	-55.10	-55.20	0.10	0.00	1-Plastic Clay
49	-55.20	-67.60	12.40	40.54	4-Limestone, Very Shelly Sand
50	-67.60	-67.70	0.10	0.00	2-Clay and Silty Sand
51	-67.70	-70.10	2.40	26.00	4-Limestone, Very

Shelly Sand					
52	-70.10	-70.20	0.10	0.00	2-Clay and Silty Sand
53	-70.20	-90.10	19.90	97.74	4-Limestone, Very
Shelly Sand					
54	-90.10	-90.20	0.10	0.00	2-Clay and Silty Sand
55	-90.20	-90.30	0.10	35.00	4-Limestone, Very
Shelly Sand					
56	-90.30	-90.30	0.00	0.00	5-

Driven Pile Data:
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Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	5.00	53.80
24.00	7.00	51.80
24.00	9.00	49.80
24.00	11.00	47.80
24.00	13.00	45.80
24.00	15.00	43.80
24.00	17.00	41.80
24.00	19.00	39.80
24.00	21.00	37.80
24.00	23.00	35.80
24.00	25.00	33.80
24.00	27.00	31.80
24.00	29.00	29.80
24.00	31.00	27.80
24.00	33.00	25.80
24.00	35.00	23.80
24.00	37.00	21.80
24.00	39.00	19.80
24.00	41.00	17.80
24.00	43.00	15.80
24.00	45.00	13.80
24.00	47.00	11.80
24.00	49.00	9.80
24.00	51.00	7.80
24.00	53.00	5.80
24.00	55.00	3.80
24.00	57.00	1.80
24.00	59.00	-0.20
24.00	61.00	-2.20
24.00	63.00	-4.20
24.00	65.00	-6.20

24.00	67.00	-8.20
24.00	69.00	-10.20
24.00	71.00	-12.20
24.00	73.00	-14.20
24.00	75.00	-16.20
24.00	77.00	-18.20
24.00	79.00	-20.20
24.00	81.00	-22.20
24.00	83.00	-24.20
24.00	85.00	-26.20
24.00	87.00	-28.20
24.00	89.00	-30.20
24.00	91.00	-32.20
24.00	93.00	-34.20
24.00	95.00	-36.20
24.00	97.00	-38.20
24.00	99.00	-40.20
24.00	101.00	-42.20
24.00	103.00	-44.20
24.00	105.00	-46.20
24.00	107.00	-48.20
24.00	109.00	-50.20
24.00	111.00	-52.20
24.00	113.00	-54.20
24.00	115.00	-56.20
24.00	117.00	-58.20
24.00	119.00	-60.20
24.00	121.00	-62.20
24.00	123.00	-64.20
24.00	125.00	-66.20
24.00	127.00	-68.20
24.00	129.00	-70.20
24.00	131.00	-72.20
24.00	133.00	-74.20
24.00	135.00	-76.20
24.00	137.00	-78.20
24.00	139.00	-80.20
24.00	141.00	-82.20
24.00	143.00	-84.20
24.00	145.00	-86.20
24.00	147.00	-88.20
24.00	149.00	-90.20

Driven Pile Capacity:
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Test	Pile	Ultimate	Mobilized	Estimated	Allowable	Ultimate

Pile Length (ft)	Width (in)	Side Friction (tons)	End Bearing (tons)	Davisson Capacity (tons)	Pile Capacity (tons)	Pile Capacity (tons)
5.00	24.0	4.71	25.34	30.05	15.03	80.73
7.00	24.0	6.60	25.04	31.63	15.82	81.71
9.00	24.0	8.43	23.48	31.92	15.96	78.88
11.00	24.0	9.48	28.97	38.45	19.23	96.40
13.00	24.0	10.67	33.14	43.82	21.91	110.10
15.00	24.0	12.33	40.29	52.62	26.31	133.19
17.00	24.0	15.41	50.39	65.79	32.90	166.56
19.00	24.0	20.01	52.24	72.25	36.13	176.74
21.00	24.0	21.52	54.89	76.41	38.20	186.18
23.00	24.0	32.43	56.86	89.28	44.64	203.00
25.00	24.0	38.24	55.19	93.43	46.72	203.82
27.00	24.0	42.01	63.01	105.02	52.51	231.05
29.00	24.0	47.37	63.21	110.58	55.29	237.01
31.00	24.0	50.17	63.40	113.58	56.79	240.39
33.00	24.0	56.57	57.77	114.34	57.17	229.87
35.00	24.0	62.80	47.60	110.40	55.20	205.61
37.00	24.0	65.33	45.71	111.04	55.52	202.46
39.00	24.0	71.59	15.20	86.79	43.40	117.20
41.00	24.0	79.26	12.10	91.37	45.68	115.57
43.00	24.0	86.21	11.08	97.29	48.65	119.44
45.00	24.0	88.69	4.34	93.03	46.52	101.72
47.00	24.0	89.25	1.49	90.74	45.37	93.73
49.00	24.0	89.55	3.17	92.72	46.36	99.07
51.00	24.0	89.55	16.38	105.92	52.96	138.68
53.00	24.0	89.55	24.84	114.38	57.19	164.06
55.00	24.0	89.55	50.98	140.52	70.26	242.47
57.00	24.0	90.16	73.05	163.21	81.60	309.30
59.00	24.0	92.70	96.95	189.65	94.83	383.55
61.00	24.0	94.32	203.22	297.54	148.77	703.98
63.00	24.0	98.98	244.01	342.98	171.49	830.99
65.00	24.0	103.56	249.28	352.84	176.42	851.40
67.00	24.0	108.97	239.76	348.73	174.37	828.25
69.00	24.0	124.97	136.67	261.64	130.82	534.98
71.00	24.0	134.31	78.57	212.88	106.44	370.02
73.00	24.0	139.60	57.16	196.75	98.38	311.07
75.00	24.0	144.55	48.67	193.23	96.61	290.57
77.00	24.0	146.68	63.03	209.72	104.86	335.78
79.00	24.0	148.33	81.34	229.66	114.83	392.34
81.00	24.0	150.06	83.34	233.40	116.70	400.08
83.00	24.0	153.58	73.99	227.58	113.79	375.57
85.00	24.0	158.35	50.97	209.31	104.66	311.25
87.00	24.0	163.28	32.72	196.00	98.00	261.44
89.00	24.0	165.30	57.28	222.57	111.29	337.12
91.00	24.0	167.15	162.25	329.40	164.70	653.90
93.00	24.0	167.74	274.01	441.75	220.87	989.76
95.00	24.0	169.41	352.96	522.37	261.18	1228.29

97.00	24.0	174.58	330.82	505.40	252.70	1167.04
99.00	24.0	190.58	218.82	409.40	204.70	847.04
101.00	24.0	206.58	108.27	314.84	157.42	531.38
103.00	24.0	218.83	23.33	242.16	121.08	288.83
105.00	24.0	220.93	16.56	237.49	118.74	270.60
107.00	24.0	221.47	42.33	263.80	131.90	348.45
109.00	24.0	222.30	81.59	303.89	151.94	467.06
111.00	24.0	222.88	120.98	343.86	171.93	585.83
113.00	24.0	224.18	157.07	381.26	190.63	695.40
115.00	24.0	228.96	173.68	402.63	201.32	749.98
117.00	24.0	236.41	180.66	417.07	208.54	778.40
119.00	24.0	243.71	157.31	401.02	200.51	715.65
121.00	24.0	251.09	128.03	379.12	189.56	635.19
123.00	24.0	258.78	197.66	456.44	228.22	851.76
125.00	24.0	267.07	261.97	529.04	264.52	1052.98
127.00	24.0	270.30	357.75	628.05	314.02	1343.54
129.00	24.0	272.64	458.92	731.56	365.78	1649.40
131.00	24.0	288.64	458.92	747.56	373.78	1665.40
133.00	24.0	304.64	458.92	763.56	381.78	1681.40
135.00	24.0	320.64	458.92	779.56	389.78	1697.40
137.00	24.0	336.64	458.92	795.56	397.78	1713.40
139.00	24.0	352.64	455.93	808.57	404.29	1720.44
141.00	24.0	368.64	385.34	753.98	376.99	1524.67
143.00	24.0 Soil Elevations Must Extend At or Below Contribution Zone					
145.00	24.0 Soil Elevations Must Extend At or Below Contribution Zone					
147.00	24.0 Soil Elevations Must Extend At or Below Contribution Zone					
149.00	24.0 Soil Elevations Must Extend At or Below Contribution Zone					

NOTES
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1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.

2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.

3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.

4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
   EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

Florida Bridge Software Institute
Shaft and Pile Analysis (FB-Deep v.2.05)

Date: February 06, 2020
Time: 08:35:23

General Information:
==========
Input file: .....il PD&E Study\Geotechnical\6 Miscellaneous\FB-Deep\SPT-2_H.spc
Project number: 4037G
Job name: South Sumter
Engineer: BMM/DCS
Units: English

Analysis Information:
==========
Analysis Type: SPT

Soil Information:
==========
Boring date: , Boring Number: SPT-2
Station number: Offset:

Ground Elevation: 58.800(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	5.00	3- Clean sand
2	2.00	5.00	3- Clean sand
3	4.00	5.00	3- Clean sand
4	6.00	5.00	3- Clean sand
5	8.00	5.00	3- Clean sand
6	10.00	4.00	3- Clean sand
7	11.50	4.00	3- Clean sand
8	14.00	5.00	3- Clean sand
9	16.40	0.00	2- Clay and silty sand
10	16.50	18.00	3- Clean sand
11	19.00	10.00	3- Clean sand
12	21.40	0.00	2- Clay and silty sand
13	21.50	48.00	3- Clean sand
14	23.90	0.00	2- Clay and silty sand
15	24.00	27.00	3- Clean sand
16	26.40	0.00	2- Clay and silty sand
17	26.50	17.00	3- Clean sand
18	29.00	13.00	3- Clean sand
19	31.40	0.00	2- Clay and silty sand

20	31.50	22.00	3- Clean sand
21	34.00	18.00	3- Clean sand
22	36.40	0.00	2- Clay and silty sand
23	36.50	10.00	3- Clean sand
24	39.00	8.00	1- Plastic Clay
25	42.50	7.00	1- Plastic Clay
26	44.00	9.00	4- Lime Stone/Very shelly sand
27	46.40	0.00	2- Clay and silty sand
28	46.50	4.00	4- Lime Stone/Very shelly sand
29	48.90	0.00	2- Clay and silty sand
30	49.00	2.00	4- Lime Stone/Very shelly sand
31	51.50	1.00	4- Lime Stone/Very shelly sand
32	54.00	1.00	4- Lime Stone/Very shelly sand
33	56.40	0.00	2- Clay and silty sand
34	56.50	11.00	4- Lime Stone/Very shelly sand
35	59.00	14.00	4- Lime Stone/Very shelly sand
36	61.40	0.00	2- Clay and silty sand
37	61.50	32.00	4- Lime Stone/Very shelly sand
38	64.00	25.00	4- Lime Stone/Very shelly sand
39	66.40	0.00	2- Clay and silty sand
40	66.50	100.00	4- Lime Stone/Very shelly sand
41	69.00	82.00	4- Lime Stone/Very shelly sand
42	71.40	0.00	2- Clay and silty sand
43	71.50	35.00	4- Lime Stone/Very shelly sand
44	74.00	27.00	4- Lime Stone/Very shelly sand
45	76.40	0.00	2- Clay and silty sand
46	76.50	21.00	4- Lime Stone/Very shelly sand
47	78.90	0.00	2- Clay and silty sand
48	79.00	15.00	4- Lime Stone/Very shelly sand
49	81.40	0.00	2- Clay and silty sand
50	81.50	22.00	4- Lime Stone/Very shelly sand
51	84.00	24.00	4- Lime Stone/Very shelly sand
52	86.50	26.00	4- Lime Stone/Very shelly sand
53	88.90	0.00	2- Clay and silty sand
54	89.00	16.00	4- Lime Stone/Very shelly sand
55	91.40	0.00	2- Clay and silty sand
56	91.50	5.00	4- Lime Stone/Very shelly sand
57	93.90	0.00	2- Clay and silty sand
58	94.00	19.00	4- Lime Stone/Very shelly sand
59	96.40	0.00	2- Clay and silty sand
60	96.50	100.00	4- Lime Stone/Very shelly sand
61	99.00	82.00	4- Lime Stone/Very shelly sand
62	101.50	100.00	4- Lime Stone/Very shelly sand
63	103.90	0.00	2- Clay and silty sand
64	104.00	9.00	4- Lime Stone/Very shelly sand
65	106.40	0.00	2- Clay and silty sand
66	106.50	3.00	4- Lime Stone/Very shelly sand
67	109.00	5.00	4- Lime Stone/Very shelly sand
68	111.40	0.00	2- Clay and silty sand
69	111.50	12.00	4- Lime Stone/Very shelly sand

70	113.90	0.00	1- Plastic Clay
71	114.00	46.00	4- Lime Stone/Very shelly sand
72	116.50	35.00	4- Lime Stone/Very shelly sand
73	119.00	38.00	4- Lime Stone/Very shelly sand
74	121.50	36.00	4- Lime Stone/Very shelly sand
75	124.00	48.00	4- Lime Stone/Very shelly sand
76	126.40	0.00	2- Clay and silty sand
77	126.50	26.00	4- Lime Stone/Very shelly sand
78	128.90	0.00	2- Clay and silty sand
79	129.00	82.00	4- Lime Stone/Very shelly sand
80	131.50	100.00	4- Lime Stone/Very shelly sand
81	134.00	100.00	4- Lime Stone/Very shelly sand
82	136.50	100.00	4- Lime Stone/Very shelly sand
83	139.00	100.00	4- Lime Stone/Very shelly sand
84	141.50	100.00	4- Lime Stone/Very shelly sand
85	144.00	100.00	4- Lime Stone/Very shelly sand
86	146.50	100.00	4- Lime Stone/Very shelly sand
87	148.90	0.00	2- Clay and silty sand
88	149.00	35.00	4- Lime Stone/Very shelly sand
89	149.10	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	58.80	42.40	16.40	4.76	3-Clean Sand
2	42.40	42.30	0.10	0.00	2-Clay and Silty Sand
3	42.30	37.40	4.90	14.08	3-Clean Sand
4	37.40	37.30	0.10	0.00	2-Clay and Silty Sand
5	37.30	34.90	2.40	48.00	3-Clean Sand
6	34.90	34.80	0.10	0.00	2-Clay and Silty Sand
7	34.80	32.40	2.40	27.00	3-Clean Sand
8	32.40	32.30	0.10	0.00	2-Clay and Silty Sand
9	32.30	27.40	4.90	15.04	3-Clean Sand
10	27.40	27.30	0.10	0.00	2-Clay and Silty Sand
11	27.30	22.40	4.90	20.04	3-Clean Sand
12	22.40	22.30	0.10	0.00	2-Clay and Silty Sand
13	22.30	19.80	2.50	10.00	3-Clean Sand
14	19.80	14.80	5.00	7.70	1-Plastic Clay
15	14.80	12.40	2.40	9.00	4-Limestone, Very Shelly Sand
16	12.40	12.30	0.10	0.00	2-Clay and Silty Sand
17	12.30	9.90	2.40	4.00	4-Limestone, Very Shelly Sand

18	9.90	9.80	0.10	0.00	2-Clay and Silty Sand
19	9.80	2.40	7.40	1.34	4-Limestone, Very Shelly Sand
20	2.40	2.30	0.10	0.00	2-Clay and Silty Sand
21	2.30	-2.60	4.90	12.47	4-Limestone, Very Shelly Sand
22	-2.60	-2.70	0.10	0.00	2-Clay and Silty Sand
23	-2.70	-7.60	4.90	28.57	4-Limestone, Very Shelly Sand
24	-7.60	-7.70	0.10	0.00	2-Clay and Silty Sand
25	-7.70	-12.60	4.90	91.18	4-Limestone, Very Shelly Sand
26	-12.60	-12.70	0.10	0.00	2-Clay and Silty Sand
27	-12.70	-17.60	4.90	31.08	4-Limestone, Very Shelly Sand
28	-17.60	-17.70	0.10	0.00	2-Clay and Silty Sand
29	-17.70	-20.10	2.40	21.00	4-Limestone, Very Shelly Sand
30	-20.10	-20.20	0.10	0.00	2-Clay and Silty Sand
31	-20.20	-22.60	2.40	15.00	4-Limestone, Very Shelly Sand
32	-22.60	-22.70	0.10	0.00	2-Clay and Silty Sand
33	-22.70	-30.10	7.40	23.97	4-Limestone, Very Shelly Sand
34	-30.10	-30.20	0.10	0.00	2-Clay and Silty Sand
35	-30.20	-32.60	2.40	16.00	4-Limestone, Very Shelly Sand
36	-32.60	-32.70	0.10	0.00	2-Clay and Silty Sand
37	-32.70	-35.10	2.40	5.00	4-Limestone, Very Shelly Sand
38	-35.10	-35.20	0.10	0.00	2-Clay and Silty Sand
39	-35.20	-37.60	2.40	19.00	4-Limestone, Very Shelly Sand
40	-37.60	-37.70	0.10	0.00	2-Clay and Silty Sand
41	-37.70	-45.10	7.40	93.92	4-Limestone, Very Shelly Sand
42	-45.10	-45.20	0.10	0.00	2-Clay and Silty Sand
43	-45.20	-47.60	2.40	9.00	4-Limestone, Very Shelly Sand
44	-47.60	-47.70	0.10	0.00	2-Clay and Silty Sand
45	-47.70	-52.60	4.90	3.98	4-Limestone, Very Shelly Sand
46	-52.60	-52.70	0.10	0.00	2-Clay and Silty Sand
47	-52.70	-55.10	2.40	12.00	4-Limestone, Very Shelly Sand
48	-55.10	-55.20	0.10	0.00	1-Plastic Clay
49	-55.20	-67.60	12.40	40.54	4-Limestone, Very Shelly Sand
50	-67.60	-67.70	0.10	0.00	2-Clay and Silty Sand
51	-67.70	-70.10	2.40	26.00	4-Limestone, Very

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Shelly Sand
   52      -70.10     -70.20       0.10        0.00          2-Clay and Silty Sand
   53      -70.20     -90.10      19.90       97.74          4-Limestone, Very
Shelly Sand
   54      -90.10     -90.20       0.10        0.00          2-Clay and Silty Sand
   55      -90.20     -90.30       0.10       35.00          4-Limestone, Very
Shelly Sand
   56      -90.30     -90.30       0.00        0.00          5-


Driven Pile Data:
=================
  Pile unit weight = 150.00(pcf), Section Type: H-Section

Pile Geometry:
--------------
    Width      Length    Tip Elev.     Depth
      (in)       (ft)       (ft)        (in)
 ---------- ---------- ---------- ----------
      14.69       5.00      53.80      13.83
      14.69       7.00      51.80      13.83
      14.69       9.00      49.80      13.83
      14.69      11.00      47.80      13.83
      14.69      13.00      45.80      13.83
      14.69      15.00      43.80      13.83
      14.69      17.00      41.80      13.83
      14.69      19.00      39.80      13.83
      14.69      21.00      37.80      13.83
      14.69      23.00      35.80      13.83
      14.69      25.00      33.80      13.83
      14.69      27.00      31.80      13.83
      14.69      29.00      29.80      13.83
      14.69      31.00      27.80      13.83
      14.69      33.00      25.80      13.83
      14.69      35.00      23.80      13.83
      14.69      37.00      21.80      13.83
      14.69      39.00      19.80      13.83
      14.69      41.00      17.80      13.83
      14.69      43.00      15.80      13.83
      14.69      45.00      13.80      13.83
      14.69      47.00      11.80      13.83
      14.69      49.00       9.80      13.83
      14.69      51.00       7.80      13.83
      14.69      53.00       5.80      13.83
      14.69      55.00       3.80      13.83
      14.69      57.00       1.80      13.83
      14.69      59.00      -0.20      13.83
      14.69      61.00      -2.20      13.83
      14.69      63.00      -4.20      13.83
      14.69      65.00      -6.20      13.83
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14.69	67.00	-8.20	13.83
14.69	69.00	-10.20	13.83
14.69	71.00	-12.20	13.83
14.69	73.00	-14.20	13.83
14.69	75.00	-16.20	13.83
14.69	77.00	-18.20	13.83
14.69	79.00	-20.20	13.83
14.69	81.00	-22.20	13.83
14.69	83.00	-24.20	13.83
14.69	85.00	-26.20	13.83
14.69	87.00	-28.20	13.83
14.69	89.00	-30.20	13.83
14.69	91.00	-32.20	13.83
14.69	93.00	-34.20	13.83
14.69	95.00	-36.20	13.83
14.69	97.00	-38.20	13.83
14.69	99.00	-40.20	13.83
14.69	101.00	-42.20	13.83
14.69	103.00	-44.20	13.83
14.69	105.00	-46.20	13.83
14.69	107.00	-48.20	13.83
14.69	109.00	-50.20	13.83
14.69	111.00	-52.20	13.83
14.69	113.00	-54.20	13.83
14.69	115.00	-56.20	13.83
14.69	117.00	-58.20	13.83
14.69	119.00	-60.20	13.83
14.69	121.00	-62.20	13.83
14.69	123.00	-64.20	13.83
14.69	125.00	-66.20	13.83
14.69	127.00	-68.20	13.83
14.69	129.00	-70.20	13.83
14.69	131.00	-72.20	13.83
14.69	133.00	-74.20	13.83
14.69	135.00	-76.20	13.83
14.69	137.00	-78.20	13.83
14.69	139.00	-80.20	13.83
14.69	141.00	-82.20	13.83
14.69	143.00	-84.20	13.83
14.69	145.00	-86.20	13.83
14.69	147.00	-88.20	13.83
14.69	149.00	-90.20	13.83

Driven Pile Capacity:
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Test	Pile	Ultimate	Mobilized	Estimated	Allowable	Ultimate

Pile Length (ft)	Width (in)	Side Friction (tons)	End Bearing (tons)	Davisson Capacity (tons)	Pile Capacity (tons)	Pile Capacity (tons)
5.00	14.7	2.08	4.50	6.57	3.29	11.07
7.00	14.7	2.91	4.12	7.03	3.51	11.15
9.00	14.7	3.72	4.00	7.72	3.86	11.72
11.00	14.7	4.40	3.62	8.02	4.01	11.64
13.00	14.7	5.10	6.43	11.53	5.77	17.96
15.00	14.7	5.83	8.62	14.45	7.23	23.07
17.00	14.7	6.65	9.10	15.76	7.88	24.86
19.00	14.7	8.14	10.58	18.72	9.36	29.30
21.00	14.7	8.62	14.29	22.91	11.45	37.19
23.00	14.7	14.29	12.37	26.65	13.33	39.02
25.00	14.7	16.85	11.22	28.06	14.03	39.28
27.00	14.7	18.50	10.13	28.63	14.32	38.76
29.00	14.7	20.44	10.63	31.07	15.54	41.70
31.00	14.7	21.28	11.60	32.89	16.44	44.49
33.00	14.7	24.92	9.84	34.77	17.38	44.61
35.00	14.7	27.67	4.59	32.26	16.13	36.84
37.00	14.7	28.80	2.84	31.64	15.82	34.49
39.00	14.7	32.14	2.57	34.71	17.35	39.85
41.00	14.7	35.41	4.01	39.41	19.71	47.43
43.00	14.7	40.34	4.59	44.93	22.47	54.12
45.00	14.7	41.74	1.86	43.60	21.80	45.46
47.00	14.7	42.06	0.64	42.70	21.35	43.35
49.00	14.7	42.23	0.00	42.23	21.11	42.23
51.00	14.7	42.23	0.00	42.23	21.11	42.23
53.00	14.7	42.23	3.67	45.89	22.95	49.56
55.00	14.7	42.23	9.01	51.24	25.62	60.24
57.00	14.7	42.58	12.12	54.69	27.35	66.81
59.00	14.7	44.02	18.67	62.69	31.34	81.36
61.00	14.7	44.94	21.87	66.81	33.40	88.67
63.00	14.7	47.58	37.13	84.71	42.36	121.84
65.00	14.7	50.19	58.89	109.08	54.54	167.98
67.00	14.7	53.26	58.63	111.89	55.94	170.52
69.00	14.7	62.35	37.14	99.49	49.74	136.63
71.00	14.7	67.65	24.21	91.86	45.93	116.06
73.00	14.7	70.65	17.76	88.42	44.21	106.18
75.00	14.7	73.47	10.50	83.97	41.98	94.47
77.00	14.7	74.68	9.53	84.21	42.11	93.75
79.00	14.7	75.61	15.90	91.51	45.76	107.41
81.00	14.7	76.60	22.74	99.34	49.67	122.09
83.00	14.7	78.60	23.98	102.58	51.29	126.56
85.00	14.7	81.30	17.53	98.84	49.42	116.37
87.00	14.7	84.11	8.92	93.03	46.52	101.95
89.00	14.7	85.25	5.46	90.71	45.35	96.16
91.00	14.7	86.31	6.33	92.64	46.32	98.97
93.00	14.7	86.64	30.31	116.95	58.47	147.26
95.00	14.7	87.59	61.28	148.86	74.43	210.14

97.00	14.7	90.52	84.11	174.63	87.32	258.74
99.00	14.7	99.61	63.96	163.58	81.79	227.54
101.00	14.7	108.70	31.70	140.40	70.20	172.10
103.00	14.7	115.66	6.43	122.09	61.04	128.51
105.00	14.7	116.85	3.75	120.60	60.30	124.34
107.00	14.7	117.16	4.16	121.31	60.66	125.47
109.00	14.7	117.63	4.50	122.13	61.07	126.63
111.00	14.7	117.96	20.76	138.72	69.36	159.49
113.00	14.7	118.70	33.37	152.07	76.04	185.45
115.00	14.7	121.41	39.12	160.54	80.27	199.66
117.00	14.7	125.64	38.76	164.40	82.20	203.17
119.00	14.7	129.79	41.30	171.09	85.54	212.38
121.00	14.7	133.98	38.20	172.18	86.09	210.37
123.00	14.7	138.35	27.92	166.27	83.14	194.20
125.00	14.7	143.06	27.56	170.62	85.31	198.18
127.00	14.7	144.89	55.16	200.05	100.03	255.21
129.00	14.7	146.22	84.68	230.90	115.45	315.58
131.00	14.7	155.31	84.68	239.99	119.99	324.67
133.00	14.7	164.40	84.68	249.08	124.54	333.76
135.00	14.7	173.48	84.68	258.16	129.08	342.84
137.00	14.7	182.57	84.68	267.25	133.63	351.93
139.00	14.7	191.66	84.68	276.34	138.17	361.02
141.00	14.7	200.75	84.68	285.43	142.71	370.11
143.00	14.7	209.83	77.64	287.47	143.74	365.11
145.00	14.7	Soil Elevations Must Extend At or Below Contribution Zone				
147.00	14.7	Soil Elevations Must Extend At or Below Contribution Zone				
149.00	14.7	Soil Elevations Must Extend At or Below Contribution Zone				

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.

2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.

3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.

4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
   EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

Florida Bridge Software Institute
Shaft and Pile Analysis (FB-Deep v.2.05)

Date: February 06, 2020
Time: 08:36:04

General Information:
==========
Input file: .....PD&E Study\Geotechnical\6 Miscellaneous\FB-Deep\SPT-2_Pipe.spc
Project number: 4037G
Job name: South Sumter
Engineer: BMM/DCS
Units: English

Analysis Information:
==========
Analysis Type: SPT

Soil Information:
==========
Boring date: , Boring Number: SPT-2
Station number: Offset:

Ground Elevation: 58.800(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	5.00	3- Clean sand
2	2.00	5.00	3- Clean sand
3	4.00	5.00	3- Clean sand
4	6.00	5.00	3- Clean sand
5	8.00	5.00	3- Clean sand
6	10.00	4.00	3- Clean sand
7	11.50	4.00	3- Clean sand
8	14.00	5.00	3- Clean sand
9	16.40	0.00	2- Clay and silty sand
10	16.50	18.00	3- Clean sand
11	19.00	10.00	3- Clean sand
12	21.40	0.00	2- Clay and silty sand
13	21.50	48.00	3- Clean sand
14	23.90	0.00	2- Clay and silty sand
15	24.00	27.00	3- Clean sand
16	26.40	0.00	2- Clay and silty sand
17	26.50	17.00	3- Clean sand
18	29.00	13.00	3- Clean sand
19	31.40	0.00	2- Clay and silty sand

20	31.50	22.00	3- Clean sand
21	34.00	18.00	3- Clean sand
22	36.40	0.00	2- Clay and silty sand
23	36.50	10.00	3- Clean sand
24	39.00	8.00	1- Plastic Clay
25	42.50	7.00	1- Plastic Clay
26	44.00	9.00	4- Lime Stone/Very shelly sand
27	46.40	0.00	2- Clay and silty sand
28	46.50	4.00	4- Lime Stone/Very shelly sand
29	48.90	0.00	2- Clay and silty sand
30	49.00	2.00	4- Lime Stone/Very shelly sand
31	51.50	1.00	4- Lime Stone/Very shelly sand
32	54.00	1.00	4- Lime Stone/Very shelly sand
33	56.40	0.00	2- Clay and silty sand
34	56.50	11.00	4- Lime Stone/Very shelly sand
35	59.00	14.00	4- Lime Stone/Very shelly sand
36	61.40	0.00	2- Clay and silty sand
37	61.50	32.00	4- Lime Stone/Very shelly sand
38	64.00	25.00	4- Lime Stone/Very shelly sand
39	66.40	0.00	2- Clay and silty sand
40	66.50	100.00	4- Lime Stone/Very shelly sand
41	69.00	82.00	4- Lime Stone/Very shelly sand
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49	81.40	0.00	2- Clay and silty sand
50	81.50	22.00	4- Lime Stone/Very shelly sand
51	84.00	24.00	4- Lime Stone/Very shelly sand
52	86.50	26.00	4- Lime Stone/Very shelly sand
53	88.90	0.00	2- Clay and silty sand
54	89.00	16.00	4- Lime Stone/Very shelly sand
55	91.40	0.00	2- Clay and silty sand
56	91.50	5.00	4- Lime Stone/Very shelly sand
57	93.90	0.00	2- Clay and silty sand
58	94.00	19.00	4- Lime Stone/Very shelly sand
59	96.40	0.00	2- Clay and silty sand
60	96.50	100.00	4- Lime Stone/Very shelly sand
61	99.00	82.00	4- Lime Stone/Very shelly sand
62	101.50	100.00	4- Lime Stone/Very shelly sand
63	103.90	0.00	2- Clay and silty sand
64	104.00	9.00	4- Lime Stone/Very shelly sand
65	106.40	0.00	2- Clay and silty sand
66	106.50	3.00	4- Lime Stone/Very shelly sand
67	109.00	5.00	4- Lime Stone/Very shelly sand
68	111.40	0.00	2- Clay and silty sand
69	111.50	12.00	4- Lime Stone/Very shelly sand

70	113.90	0.00	1- Plastic Clay
71	114.00	46.00	4- Lime Stone/Very shelly sand
72	116.50	35.00	4- Lime Stone/Very shelly sand
73	119.00	38.00	4- Lime Stone/Very shelly sand
74	121.50	36.00	4- Lime Stone/Very shelly sand
75	124.00	48.00	4- Lime Stone/Very shelly sand
76	126.40	0.00	2- Clay and silty sand
77	126.50	26.00	4- Lime Stone/Very shelly sand
78	128.90	0.00	2- Clay and silty sand
79	129.00	82.00	4- Lime Stone/Very shelly sand
80	131.50	100.00	4- Lime Stone/Very shelly sand
81	134.00	100.00	4- Lime Stone/Very shelly sand
82	136.50	100.00	4- Lime Stone/Very shelly sand
83	139.00	100.00	4- Lime Stone/Very shelly sand
84	141.50	100.00	4- Lime Stone/Very shelly sand
85	144.00	100.00	4- Lime Stone/Very shelly sand
86	146.50	100.00	4- Lime Stone/Very shelly sand
87	148.90	0.00	2- Clay and silty sand
88	149.00	35.00	4- Lime Stone/Very shelly sand
89	149.10	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	58.80	42.40	16.40	4.76	3-Clean Sand
2	42.40	42.30	0.10	0.00	2-Clay and Silty Sand
3	42.30	37.40	4.90	14.08	3-Clean Sand
4	37.40	37.30	0.10	0.00	2-Clay and Silty Sand
5	37.30	34.90	2.40	48.00	3-Clean Sand
6	34.90	34.80	0.10	0.00	2-Clay and Silty Sand
7	34.80	32.40	2.40	27.00	3-Clean Sand
8	32.40	32.30	0.10	0.00	2-Clay and Silty Sand
9	32.30	27.40	4.90	15.04	3-Clean Sand
10	27.40	27.30	0.10	0.00	2-Clay and Silty Sand
11	27.30	22.40	4.90	20.04	3-Clean Sand
12	22.40	22.30	0.10	0.00	2-Clay and Silty Sand
13	22.30	19.80	2.50	10.00	3-Clean Sand
14	19.80	14.80	5.00	7.70	1-Plastic Clay
15	14.80	12.40	2.40	9.00	4-Limestone, Very Shelly Sand
16	12.40	12.30	0.10	0.00	2-Clay and Silty Sand
17	12.30	9.90	2.40	4.00	4-Limestone, Very Shelly Sand

18	9.90	9.80	0.10	0.00	2-Clay and Silty Sand
19	9.80	2.40	7.40	1.34	4-Limestone, Very Shelly Sand
20	2.40	2.30	0.10	0.00	2-Clay and Silty Sand
21	2.30	-2.60	4.90	12.47	4-Limestone, Very Shelly Sand
22	-2.60	-2.70	0.10	0.00	2-Clay and Silty Sand
23	-2.70	-7.60	4.90	28.57	4-Limestone, Very Shelly Sand
24	-7.60	-7.70	0.10	0.00	2-Clay and Silty Sand
25	-7.70	-12.60	4.90	91.18	4-Limestone, Very Shelly Sand
26	-12.60	-12.70	0.10	0.00	2-Clay and Silty Sand
27	-12.70	-17.60	4.90	31.08	4-Limestone, Very Shelly Sand
28	-17.60	-17.70	0.10	0.00	2-Clay and Silty Sand
29	-17.70	-20.10	2.40	21.00	4-Limestone, Very Shelly Sand
30	-20.10	-20.20	0.10	0.00	2-Clay and Silty Sand
31	-20.20	-22.60	2.40	15.00	4-Limestone, Very Shelly Sand
32	-22.60	-22.70	0.10	0.00	2-Clay and Silty Sand
33	-22.70	-30.10	7.40	23.97	4-Limestone, Very Shelly Sand
34	-30.10	-30.20	0.10	0.00	2-Clay and Silty Sand
35	-30.20	-32.60	2.40	16.00	4-Limestone, Very Shelly Sand
36	-32.60	-32.70	0.10	0.00	2-Clay and Silty Sand
37	-32.70	-35.10	2.40	5.00	4-Limestone, Very Shelly Sand
38	-35.10	-35.20	0.10	0.00	2-Clay and Silty Sand
39	-35.20	-37.60	2.40	19.00	4-Limestone, Very Shelly Sand
40	-37.60	-37.70	0.10	0.00	2-Clay and Silty Sand
41	-37.70	-45.10	7.40	93.92	4-Limestone, Very Shelly Sand
42	-45.10	-45.20	0.10	0.00	2-Clay and Silty Sand
43	-45.20	-47.60	2.40	9.00	4-Limestone, Very Shelly Sand
44	-47.60	-47.70	0.10	0.00	2-Clay and Silty Sand
45	-47.70	-52.60	4.90	3.98	4-Limestone, Very Shelly Sand
46	-52.60	-52.70	0.10	0.00	2-Clay and Silty Sand
47	-52.70	-55.10	2.40	12.00	4-Limestone, Very Shelly Sand
48	-55.10	-55.20	0.10	0.00	1-Plastic Clay
49	-55.20	-67.60	12.40	40.54	4-Limestone, Very Shelly Sand
50	-67.60	-67.70	0.10	0.00	2-Clay and Silty Sand
51	-67.70	-70.10	2.40	26.00	4-Limestone, Very

Shelly Sand					
52	-70.10	-70.20	0.10	0.00	2-Clay and Silty Sand
53	-70.20	-90.10	19.90	97.74	4-Limestone, Very
Shelly Sand					
54	-90.10	-90.20	0.10	0.00	2-Clay and Silty Sand
55	-90.20	-90.30	0.10	35.00	4-Limestone, Very
Shelly Sand					
56	-90.30	-90.30	0.00	0.00	5-

Driven Pile Data:
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Pile unit weight = 150.00(pcf), Section Type: Pipe

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)	Thickness (in)	Pile End
24.00	5.00	53.80	0.50	OPEN
24.00	7.00	51.80	0.50	OPEN
24.00	9.00	49.80	0.50	OPEN
24.00	11.00	47.80	0.50	OPEN
24.00	13.00	45.80	0.50	OPEN
24.00	15.00	43.80	0.50	OPEN
24.00	17.00	41.80	0.50	OPEN
24.00	19.00	39.80	0.50	OPEN
24.00	21.00	37.80	0.50	OPEN
24.00	23.00	35.80	0.50	OPEN
24.00	25.00	33.80	0.50	OPEN
24.00	27.00	31.80	0.50	OPEN
24.00	29.00	29.80	0.50	OPEN
24.00	31.00	27.80	0.50	OPEN
24.00	33.00	25.80	0.50	OPEN
24.00	35.00	23.80	0.50	OPEN
24.00	37.00	21.80	0.50	OPEN
24.00	39.00	19.80	0.50	OPEN
24.00	41.00	17.80	0.50	OPEN
24.00	43.00	15.80	0.50	OPEN
24.00	45.00	13.80	0.50	OPEN
24.00	47.00	11.80	0.50	OPEN
24.00	49.00	9.80	0.50	OPEN
24.00	51.00	7.80	0.50	OPEN
24.00	53.00	5.80	0.50	OPEN
24.00	55.00	3.80	0.50	OPEN
24.00	57.00	1.80	0.50	OPEN
24.00	59.00	-0.20	0.50	OPEN
24.00	61.00	-2.20	0.50	OPEN
24.00	63.00	-4.20	0.50	OPEN
24.00	65.00	-6.20	0.50	OPEN

24.00	67.00	-8.20	0.50 OPEN
24.00	69.00	-10.20	0.50 OPEN
24.00	71.00	-12.20	0.50 OPEN
24.00	73.00	-14.20	0.50 OPEN
24.00	75.00	-16.20	0.50 OPEN
24.00	77.00	-18.20	0.50 OPEN
24.00	79.00	-20.20	0.50 OPEN
24.00	81.00	-22.20	0.50 OPEN
24.00	83.00	-24.20	0.50 OPEN
24.00	85.00	-26.20	0.50 OPEN
24.00	87.00	-28.20	0.50 OPEN
24.00	89.00	-30.20	0.50 OPEN
24.00	91.00	-32.20	0.50 OPEN
24.00	93.00	-34.20	0.50 OPEN
24.00	95.00	-36.20	0.50 OPEN
24.00	97.00	-38.20	0.50 OPEN
24.00	99.00	-40.20	0.50 OPEN
24.00	101.00	-42.20	0.50 OPEN
24.00	103.00	-44.20	0.50 OPEN
24.00	105.00	-46.20	0.50 OPEN
24.00	107.00	-48.20	0.50 OPEN
24.00	109.00	-50.20	0.50 OPEN
24.00	111.00	-52.20	0.50 OPEN
24.00	113.00	-54.20	0.50 OPEN
24.00	115.00	-56.20	0.50 OPEN
24.00	117.00	-58.20	0.50 OPEN
24.00	119.00	-60.20	0.50 OPEN
24.00	121.00	-62.20	0.50 OPEN
24.00	123.00	-64.20	0.50 OPEN
24.00	125.00	-66.20	0.50 OPEN
24.00	127.00	-68.20	0.50 OPEN
24.00	129.00	-70.20	0.50 OPEN
24.00	131.00	-72.20	0.50 OPEN
24.00	133.00	-74.20	0.50 OPEN
24.00	135.00	-76.20	0.50 OPEN
24.00	137.00	-78.20	0.50 OPEN
24.00	139.00	-80.20	0.50 OPEN
24.00	141.00	-82.20	0.50 OPEN
24.00	143.00	-84.20	0.50 OPEN
24.00	145.00	-86.20	0.50 OPEN
24.00	147.00	-88.20	0.50 OPEN
24.00	149.00	-90.20	0.50 OPEN

Driven Pile Capacity:
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Test	Pile	Ultimate	Mobilized	Estimated	Allowable	Ultimate

Pile Length (ft)	Width (in)	Side Friction (tons)	End Bearing (tons)	Davisson Capacity (tons)	Pile Capacity (tons)	Pile Capacity (tons)
5.00	24.0	6.82	1.62	8.45	4.22	11.70
7.00	24.0	9.55	1.60	11.16	5.58	14.37
9.00	24.0	12.20	1.50	13.71	6.85	16.72
11.00	24.0	13.63	1.86	15.49	7.74	19.20
13.00	24.0	15.28	2.12	17.41	8.70	21.66
15.00	24.0	17.68	2.33	20.01	10.00	24.67
17.00	24.0	22.19	2.60	24.78	12.39	29.97
19.00	24.0	29.26	2.72	31.98	15.99	37.41
21.00	24.0	31.42	2.87	34.29	17.15	40.03
23.00	24.0	42.42	3.25	45.66	22.83	52.15
25.00	24.0	49.64	3.22	52.86	26.43	59.29
27.00	24.0	54.98	3.73	58.71	29.35	66.17
29.00	24.0	63.08	3.74	66.82	33.41	74.30
31.00	24.0	67.36	3.75	71.11	35.56	78.62
33.00	24.0	76.64	3.39	80.03	40.02	86.82
35.00	24.0	43.83	33.61	77.43	38.72	144.65
37.00	24.0	45.74	32.51	78.25	39.12	143.26
39.00	24.0	50.19	15.61	65.80	32.90	97.02
41.00	24.0	55.41	11.85	67.26	33.63	90.97
43.00	24.0	60.10	11.18	71.28	35.64	93.65
45.00	24.0	61.91	19.26	81.16	40.58	119.68
47.00	24.0	62.26	3.46	65.72	32.86	72.65
49.00	24.0	62.58	11.41	73.99	37.00	96.80
51.00	24.0	62.58	11.72	74.30	37.15	97.73
53.00	24.0	62.58	14.21	76.79	38.40	105.22
55.00	24.0	62.58	18.26	80.84	40.42	117.37
57.00	24.0	63.03	37.34	100.37	50.19	175.05
59.00	24.0	64.71	38.70	103.41	51.70	180.80
61.00	24.0	65.26	44.91	110.18	55.09	200.00
63.00	24.0	69.64	63.91	133.55	66.77	261.36
65.00	24.0	72.87	65.43	138.30	69.15	269.16
67.00	24.0	152.37	6.69	159.06	79.53	172.45
69.00	24.0	90.40	79.27	169.67	84.84	328.21
71.00	24.0	97.74	79.42	177.15	88.58	335.99
73.00	24.0	101.89	76.17	178.06	89.03	330.40
75.00	24.0	105.78	70.16	175.95	87.97	316.28
77.00	24.0	107.44	77.56	185.00	92.50	340.12
79.00	24.0	108.75	86.68	195.42	97.71	368.77
81.00	24.0	110.07	87.15	197.22	98.61	371.52
83.00	24.0	112.88	84.45	197.33	98.66	366.22
85.00	24.0	116.62	68.23	184.84	92.42	321.29
87.00	24.0	120.49	54.87	175.36	87.68	285.10
89.00	24.0	122.08	32.43	154.51	77.26	219.38
91.00	24.0	123.06	35.40	158.46	79.23	229.25
93.00	24.0	123.93	67.69	191.62	95.81	327.00
95.00	24.0	125.31	102.31	227.62	113.81	432.25

97.00	24.0	129.37	99.02	228.39	114.19	426.43
99.00	24.0	141.93	84.13	226.06	113.03	394.32
101.00	24.0	154.50	65.90	220.40	110.20	352.20
103.00	24.0	164.12	51.69	215.82	107.91	319.20
105.00	24.0	165.62	18.50	184.12	92.06	221.12
107.00	24.0	166.19	48.76	214.96	107.48	312.48
109.00	24.0	166.68	52.10	218.77	109.39	322.97
111.00	24.0	166.92	60.06	226.98	113.49	347.09
113.00	24.0	168.25	83.49	251.74	125.87	418.71
115.00	24.0	172.08	91.92	264.00	132.00	447.85
117.00	24.0	177.93	90.21	268.14	134.07	448.56
119.00	24.0	183.66	83.56	267.22	133.61	434.35
121.00	24.0	189.46	80.73	270.19	135.10	431.65
123.00	24.0	195.50	83.50	279.00	139.50	446.00
125.00	24.0	201.50	95.92	297.42	148.71	489.27
127.00	24.0	204.52	110.73	315.24	157.62	536.69
129.00	24.0	206.38	132.05	338.43	169.22	602.53
131.00	24.0	218.47	133.00	351.47	175.74	617.46
133.00	24.0	230.30	134.76	365.06	182.53	634.58
135.00	24.0	241.98	137.36	379.34	189.67	654.06
137.00	24.0	253.63	140.77	394.40	197.20	675.95
139.00	24.0	265.37	144.94	410.31	205.16	700.19
141.00	24.0	278.46	144.81	423.27	211.64	712.90
143.00	24.0 Soil Elevations Must Extend At or Below Contribution Zone					
145.00	24.0 Soil Elevations Must Extend At or Below Contribution Zone					
147.00	24.0 Soil Elevations Must Extend At or Below Contribution Zone					
149.00	24.0 Soil Elevations Must Extend At or Below Contribution Zone					

NOTES
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1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.

2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.

3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.

4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
   EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:
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Input file: .....l PD&E Study\Geotechnical\6 Miscellaneous\FB-Deep\SPT-3_18.spc
Project number: 4037G
Job name: South Sumter
Engineer: BMM/DCS
Units: English

Analysis Information:
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Analysis Type: SPT

Soil Information:
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Boring date: , Boring Number: SPT-3
Station number: Offset:

Ground Elevation: 69.600(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	5.00	3- Clean sand
2	2.00	5.00	3- Clean sand
3	4.00	5.00	3- Clean sand
4	6.00	5.00	3- Clean sand
5	8.00	6.00	3- Clean sand
6	10.00	5.00	3- Clean sand
7	11.50	9.00	2- Clay and silty sand
8	14.00	12.00	1- Plastic Clay
9	17.40	0.00	2- Clay and silty sand
10	17.50	6.00	1- Plastic Clay
11	19.00	4.00	4- Lime Stone/Very shelly sand
12	21.40	0.00	2- Clay and silty sand
13	21.50	16.00	4- Lime Stone/Very shelly sand
14	24.00	11.00	4- Lime Stone/Very shelly sand
15	26.50	13.00	4- Lime Stone/Very shelly sand
16	28.90	0.00	2- Clay and silty sand
17	29.00	30.00	4- Lime Stone/Very shelly sand
18	31.40	0.00	2- Clay and silty sand
19	31.50	21.00	4- Lime Stone/Very shelly sand

20	34.00	17.00	4- Lime Stone/Very shelly sand
21	36.40	0.00	2- Clay and silty sand
22	36.50	34.00	4- Lime Stone/Very shelly sand
23	38.90	0.00	2- Clay and silty sand
24	39.00	18.00	4- Lime Stone/Very shelly sand
25	41.40	0.00	2- Clay and silty sand
26	41.50	29.00	4- Lime Stone/Very shelly sand
27	43.90	0.00	2- Clay and silty sand
28	44.00	13.00	4- Lime Stone/Very shelly sand
29	46.40	0.00	2- Clay and silty sand
30	46.50	100.00	4- Lime Stone/Very shelly sand
31	48.90	0.00	2- Clay and silty sand
32	49.00	65.00	4- Lime Stone/Very shelly sand
33	51.40	0.00	2- Clay and silty sand
34	51.50	100.00	4- Lime Stone/Very shelly sand
35	54.00	100.00	4- Lime Stone/Very shelly sand
36	56.40	0.00	2- Clay and silty sand
37	56.50	21.00	4- Lime Stone/Very shelly sand
38	58.90	0.00	2- Clay and silty sand
39	59.00	100.00	4- Lime Stone/Very shelly sand
40	61.40	0.00	2- Clay and silty sand
41	61.50	21.00	4- Lime Stone/Very shelly sand
42	64.00	13.00	4- Lime Stone/Very shelly sand
43	66.50	23.00	4- Lime Stone/Very shelly sand
44	69.00	16.00	4- Lime Stone/Very shelly sand
45	71.40	0.00	2- Clay and silty sand
46	71.50	100.00	4- Lime Stone/Very shelly sand
47	73.90	0.00	2- Clay and silty sand
48	74.00	33.00	4- Lime Stone/Very shelly sand
49	76.50	28.00	4- Lime Stone/Very shelly sand
50	79.00	40.00	4- Lime Stone/Very shelly sand
51	81.50	31.00	4- Lime Stone/Very shelly sand
52	83.90	0.00	2- Clay and silty sand
53	84.00	72.00	4- Lime Stone/Very shelly sand
54	86.40	0.00	2- Clay and silty sand
55	86.50	37.00	4- Lime Stone/Very shelly sand
56	88.90	0.00	2- Clay and silty sand
57	89.00	70.00	4- Lime Stone/Very shelly sand
58	91.40	0.00	2- Clay and silty sand
59	91.50	100.00	4- Lime Stone/Very shelly sand
60	93.90	0.00	2- Clay and silty sand
61	94.00	64.00	4- Lime Stone/Very shelly sand
62	96.40	0.00	2- Clay and silty sand
63	96.50	42.00	4- Lime Stone/Very shelly sand
64	99.00	30.00	4- Lime Stone/Very shelly sand
65	101.50	45.00	4- Lime Stone/Very shelly sand
66	104.00	44.00	4- Lime Stone/Very shelly sand
67	106.50	41.00	4- Lime Stone/Very shelly sand
68	109.00	36.00	4- Lime Stone/Very shelly sand
69	111.40	0.00	2- Clay and silty sand

70	111.50	53.00	4- Lime Stone/Very shelly sand
71	114.00	63.00	4- Lime Stone/Very shelly sand
72	116.40	0.00	2- Clay and silty sand
73	116.50	26.00	4- Lime Stone/Very shelly sand
74	118.90	0.00	2- Clay and silty sand
75	119.00	42.00	4- Lime Stone/Very shelly sand
76	121.40	0.00	2- Clay and silty sand
77	121.50	64.00	4- Lime Stone/Very shelly sand
78	123.90	0.00	2- Clay and silty sand
79	124.00	100.00	4- Lime Stone/Very shelly sand
80	126.50	100.00	4- Lime Stone/Very shelly sand
81	128.90	0.00	2- Clay and silty sand
82	129.00	23.00	4- Lime Stone/Very shelly sand
83	131.50	31.00	4- Lime Stone/Very shelly sand
84	133.90	0.00	2- Clay and silty sand
85	134.00	62.00	4- Lime Stone/Very shelly sand
86	136.40	0.00	2- Clay and silty sand
87	136.50	29.00	4- Lime Stone/Very shelly sand
88	139.00	20.00	4- Lime Stone/Very shelly sand
89	139.10	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	69.60	58.10	11.50	5.17	3-Clean Sand
2	58.10	55.60	2.50	9.00	2-Clay and Silty Sand
3	55.60	52.20	3.40	12.00	1-Plastic Clay
4	52.20	52.10	0.10	0.00	2-Clay and Silty Sand
5	52.10	50.60	1.50	6.00	1-Plastic Clay
6	50.60	48.20	2.40	4.00	4-Limestone, Very Shelly Sand
7	48.20	48.10	0.10	0.00	2-Clay and Silty Sand
8	48.10	40.70	7.40	13.34	4-Limestone, Very Shelly Sand
9	40.70	40.60	0.10	0.00	2-Clay and Silty Sand
10	40.60	38.20	2.40	30.00	4-Limestone, Very Shelly Sand
11	38.20	38.10	0.10	0.00	2-Clay and Silty Sand
12	38.10	33.20	4.90	19.04	4-Limestone, Very Shelly Sand
13	33.20	33.10	0.10	0.00	2-Clay and Silty Sand
14	33.10	30.70	2.40	34.00	4-Limestone, Very Shelly Sand

15	30.70	30.60	0.10	0.00	2-Clay and Silty Sand
16	30.60	28.20	2.40	18.00	4-Limestone, Very Shelly Sand
17	28.20	28.10	0.10	0.00	2-Clay and Silty Sand
18	28.10	25.70	2.40	29.00	4-Limestone, Very Shelly Sand
19	25.70	25.60	0.10	0.00	2-Clay and Silty Sand
20	25.60	23.20	2.40	13.00	4-Limestone, Very Shelly Sand
21	23.20	23.10	0.10	0.00	2-Clay and Silty Sand
22	23.10	20.70	2.40	100.00	4-Limestone, Very Shelly Sand
23	20.70	20.60	0.10	0.00	2-Clay and Silty Sand
24	20.60	18.20	2.40	65.00	4-Limestone, Very Shelly Sand
25	18.20	18.10	0.10	0.00	2-Clay and Silty Sand
26	18.10	13.20	4.90	100.00	4-Limestone, Very Shelly Sand
27	13.20	13.10	0.10	0.00	2-Clay and Silty Sand
28	13.10	10.70	2.40	21.00	4-Limestone, Very Shelly Sand
29	10.70	10.60	0.10	0.00	2-Clay and Silty Sand
30	10.60	8.20	2.40	100.00	4-Limestone, Very Shelly Sand
31	8.20	8.10	0.10	0.00	2-Clay and Silty Sand
32	8.10	-1.80	9.90	18.27	4-Limestone, Very Shelly Sand
33	-1.80	-1.90	0.10	0.00	2-Clay and Silty Sand
34	-1.90	-4.30	2.40	100.00	4-Limestone, Very Shelly Sand
35	-4.30	-4.40	0.10	0.00	2-Clay and Silty Sand
36	-4.40	-14.30	9.90	33.02	4-Limestone, Very Shelly Sand
37	-14.30	-14.40	0.10	0.00	2-Clay and Silty Sand
38	-14.40	-16.80	2.40	72.00	4-Limestone, Very Shelly Sand
39	-16.80	-16.90	0.10	0.00	2-Clay and Silty Sand
40	-16.90	-19.30	2.40	37.00	4-Limestone, Very Shelly Sand
41	-19.30	-19.40	0.10	0.00	2-Clay and Silty Sand
42	-19.40	-21.80	2.40	70.00	4-Limestone, Very Shelly Sand
43	-21.80	-21.90	0.10	0.00	2-Clay and Silty Sand
44	-21.90	-24.30	2.40	100.00	4-Limestone, Very Shelly Sand
45	-24.30	-24.40	0.10	0.00	2-Clay and Silty Sand
46	-24.40	-26.80	2.40	64.00	4-Limestone, Very Shelly Sand
47	-26.80	-26.90	0.10	0.00	2-Clay and Silty Sand
48	-26.90	-41.80	14.90	39.69	4-Limestone, Very

Shelly Sand					
49	-41.80	-41.90	0.10	0.00	2-Clay and Silty Sand
50	-41.90	-46.80	4.90	57.90	4-Limestone, Very
Shelly Sand					
51	-46.80	-46.90	0.10	0.00	2-Clay and Silty Sand
52	-46.90	-49.30	2.40	26.00	4-Limestone, Very
Shelly Sand					
53	-49.30	-49.40	0.10	0.00	2-Clay and Silty Sand
54	-49.40	-51.80	2.40	42.00	4-Limestone, Very
Shelly Sand					
55	-51.80	-51.90	0.10	0.00	2-Clay and Silty Sand
56	-51.90	-54.30	2.40	64.00	4-Limestone, Very
Shelly Sand					
57	-54.30	-54.40	0.10	0.00	2-Clay and Silty Sand
58	-54.40	-59.30	4.90	100.00	4-Limestone, Very
Shelly Sand					
59	-59.30	-59.40	0.10	0.00	2-Clay and Silty Sand
60	-59.40	-64.30	4.90	26.92	4-Limestone, Very
Shelly Sand					
61	-64.30	-64.40	0.10	0.00	2-Clay and Silty Sand
62	-64.40	-66.80	2.40	62.00	4-Limestone, Very
Shelly Sand					
63	-66.80	-66.90	0.10	0.00	2-Clay and Silty Sand
64	-66.90	-69.50	2.60	28.65	4-Limestone, Very
Shelly Sand					
65	-69.50	-69.50	0.00	0.00	5-

Driven Pile Data:
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Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
18.00	5.00	64.60
18.00	7.00	62.60
18.00	9.00	60.60
18.00	11.00	58.60
18.00	13.00	56.60
18.00	15.00	54.60
18.00	17.00	52.60
18.00	19.00	50.60
18.00	21.00	48.60
18.00	23.00	46.60
18.00	25.00	44.60
18.00	27.00	42.60
18.00	29.00	40.60

18.00	31.00	38.60
18.00	33.00	36.60
18.00	35.00	34.60
18.00	37.00	32.60
18.00	39.00	30.60
18.00	41.00	28.60
18.00	43.00	26.60
18.00	45.00	24.60
18.00	47.00	22.60
18.00	49.00	20.60
18.00	51.00	18.60
18.00	53.00	16.60
18.00	55.00	14.60
18.00	57.00	12.60
18.00	59.00	10.60
18.00	61.00	8.60
18.00	63.00	6.60
18.00	65.00	4.60
18.00	67.00	2.60
18.00	69.00	0.60
18.00	71.00	-1.40
18.00	73.00	-3.40
18.00	75.00	-5.40
18.00	77.00	-7.40
18.00	79.00	-9.40
18.00	81.00	-11.40
18.00	83.00	-13.40
18.00	85.00	-15.40
18.00	87.00	-17.40
18.00	89.00	-19.40
18.00	91.00	-21.40
18.00	93.00	-23.40
18.00	95.00	-25.40
18.00	97.00	-27.40
18.00	99.00	-29.40
18.00	101.00	-31.40
18.00	103.00	-33.40
18.00	105.00	-35.40
18.00	107.00	-37.40
18.00	109.00	-39.40
18.00	111.00	-41.40
18.00	113.00	-43.40
18.00	115.00	-45.40
18.00	117.00	-47.40
18.00	119.00	-49.40
18.00	121.00	-51.40
18.00	123.00	-53.40
18.00	125.00	-55.40
18.00	127.00	-57.40
18.00	129.00	-59.40

18.00	131.00	-61.40
18.00	133.00	-63.40
18.00	135.00	-65.40
18.00	137.00	-67.40
18.00	139.00	-69.40
18.00	141.00	-71.40
18.00	143.00	-73.40
18.00	145.00	-75.40
18.00	147.00	-77.40
18.00	149.00	-79.40

Driven Pile Capacity:
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Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
5.00	18.0	3.44	15.19	18.63	9.32	49.02
7.00	18.0	4.93	15.10	20.02	10.01	50.21
9.00	18.0	6.61	13.94	20.55	10.27	48.43
11.00	18.0	8.78	11.98	20.77	10.38	44.73
13.00	18.0	14.99	8.36	23.35	11.67	40.07
15.00	18.0	22.11	5.10	27.20	13.60	37.40
17.00	18.0	24.99	6.89	31.88	15.94	45.66
19.00	18.0	28.21	19.59	47.80	23.90	86.99
21.00	18.0	28.56	27.28	55.84	27.92	110.41
23.00	18.0	30.25	22.85	53.10	26.55	98.79
25.00	18.0	31.99	28.45	60.44	30.22	117.34
27.00	18.0	33.81	31.71	65.51	32.76	128.93
29.00	18.0	34.65	39.63	74.28	37.14	153.54
31.00	18.0	37.25	34.95	72.20	36.10	142.11
33.00	18.0	39.61	33.50	73.11	36.56	140.11
35.00	18.0	41.94	29.47	71.41	35.70	130.34
37.00	18.0	43.71	32.80	76.52	38.26	142.12
39.00	18.0	45.68	27.84	73.52	36.76	129.20
41.00	18.0	47.25	43.01	90.26	45.13	176.27
43.00	18.0	49.62	63.70	113.33	56.66	240.73
45.00	18.0	50.80	94.88	145.68	72.84	335.44
47.00	18.0	54.18	139.16	193.34	96.67	471.67
49.00	18.0	58.94	182.28	241.22	120.61	605.79
51.00	18.0	64.58	166.60	231.18	115.59	564.38
53.00	18.0	74.04	107.32	181.36	90.68	396.01
55.00	18.0	84.79	80.43	165.22	82.61	326.09
57.00	18.0	88.02	71.63	159.65	79.82	302.90
59.00	18.0	89.49	74.74	164.23	82.12	313.70

61.00	18.0	96.49	41.07	137.56	68.78	219.70
63.00	18.0	98.85	43.08	141.93	70.96	228.09
65.00	18.0	101.05	38.81	139.86	69.93	217.47
67.00	18.0	104.11	69.01	173.12	86.56	311.14
69.00	18.0	106.91	75.50	182.41	91.20	333.40
71.00	18.0	108.30	92.72	201.01	100.51	386.45
73.00	18.0	114.83	76.25	191.08	95.54	343.59
75.00	18.0	118.34	86.20	204.55	102.27	376.96
77.00	18.0	122.72	81.80	204.52	102.26	368.13
79.00	18.0	127.96	84.70	212.66	106.33	382.07
81.00	18.0	133.37	76.27	209.65	104.82	362.20
83.00	18.0	136.94	69.91	206.85	103.43	346.68
85.00	18.0	141.84	78.08	219.91	109.96	376.07
87.00	18.0	145.39	102.80	248.20	124.10	453.81
89.00	18.0	147.73	122.76	270.48	135.24	515.99
91.00	18.0	153.80	104.17	257.97	128.98	466.31
93.00	18.0	160.46	86.34	246.80	123.40	419.48
95.00	18.0	165.48	83.77	249.25	124.63	416.80
97.00	18.0	169.10	100.73	269.83	134.91	471.28
99.00	18.0	174.28	109.89	284.16	142.08	503.93
101.00	18.0	179.64	115.36	295.00	147.50	525.72
103.00	18.0	186.24	108.63	294.87	147.44	512.13
105.00	18.0	192.76	87.63	280.39	140.20	455.66
107.00	18.0	198.94	92.52	291.46	145.73	476.50
109.00	18.0	204.60	113.52	318.11	159.06	545.15
111.00	18.0	207.72	113.37	321.09	160.55	547.83
113.00	18.0	214.26	80.79	295.05	147.52	456.63
115.00	18.0	222.51	48.47	270.98	135.49	367.91
117.00	18.0	225.38	65.20	290.59	145.29	420.99
119.00	18.0	227.00	106.74	333.74	166.87	547.22
121.00	18.0	230.64	168.91	399.55	199.77	737.36
123.00	18.0	235.89	167.11	403.00	201.50	737.22
125.00	18.0	243.00	138.19	381.19	190.59	657.57
127.00	18.0	254.68	74.11	328.79	164.40	477.01
129.00	18.0	259.28	68.87	328.15	164.08	465.89
131.00	18.0	263.18	66.05	329.23	164.62	461.33
133.00	18.0	266.68	65.54	332.22	166.11	463.31
135.00	18.0	Soil Elevations Must Extend At or Below Contribution Zone				
137.00	18.0	Soil Elevations Must Extend At or Below Contribution Zone				
139.00	18.0	Soil Elevations Must Extend At or Below Contribution Zone				
141.00	18.0	Soil Elevations Must Extend At or Below Contribution Zone				
143.00	18.0	Soil Elevations Must Extend At or Below Contribution Zone				
145.00	18.0	Soil Elevations Must Extend At or Below Contribution Zone				
147.00	18.0	Soil Elevations Must Extend At or Below Contribution Zone				
149.00	18.0	Soil Elevations Must Extend At or Below Contribution Zone				

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.

2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.

3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.

4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
   EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:
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Input file: .....l PD&E Study\Geotechnical\6 Miscellaneous\FB-Deep\SPT-3_24.spc
Project number: 4037G
Job name: South Sumter
Engineer: BMM/DCS
Units: English

Analysis Information:
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Analysis Type: SPT

Soil Information:
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Boring date: , Boring Number: SPT-3
Station number: Offset:

Ground Elevation: 69.600(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	5.00	3- Clean sand
2	2.00	5.00	3- Clean sand
3	4.00	5.00	3- Clean sand
4	6.00	5.00	3- Clean sand
5	8.00	6.00	3- Clean sand
6	10.00	5.00	3- Clean sand
7	11.50	9.00	2- Clay and silty sand
8	14.00	12.00	1- Plastic Clay
9	17.40	0.00	2- Clay and silty sand
10	17.50	6.00	1- Plastic Clay
11	19.00	4.00	4- Lime Stone/Very shelly sand
12	21.40	0.00	2- Clay and silty sand
13	21.50	16.00	4- Lime Stone/Very shelly sand
14	24.00	11.00	4- Lime Stone/Very shelly sand
15	26.50	13.00	4- Lime Stone/Very shelly sand
16	28.90	0.00	2- Clay and silty sand
17	29.00	30.00	4- Lime Stone/Very shelly sand
18	31.40	0.00	2- Clay and silty sand
19	31.50	21.00	4- Lime Stone/Very shelly sand

20	34.00	17.00	4- Lime Stone/Very shelly sand
21	36.40	0.00	2- Clay and silty sand
22	36.50	34.00	4- Lime Stone/Very shelly sand
23	38.90	0.00	2- Clay and silty sand
24	39.00	18.00	4- Lime Stone/Very shelly sand
25	41.40	0.00	2- Clay and silty sand
26	41.50	29.00	4- Lime Stone/Very shelly sand
27	43.90	0.00	2- Clay and silty sand
28	44.00	13.00	4- Lime Stone/Very shelly sand
29	46.40	0.00	2- Clay and silty sand
30	46.50	100.00	4- Lime Stone/Very shelly sand
31	48.90	0.00	2- Clay and silty sand
32	49.00	65.00	4- Lime Stone/Very shelly sand
33	51.40	0.00	2- Clay and silty sand
34	51.50	100.00	4- Lime Stone/Very shelly sand
35	54.00	100.00	4- Lime Stone/Very shelly sand
36	56.40	0.00	2- Clay and silty sand
37	56.50	21.00	4- Lime Stone/Very shelly sand
38	58.90	0.00	2- Clay and silty sand
39	59.00	100.00	4- Lime Stone/Very shelly sand
40	61.40	0.00	2- Clay and silty sand
41	61.50	21.00	4- Lime Stone/Very shelly sand
42	64.00	13.00	4- Lime Stone/Very shelly sand
43	66.50	23.00	4- Lime Stone/Very shelly sand
44	69.00	16.00	4- Lime Stone/Very shelly sand
45	71.40	0.00	2- Clay and silty sand
46	71.50	100.00	4- Lime Stone/Very shelly sand
47	73.90	0.00	2- Clay and silty sand
48	74.00	33.00	4- Lime Stone/Very shelly sand
49	76.50	28.00	4- Lime Stone/Very shelly sand
50	79.00	40.00	4- Lime Stone/Very shelly sand
51	81.50	31.00	4- Lime Stone/Very shelly sand
52	83.90	0.00	2- Clay and silty sand
53	84.00	72.00	4- Lime Stone/Very shelly sand
54	86.40	0.00	2- Clay and silty sand
55	86.50	37.00	4- Lime Stone/Very shelly sand
56	88.90	0.00	2- Clay and silty sand
57	89.00	70.00	4- Lime Stone/Very shelly sand
58	91.40	0.00	2- Clay and silty sand
59	91.50	100.00	4- Lime Stone/Very shelly sand
60	93.90	0.00	2- Clay and silty sand
61	94.00	64.00	4- Lime Stone/Very shelly sand
62	96.40	0.00	2- Clay and silty sand
63	96.50	42.00	4- Lime Stone/Very shelly sand
64	99.00	30.00	4- Lime Stone/Very shelly sand
65	101.50	45.00	4- Lime Stone/Very shelly sand
66	104.00	44.00	4- Lime Stone/Very shelly sand
67	106.50	41.00	4- Lime Stone/Very shelly sand
68	109.00	36.00	4- Lime Stone/Very shelly sand
69	111.40	0.00	2- Clay and silty sand

70	111.50	53.00	4- Lime Stone/Very shelly sand
71	114.00	63.00	4- Lime Stone/Very shelly sand
72	116.40	0.00	2- Clay and silty sand
73	116.50	26.00	4- Lime Stone/Very shelly sand
74	118.90	0.00	2- Clay and silty sand
75	119.00	42.00	4- Lime Stone/Very shelly sand
76	121.40	0.00	2- Clay and silty sand
77	121.50	64.00	4- Lime Stone/Very shelly sand
78	123.90	0.00	2- Clay and silty sand
79	124.00	100.00	4- Lime Stone/Very shelly sand
80	126.50	100.00	4- Lime Stone/Very shelly sand
81	128.90	0.00	2- Clay and silty sand
82	129.00	23.00	4- Lime Stone/Very shelly sand
83	131.50	31.00	4- Lime Stone/Very shelly sand
84	133.90	0.00	2- Clay and silty sand
85	134.00	62.00	4- Lime Stone/Very shelly sand
86	136.40	0.00	2- Clay and silty sand
87	136.50	29.00	4- Lime Stone/Very shelly sand
88	139.00	20.00	4- Lime Stone/Very shelly sand
89	139.10	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	69.60	58.10	11.50	5.17	3-Clean Sand
2	58.10	55.60	2.50	9.00	2-Clay and Silty Sand
3	55.60	52.20	3.40	12.00	1-Plastic Clay
4	52.20	52.10	0.10	0.00	2-Clay and Silty Sand
5	52.10	50.60	1.50	6.00	1-Plastic Clay
6	50.60	48.20	2.40	4.00	4-Limestone, Very Shelly Sand
7	48.20	48.10	0.10	0.00	2-Clay and Silty Sand
8	48.10	40.70	7.40	13.34	4-Limestone, Very Shelly Sand
9	40.70	40.60	0.10	0.00	2-Clay and Silty Sand
10	40.60	38.20	2.40	30.00	4-Limestone, Very Shelly Sand
11	38.20	38.10	0.10	0.00	2-Clay and Silty Sand
12	38.10	33.20	4.90	19.04	4-Limestone, Very Shelly Sand
13	33.20	33.10	0.10	0.00	2-Clay and Silty Sand
14	33.10	30.70	2.40	34.00	4-Limestone, Very Shelly Sand

15	30.70	30.60	0.10	0.00	2-Clay and Silty Sand
16	30.60	28.20	2.40	18.00	4-Limestone, Very Shelly Sand
17	28.20	28.10	0.10	0.00	2-Clay and Silty Sand
18	28.10	25.70	2.40	29.00	4-Limestone, Very Shelly Sand
19	25.70	25.60	0.10	0.00	2-Clay and Silty Sand
20	25.60	23.20	2.40	13.00	4-Limestone, Very Shelly Sand
21	23.20	23.10	0.10	0.00	2-Clay and Silty Sand
22	23.10	20.70	2.40	100.00	4-Limestone, Very Shelly Sand
23	20.70	20.60	0.10	0.00	2-Clay and Silty Sand
24	20.60	18.20	2.40	65.00	4-Limestone, Very Shelly Sand
25	18.20	18.10	0.10	0.00	2-Clay and Silty Sand
26	18.10	13.20	4.90	100.00	4-Limestone, Very Shelly Sand
27	13.20	13.10	0.10	0.00	2-Clay and Silty Sand
28	13.10	10.70	2.40	21.00	4-Limestone, Very Shelly Sand
29	10.70	10.60	0.10	0.00	2-Clay and Silty Sand
30	10.60	8.20	2.40	100.00	4-Limestone, Very Shelly Sand
31	8.20	8.10	0.10	0.00	2-Clay and Silty Sand
32	8.10	-1.80	9.90	18.27	4-Limestone, Very Shelly Sand
33	-1.80	-1.90	0.10	0.00	2-Clay and Silty Sand
34	-1.90	-4.30	2.40	100.00	4-Limestone, Very Shelly Sand
35	-4.30	-4.40	0.10	0.00	2-Clay and Silty Sand
36	-4.40	-14.30	9.90	33.02	4-Limestone, Very Shelly Sand
37	-14.30	-14.40	0.10	0.00	2-Clay and Silty Sand
38	-14.40	-16.80	2.40	72.00	4-Limestone, Very Shelly Sand
39	-16.80	-16.90	0.10	0.00	2-Clay and Silty Sand
40	-16.90	-19.30	2.40	37.00	4-Limestone, Very Shelly Sand
41	-19.30	-19.40	0.10	0.00	2-Clay and Silty Sand
42	-19.40	-21.80	2.40	70.00	4-Limestone, Very Shelly Sand
43	-21.80	-21.90	0.10	0.00	2-Clay and Silty Sand
44	-21.90	-24.30	2.40	100.00	4-Limestone, Very Shelly Sand
45	-24.30	-24.40	0.10	0.00	2-Clay and Silty Sand
46	-24.40	-26.80	2.40	64.00	4-Limestone, Very Shelly Sand
47	-26.80	-26.90	0.10	0.00	2-Clay and Silty Sand
48	-26.90	-41.80	14.90	39.69	4-Limestone, Very

Shelly Sand					
49	-41.80	-41.90	0.10	0.00	2-Clay and Silty Sand
50	-41.90	-46.80	4.90	57.90	4-Limestone, Very
Shelly Sand					
51	-46.80	-46.90	0.10	0.00	2-Clay and Silty Sand
52	-46.90	-49.30	2.40	26.00	4-Limestone, Very
Shelly Sand					
53	-49.30	-49.40	0.10	0.00	2-Clay and Silty Sand
54	-49.40	-51.80	2.40	42.00	4-Limestone, Very
Shelly Sand					
55	-51.80	-51.90	0.10	0.00	2-Clay and Silty Sand
56	-51.90	-54.30	2.40	64.00	4-Limestone, Very
Shelly Sand					
57	-54.30	-54.40	0.10	0.00	2-Clay and Silty Sand
58	-54.40	-59.30	4.90	100.00	4-Limestone, Very
Shelly Sand					
59	-59.30	-59.40	0.10	0.00	2-Clay and Silty Sand
60	-59.40	-64.30	4.90	26.92	4-Limestone, Very
Shelly Sand					
61	-64.30	-64.40	0.10	0.00	2-Clay and Silty Sand
62	-64.40	-66.80	2.40	62.00	4-Limestone, Very
Shelly Sand					
63	-66.80	-66.90	0.10	0.00	2-Clay and Silty Sand
64	-66.90	-69.50	2.60	28.65	4-Limestone, Very
Shelly Sand					
65	-69.50	-69.50	0.00	0.00	5-

Driven Pile Data:
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Pile unit weight = 150.00(pcf), Section Type: Square

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)
24.00	5.00	64.60
24.00	7.00	62.60
24.00	9.00	60.60
24.00	11.00	58.60
24.00	13.00	56.60
24.00	15.00	54.60
24.00	17.00	52.60
24.00	19.00	50.60
24.00	21.00	48.60
24.00	23.00	46.60
24.00	25.00	44.60
24.00	27.00	42.60
24.00	29.00	40.60

24.00	31.00	38.60
24.00	33.00	36.60
24.00	35.00	34.60
24.00	37.00	32.60
24.00	39.00	30.60
24.00	41.00	28.60
24.00	43.00	26.60
24.00	45.00	24.60
24.00	47.00	22.60
24.00	49.00	20.60
24.00	51.00	18.60
24.00	53.00	16.60
24.00	55.00	14.60
24.00	57.00	12.60
24.00	59.00	10.60
24.00	61.00	8.60
24.00	63.00	6.60
24.00	65.00	4.60
24.00	67.00	2.60
24.00	69.00	0.60
24.00	71.00	-1.40
24.00	73.00	-3.40
24.00	75.00	-5.40
24.00	77.00	-7.40
24.00	79.00	-9.40
24.00	81.00	-11.40
24.00	83.00	-13.40
24.00	85.00	-15.40
24.00	87.00	-17.40
24.00	89.00	-19.40
24.00	91.00	-21.40
24.00	93.00	-23.40
24.00	95.00	-25.40
24.00	97.00	-27.40
24.00	99.00	-29.40
24.00	101.00	-31.40
24.00	103.00	-33.40
24.00	105.00	-35.40
24.00	107.00	-37.40
24.00	109.00	-39.40
24.00	111.00	-41.40
24.00	113.00	-43.40
24.00	115.00	-45.40
24.00	117.00	-47.40
24.00	119.00	-49.40
24.00	121.00	-51.40
24.00	123.00	-53.40
24.00	125.00	-55.40
24.00	127.00	-57.40
24.00	129.00	-59.40

24.00	131.00	-61.40
24.00	133.00	-63.40
24.00	135.00	-65.40
24.00	137.00	-67.40
24.00	139.00	-69.40
24.00	141.00	-71.40
24.00	143.00	-73.40
24.00	145.00	-75.40
24.00	147.00	-77.40
24.00	149.00	-79.40

Driven Pile Capacity:
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Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
5.00	24.0	4.67	26.77	31.44	15.72	84.97
7.00	24.0	6.64	25.71	32.35	16.18	83.77
9.00	24.0	8.81	23.18	32.00	16.00	78.36
11.00	24.0	11.71	19.91	31.62	15.81	71.45
13.00	24.0	19.98	18.20	38.18	19.09	74.58
15.00	24.0	29.80	17.43	47.23	23.62	82.10
17.00	24.0	34.75	16.74	51.49	25.75	84.97
19.00	24.0	37.62	38.69	76.31	38.16	153.70
21.00	24.0	38.08	42.26	80.34	40.17	164.85
23.00	24.0	40.33	49.95	90.28	45.14	190.17
25.00	24.0	42.65	54.85	97.50	48.75	207.20
27.00	24.0	45.08	58.72	103.80	51.90	221.24
29.00	24.0	46.19	66.09	112.28	56.14	244.46
31.00	24.0	49.67	61.58	111.25	55.62	234.41
33.00	24.0	52.82	55.74	108.55	54.28	220.03
35.00	24.0	55.92	56.98	112.90	56.45	226.86
37.00	24.0	58.28	52.09	110.38	55.19	214.56
39.00	24.0	60.91	68.42	129.33	64.66	266.16
41.00	24.0	62.99	102.63	165.62	82.81	370.88
43.00	24.0	66.16	134.86	201.03	100.51	470.75
45.00	24.0	67.73	216.85	284.58	142.29	718.28
47.00	24.0	72.24	288.33	360.57	180.29	937.23
49.00	24.0	78.58	272.06	350.64	175.32	894.75
51.00	24.0	86.11	233.44	319.55	159.77	786.42
53.00	24.0	98.72	210.02	308.74	154.37	728.79
55.00	24.0	113.05	124.52	237.57	118.79	486.60
57.00	24.0	117.36	110.96	228.31	114.16	450.23
59.00	24.0	119.33	121.68	241.01	120.50	484.38

61.00	24.0	128.66	74.71	203.37	101.69	352.79
63.00	24.0	131.80	67.19	198.99	99.50	333.38
65.00	24.0	134.73	114.05	248.78	124.39	476.88
67.00	24.0	138.82	120.61	259.43	129.72	500.66
69.00	24.0	142.55	133.38	275.92	137.96	542.67
71.00	24.0	144.40	163.98	308.37	154.19	636.33
73.00	24.0	153.10	143.54	296.64	148.32	583.73
75.00	24.0	157.79	141.79	299.57	149.79	583.15
77.00	24.0	163.63	153.29	316.92	158.46	623.51
79.00	24.0	170.61	143.57	314.18	157.09	601.32
81.00	24.0	177.83	120.07	297.90	148.95	538.03
83.00	24.0	182.59	148.32	330.91	165.45	627.56
85.00	24.0	189.12	167.70	356.82	178.41	692.22
87.00	24.0	193.86	182.04	375.90	187.95	739.98
89.00	24.0	196.97	194.00	390.96	195.48	778.96
91.00	24.0	205.07	178.72	383.79	191.89	741.22
93.00	24.0	213.95	156.66	370.61	185.31	683.94
95.00	24.0	220.64	164.62	385.27	192.63	714.52
97.00	24.0	225.47	186.34	411.81	205.90	784.49
99.00	24.0	232.37	195.36	427.73	213.87	818.46
101.00	24.0	239.51	197.77	437.28	218.64	832.82
103.00	24.0	248.32	168.88	417.21	208.60	754.97
105.00	24.0	257.01	172.21	429.22	214.61	773.64
107.00	24.0	265.26	195.31	460.57	230.28	851.18
109.00	24.0	272.80	175.20	448.00	224.00	798.40
111.00	24.0	276.96	163.08	440.04	220.02	766.21
113.00	24.0	285.68	136.57	422.25	211.13	695.40
115.00	24.0	296.68	110.78	407.46	203.73	629.02
117.00	24.0	300.51	154.25	454.76	227.38	763.25
119.00	24.0	302.66	254.06	556.72	278.36	1064.85
121.00	24.0	307.52	268.97	576.49	288.25	1114.43
123.00	24.0	314.52	251.56	566.09	283.04	1069.22
125.00	24.0	324.00	210.56	534.55	267.28	955.66
127.00	24.0	339.58	135.59	475.17	237.58	746.35
129.00	24.0	345.71	116.82	462.53	231.26	696.16
131.00	24.0	350.91	113.69	464.60	232.30	691.97
133.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone				
135.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone				
137.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone				
139.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone				
141.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone				
143.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone				
145.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone				
147.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone				
149.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone				

NOTES

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1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.

2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.

3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.

4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
   EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

General Information:
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Input file: .....il PD&E Study\Geotechnical\6 Miscellaneous\FB-Deep\SPT-3_H.spc
Project number: 4037G
Job name: South Sumter
Engineer: BMM/DCS
Units: English

Analysis Information:
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Analysis Type: SPT

Soil Information:
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Boring date: , Boring Number: SPT-3
Station number: Offset:

Ground Elevation: 69.600(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	5.00	3- Clean sand
2	2.00	5.00	3- Clean sand
3	4.00	5.00	3- Clean sand
4	6.00	5.00	3- Clean sand
5	8.00	6.00	3- Clean sand
6	10.00	5.00	3- Clean sand
7	11.50	9.00	2- Clay and silty sand
8	14.00	12.00	1- Plastic Clay
9	17.40	0.00	2- Clay and silty sand
10	17.50	6.00	1- Plastic Clay
11	19.00	4.00	4- Lime Stone/Very shelly sand
12	21.40	0.00	2- Clay and silty sand
13	21.50	16.00	4- Lime Stone/Very shelly sand
14	24.00	11.00	4- Lime Stone/Very shelly sand
15	26.50	13.00	4- Lime Stone/Very shelly sand
16	28.90	0.00	2- Clay and silty sand
17	29.00	30.00	4- Lime Stone/Very shelly sand
18	31.40	0.00	2- Clay and silty sand
19	31.50	21.00	4- Lime Stone/Very shelly sand

20	34.00	17.00	4- Lime Stone/Very shelly sand
21	36.40	0.00	2- Clay and silty sand
22	36.50	34.00	4- Lime Stone/Very shelly sand
23	38.90	0.00	2- Clay and silty sand
24	39.00	18.00	4- Lime Stone/Very shelly sand
25	41.40	0.00	2- Clay and silty sand
26	41.50	29.00	4- Lime Stone/Very shelly sand
27	43.90	0.00	2- Clay and silty sand
28	44.00	13.00	4- Lime Stone/Very shelly sand
29	46.40	0.00	2- Clay and silty sand
30	46.50	100.00	4- Lime Stone/Very shelly sand
31	48.90	0.00	2- Clay and silty sand
32	49.00	65.00	4- Lime Stone/Very shelly sand
33	51.40	0.00	2- Clay and silty sand
34	51.50	100.00	4- Lime Stone/Very shelly sand
35	54.00	100.00	4- Lime Stone/Very shelly sand
36	56.40	0.00	2- Clay and silty sand
37	56.50	21.00	4- Lime Stone/Very shelly sand
38	58.90	0.00	2- Clay and silty sand
39	59.00	100.00	4- Lime Stone/Very shelly sand
40	61.40	0.00	2- Clay and silty sand
41	61.50	21.00	4- Lime Stone/Very shelly sand
42	64.00	13.00	4- Lime Stone/Very shelly sand
43	66.50	23.00	4- Lime Stone/Very shelly sand
44	69.00	16.00	4- Lime Stone/Very shelly sand
45	71.40	0.00	2- Clay and silty sand
46	71.50	100.00	4- Lime Stone/Very shelly sand
47	73.90	0.00	2- Clay and silty sand
48	74.00	33.00	4- Lime Stone/Very shelly sand
49	76.50	28.00	4- Lime Stone/Very shelly sand
50	79.00	40.00	4- Lime Stone/Very shelly sand
51	81.50	31.00	4- Lime Stone/Very shelly sand
52	83.90	0.00	2- Clay and silty sand
53	84.00	72.00	4- Lime Stone/Very shelly sand
54	86.40	0.00	2- Clay and silty sand
55	86.50	37.00	4- Lime Stone/Very shelly sand
56	88.90	0.00	2- Clay and silty sand
57	89.00	70.00	4- Lime Stone/Very shelly sand
58	91.40	0.00	2- Clay and silty sand
59	91.50	100.00	4- Lime Stone/Very shelly sand
60	93.90	0.00	2- Clay and silty sand
61	94.00	64.00	4- Lime Stone/Very shelly sand
62	96.40	0.00	2- Clay and silty sand
63	96.50	42.00	4- Lime Stone/Very shelly sand
64	99.00	30.00	4- Lime Stone/Very shelly sand
65	101.50	45.00	4- Lime Stone/Very shelly sand
66	104.00	44.00	4- Lime Stone/Very shelly sand
67	106.50	41.00	4- Lime Stone/Very shelly sand
68	109.00	36.00	4- Lime Stone/Very shelly sand
69	111.40	0.00	2- Clay and silty sand

70	111.50	53.00	4- Lime Stone/Very shelly sand
71	114.00	63.00	4- Lime Stone/Very shelly sand
72	116.40	0.00	2- Clay and silty sand
73	116.50	26.00	4- Lime Stone/Very shelly sand
74	118.90	0.00	2- Clay and silty sand
75	119.00	42.00	4- Lime Stone/Very shelly sand
76	121.40	0.00	2- Clay and silty sand
77	121.50	64.00	4- Lime Stone/Very shelly sand
78	123.90	0.00	2- Clay and silty sand
79	124.00	100.00	4- Lime Stone/Very shelly sand
80	126.50	100.00	4- Lime Stone/Very shelly sand
81	128.90	0.00	2- Clay and silty sand
82	129.00	23.00	4- Lime Stone/Very shelly sand
83	131.50	31.00	4- Lime Stone/Very shelly sand
84	133.90	0.00	2- Clay and silty sand
85	134.00	62.00	4- Lime Stone/Very shelly sand
86	136.40	0.00	2- Clay and silty sand
87	136.50	29.00	4- Lime Stone/Very shelly sand
88	139.00	20.00	4- Lime Stone/Very shelly sand
89	139.10	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	69.60	58.10	11.50	5.17	3-Clean Sand
2	58.10	55.60	2.50	9.00	2-Clay and Silty Sand
3	55.60	52.20	3.40	12.00	1-Plastic Clay
4	52.20	52.10	0.10	0.00	2-Clay and Silty Sand
5	52.10	50.60	1.50	6.00	1-Plastic Clay
6	50.60	48.20	2.40	4.00	4-Limestone, Very Shelly Sand
7	48.20	48.10	0.10	0.00	2-Clay and Silty Sand
8	48.10	40.70	7.40	13.34	4-Limestone, Very Shelly Sand
9	40.70	40.60	0.10	0.00	2-Clay and Silty Sand
10	40.60	38.20	2.40	30.00	4-Limestone, Very Shelly Sand
11	38.20	38.10	0.10	0.00	2-Clay and Silty Sand
12	38.10	33.20	4.90	19.04	4-Limestone, Very Shelly Sand
13	33.20	33.10	0.10	0.00	2-Clay and Silty Sand
14	33.10	30.70	2.40	34.00	4-Limestone, Very Shelly Sand

15	30.70	30.60	0.10	0.00	2-Clay and Silty Sand
16	30.60	28.20	2.40	18.00	4-Limestone, Very Shelly Sand
17	28.20	28.10	0.10	0.00	2-Clay and Silty Sand
18	28.10	25.70	2.40	29.00	4-Limestone, Very Shelly Sand
19	25.70	25.60	0.10	0.00	2-Clay and Silty Sand
20	25.60	23.20	2.40	13.00	4-Limestone, Very Shelly Sand
21	23.20	23.10	0.10	0.00	2-Clay and Silty Sand
22	23.10	20.70	2.40	100.00	4-Limestone, Very Shelly Sand
23	20.70	20.60	0.10	0.00	2-Clay and Silty Sand
24	20.60	18.20	2.40	65.00	4-Limestone, Very Shelly Sand
25	18.20	18.10	0.10	0.00	2-Clay and Silty Sand
26	18.10	13.20	4.90	100.00	4-Limestone, Very Shelly Sand
27	13.20	13.10	0.10	0.00	2-Clay and Silty Sand
28	13.10	10.70	2.40	21.00	4-Limestone, Very Shelly Sand
29	10.70	10.60	0.10	0.00	2-Clay and Silty Sand
30	10.60	8.20	2.40	100.00	4-Limestone, Very Shelly Sand
31	8.20	8.10	0.10	0.00	2-Clay and Silty Sand
32	8.10	-1.80	9.90	18.27	4-Limestone, Very Shelly Sand
33	-1.80	-1.90	0.10	0.00	2-Clay and Silty Sand
34	-1.90	-4.30	2.40	100.00	4-Limestone, Very Shelly Sand
35	-4.30	-4.40	0.10	0.00	2-Clay and Silty Sand
36	-4.40	-14.30	9.90	33.02	4-Limestone, Very Shelly Sand
37	-14.30	-14.40	0.10	0.00	2-Clay and Silty Sand
38	-14.40	-16.80	2.40	72.00	4-Limestone, Very Shelly Sand
39	-16.80	-16.90	0.10	0.00	2-Clay and Silty Sand
40	-16.90	-19.30	2.40	37.00	4-Limestone, Very Shelly Sand
41	-19.30	-19.40	0.10	0.00	2-Clay and Silty Sand
42	-19.40	-21.80	2.40	70.00	4-Limestone, Very Shelly Sand
43	-21.80	-21.90	0.10	0.00	2-Clay and Silty Sand
44	-21.90	-24.30	2.40	100.00	4-Limestone, Very Shelly Sand
45	-24.30	-24.40	0.10	0.00	2-Clay and Silty Sand
46	-24.40	-26.80	2.40	64.00	4-Limestone, Very Shelly Sand
47	-26.80	-26.90	0.10	0.00	2-Clay and Silty Sand
48	-26.90	-41.80	14.90	39.69	4-Limestone, Very

Shelly Sand					
49	-41.80	-41.90	0.10	0.00	2-Clay and Silty Sand
50	-41.90	-46.80	4.90	57.90	4-Limestone, Very
Shelly Sand					
51	-46.80	-46.90	0.10	0.00	2-Clay and Silty Sand
52	-46.90	-49.30	2.40	26.00	4-Limestone, Very
Shelly Sand					
53	-49.30	-49.40	0.10	0.00	2-Clay and Silty Sand
54	-49.40	-51.80	2.40	42.00	4-Limestone, Very
Shelly Sand					
55	-51.80	-51.90	0.10	0.00	2-Clay and Silty Sand
56	-51.90	-54.30	2.40	64.00	4-Limestone, Very
Shelly Sand					
57	-54.30	-54.40	0.10	0.00	2-Clay and Silty Sand
58	-54.40	-59.30	4.90	100.00	4-Limestone, Very
Shelly Sand					
59	-59.30	-59.40	0.10	0.00	2-Clay and Silty Sand
60	-59.40	-64.30	4.90	26.92	4-Limestone, Very
Shelly Sand					
61	-64.30	-64.40	0.10	0.00	2-Clay and Silty Sand
62	-64.40	-66.80	2.40	62.00	4-Limestone, Very
Shelly Sand					
63	-66.80	-66.90	0.10	0.00	2-Clay and Silty Sand
64	-66.90	-69.50	2.60	28.65	4-Limestone, Very
Shelly Sand					
65	-69.50	-69.50	0.00	0.00	5-

Driven Pile Data:

Pile unit weight = 150.00(pcf), Section Type: H-Section

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)	Depth (in)
14.69	5.00	64.60	13.83
14.69	7.00	62.60	13.83
14.69	9.00	60.60	13.83
14.69	11.00	58.60	13.83
14.69	13.00	56.60	13.83
14.69	15.00	54.60	13.83
14.69	17.00	52.60	13.83
14.69	19.00	50.60	13.83
14.69	21.00	48.60	13.83
14.69	23.00	46.60	13.83
14.69	25.00	44.60	13.83
14.69	27.00	42.60	13.83
14.69	29.00	40.60	13.83

14.69	31.00	38.60	13.83
14.69	33.00	36.60	13.83
14.69	35.00	34.60	13.83
14.69	37.00	32.60	13.83
14.69	39.00	30.60	13.83
14.69	41.00	28.60	13.83
14.69	43.00	26.60	13.83
14.69	45.00	24.60	13.83
14.69	47.00	22.60	13.83
14.69	49.00	20.60	13.83
14.69	51.00	18.60	13.83
14.69	53.00	16.60	13.83
14.69	55.00	14.60	13.83
14.69	57.00	12.60	13.83
14.69	59.00	10.60	13.83
14.69	61.00	8.60	13.83
14.69	63.00	6.60	13.83
14.69	65.00	4.60	13.83
14.69	67.00	2.60	13.83
14.69	69.00	0.60	13.83
14.69	71.00	-1.40	13.83
14.69	73.00	-3.40	13.83
14.69	75.00	-5.40	13.83
14.69	77.00	-7.40	13.83
14.69	79.00	-9.40	13.83
14.69	81.00	-11.40	13.83
14.69	83.00	-13.40	13.83
14.69	85.00	-15.40	13.83
14.69	87.00	-17.40	13.83
14.69	89.00	-19.40	13.83
14.69	91.00	-21.40	13.83
14.69	93.00	-23.40	13.83
14.69	95.00	-25.40	13.83
14.69	97.00	-27.40	13.83
14.69	99.00	-29.40	13.83
14.69	101.00	-31.40	13.83
14.69	103.00	-33.40	13.83
14.69	105.00	-35.40	13.83
14.69	107.00	-37.40	13.83
14.69	109.00	-39.40	13.83
14.69	111.00	-41.40	13.83
14.69	113.00	-43.40	13.83
14.69	115.00	-45.40	13.83
14.69	117.00	-47.40	13.83
14.69	119.00	-49.40	13.83
14.69	121.00	-51.40	13.83
14.69	123.00	-53.40	13.83
14.69	125.00	-55.40	13.83
14.69	127.00	-57.40	13.83
14.69	129.00	-59.40	13.83

14.69	131.00	-61.40	13.83
14.69	133.00	-63.40	13.83
14.69	135.00	-65.40	13.83
14.69	137.00	-67.40	13.83
14.69	139.00	-69.40	13.83
14.69	141.00	-71.40	13.83
14.69	143.00	-73.40	13.83
14.69	145.00	-75.40	13.83
14.69	147.00	-77.40	13.83
14.69	149.00	-79.40	13.83

Driven Pile Capacity:
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Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
5.00	14.7	1.97	4.93	6.90	3.45	11.82
7.00	14.7	2.86	4.87	7.73	3.86	12.60
9.00	14.7	3.88	4.00	7.89	3.94	11.89
11.00	14.7	5.18	2.82	7.99	4.00	10.81
13.00	14.7	9.20	1.57	10.77	5.38	13.90
15.00	14.7	14.47	1.72	16.19	8.10	19.64
17.00	14.7	17.40	3.39	20.79	10.40	27.57
19.00	14.7	19.01	8.19	27.21	13.60	35.40
21.00	14.7	19.28	12.22	31.50	15.75	43.72
23.00	14.7	20.56	11.76	32.32	16.16	44.09
25.00	14.7	21.87	12.35	34.22	17.11	46.57
27.00	14.7	23.25	12.13	35.38	17.69	47.50
29.00	14.7	23.89	17.75	41.64	20.82	59.39
31.00	14.7	25.86	14.80	40.66	20.33	55.47
33.00	14.7	27.65	15.78	43.42	21.71	59.20
35.00	14.7	29.41	13.61	43.02	21.51	56.63
37.00	14.7	30.75	12.89	43.64	21.82	56.53
39.00	14.7	32.24	12.40	44.65	22.32	57.05
41.00	14.7	33.43	11.24	44.66	22.33	55.90
43.00	14.7	35.23	22.53	57.76	28.88	80.28
45.00	14.7	36.12	33.62	69.74	34.87	103.36
47.00	14.7	38.68	38.17	76.85	38.43	115.02
49.00	14.7	42.28	59.05	101.33	50.66	160.37
51.00	14.7	46.55	64.39	110.94	55.47	175.33
53.00	14.7	53.72	42.72	96.44	48.22	139.16
55.00	14.7	61.86	26.17	88.04	44.02	114.21
57.00	14.7	64.31	26.96	91.26	45.63	118.22
59.00	14.7	65.42	29.79	95.22	47.61	125.01

61.00	14.7	70.72	16.75	87.47	43.74	104.22
63.00	14.7	72.51	19.08	91.59	45.80	110.67
65.00	14.7	74.17	19.39	93.56	46.78	112.95
67.00	14.7	76.49	19.36	95.85	47.92	115.20
69.00	14.7	78.61	25.73	104.34	52.17	130.06
71.00	14.7	79.66	34.73	114.40	57.20	149.13
73.00	14.7	84.61	29.02	113.62	56.81	142.64
75.00	14.7	87.27	35.10	122.37	61.18	157.47
77.00	14.7	90.58	36.54	127.13	63.56	163.67
79.00	14.7	94.55	27.00	121.55	60.78	148.55
81.00	14.7	98.65	29.88	128.53	64.27	158.41
83.00	14.7	101.35	28.67	130.02	65.01	158.69
85.00	14.7	105.06	27.92	132.99	66.49	160.91
87.00	14.7	107.76	31.90	139.66	69.83	171.56
89.00	14.7	109.52	39.62	149.14	74.57	188.75
91.00	14.7	114.12	38.54	152.66	76.33	191.20
93.00	14.7	119.17	32.10	151.27	75.63	183.37
95.00	14.7	122.97	31.64	154.61	77.31	186.25
97.00	14.7	125.71	38.85	164.56	82.28	203.41
99.00	14.7	129.63	42.99	172.62	86.31	215.60
101.00	14.7	133.69	45.95	179.64	89.82	225.59
103.00	14.7	138.69	44.12	182.81	91.41	226.94
105.00	14.7	143.63	39.74	183.37	91.68	223.11
107.00	14.7	148.31	30.71	179.02	89.51	209.74
109.00	14.7	152.59	39.54	192.13	96.07	231.68
111.00	14.7	154.96	47.41	202.36	101.18	249.77
113.00	14.7	159.91	35.08	194.99	97.50	230.08
115.00	14.7	166.15	19.51	185.66	92.83	205.17
117.00	14.7	168.33	21.14	189.48	94.74	210.62
119.00	14.7	169.55	27.95	197.51	98.75	225.46
121.00	14.7	172.31	51.13	223.45	111.72	274.58
123.00	14.7	176.29	63.53	239.82	119.91	303.35
125.00	14.7	181.67	51.63	233.30	116.65	284.93
127.00	14.7	190.52	30.15	220.67	110.33	250.81
129.00	14.7	194.01	22.44	216.45	108.22	238.89
131.00	14.7	196.96	27.13	224.09	112.04	251.21
133.00	14.7	199.61	25.98	225.59	112.80	251.58
135.00	14.7 Soil Elevations Must Extend At or Below Contribution Zone					
137.00	14.7 Soil Elevations Must Extend At or Below Contribution Zone					
139.00	14.7 Soil Elevations Must Extend At or Below Contribution Zone					
141.00	14.7 Soil Elevations Must Extend At or Below Contribution Zone					
143.00	14.7 Soil Elevations Must Extend At or Below Contribution Zone					
145.00	14.7 Soil Elevations Must Extend At or Below Contribution Zone					
147.00	14.7 Soil Elevations Must Extend At or Below Contribution Zone					
149.00	14.7 Soil Elevations Must Extend At or Below Contribution Zone					

NOTES

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1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.

2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.

3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.

4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
   EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

Florida Bridge Software Institute
Shaft and Pile Analysis (FB-Deep v.2.05)

Date: February 06, 2020
Time: 09:12:07

General Information:
==========
Input file: .....PD&E Study\Geotechnical\6 Miscellaneous\FB-Deep\SPT-3_Pipe.spc
Project number: 4037G
Job name: South Sumter
Engineer: BMM/DCS
Units: English

Analysis Information:
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Analysis Type: SPT

Soil Information:
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Boring date: , Boring Number: SPT-3
Station number: Offset:

Ground Elevation: 69.600(ft)

Hammer type: Automatic Hammer, Correction factor = 1.24

ID	Depth (ft)	No. of Blows (Blows/ft)	Soil Type
1	0.00	5.00	3- Clean sand
2	2.00	5.00	3- Clean sand
3	4.00	5.00	3- Clean sand
4	6.00	5.00	3- Clean sand
5	8.00	6.00	3- Clean sand
6	10.00	5.00	3- Clean sand
7	11.50	9.00	2- Clay and silty sand
8	14.00	12.00	1- Plastic Clay
9	17.40	0.00	2- Clay and silty sand
10	17.50	6.00	1- Plastic Clay
11	19.00	4.00	4- Lime Stone/Very shelly sand
12	21.40	0.00	2- Clay and silty sand
13	21.50	16.00	4- Lime Stone/Very shelly sand
14	24.00	11.00	4- Lime Stone/Very shelly sand
15	26.50	13.00	4- Lime Stone/Very shelly sand
16	28.90	0.00	2- Clay and silty sand
17	29.00	30.00	4- Lime Stone/Very shelly sand
18	31.40	0.00	2- Clay and silty sand
19	31.50	21.00	4- Lime Stone/Very shelly sand

20	34.00	17.00	4- Lime Stone/Very shelly sand
21	36.40	0.00	2- Clay and silty sand
22	36.50	34.00	4- Lime Stone/Very shelly sand
23	38.90	0.00	2- Clay and silty sand
24	39.00	18.00	4- Lime Stone/Very shelly sand
25	41.40	0.00	2- Clay and silty sand
26	41.50	29.00	4- Lime Stone/Very shelly sand
27	43.90	0.00	2- Clay and silty sand
28	44.00	13.00	4- Lime Stone/Very shelly sand
29	46.40	0.00	2- Clay and silty sand
30	46.50	100.00	4- Lime Stone/Very shelly sand
31	48.90	0.00	2- Clay and silty sand
32	49.00	65.00	4- Lime Stone/Very shelly sand
33	51.40	0.00	2- Clay and silty sand
34	51.50	100.00	4- Lime Stone/Very shelly sand
35	54.00	100.00	4- Lime Stone/Very shelly sand
36	56.40	0.00	2- Clay and silty sand
37	56.50	21.00	4- Lime Stone/Very shelly sand
38	58.90	0.00	2- Clay and silty sand
39	59.00	100.00	4- Lime Stone/Very shelly sand
40	61.40	0.00	2- Clay and silty sand
41	61.50	21.00	4- Lime Stone/Very shelly sand
42	64.00	13.00	4- Lime Stone/Very shelly sand
43	66.50	23.00	4- Lime Stone/Very shelly sand
44	69.00	16.00	4- Lime Stone/Very shelly sand
45	71.40	0.00	2- Clay and silty sand
46	71.50	100.00	4- Lime Stone/Very shelly sand
47	73.90	0.00	2- Clay and silty sand
48	74.00	33.00	4- Lime Stone/Very shelly sand
49	76.50	28.00	4- Lime Stone/Very shelly sand
50	79.00	40.00	4- Lime Stone/Very shelly sand
51	81.50	31.00	4- Lime Stone/Very shelly sand
52	83.90	0.00	2- Clay and silty sand
53	84.00	72.00	4- Lime Stone/Very shelly sand
54	86.40	0.00	2- Clay and silty sand
55	86.50	37.00	4- Lime Stone/Very shelly sand
56	88.90	0.00	2- Clay and silty sand
57	89.00	70.00	4- Lime Stone/Very shelly sand
58	91.40	0.00	2- Clay and silty sand
59	91.50	100.00	4- Lime Stone/Very shelly sand
60	93.90	0.00	2- Clay and silty sand
61	94.00	64.00	4- Lime Stone/Very shelly sand
62	96.40	0.00	2- Clay and silty sand
63	96.50	42.00	4- Lime Stone/Very shelly sand
64	99.00	30.00	4- Lime Stone/Very shelly sand
65	101.50	45.00	4- Lime Stone/Very shelly sand
66	104.00	44.00	4- Lime Stone/Very shelly sand
67	106.50	41.00	4- Lime Stone/Very shelly sand
68	109.00	36.00	4- Lime Stone/Very shelly sand
69	111.40	0.00	2- Clay and silty sand

70	111.50	53.00	4- Lime Stone/Very shelly sand
71	114.00	63.00	4- Lime Stone/Very shelly sand
72	116.40	0.00	2- Clay and silty sand
73	116.50	26.00	4- Lime Stone/Very shelly sand
74	118.90	0.00	2- Clay and silty sand
75	119.00	42.00	4- Lime Stone/Very shelly sand
76	121.40	0.00	2- Clay and silty sand
77	121.50	64.00	4- Lime Stone/Very shelly sand
78	123.90	0.00	2- Clay and silty sand
79	124.00	100.00	4- Lime Stone/Very shelly sand
80	126.50	100.00	4- Lime Stone/Very shelly sand
81	128.90	0.00	2- Clay and silty sand
82	129.00	23.00	4- Lime Stone/Very shelly sand
83	131.50	31.00	4- Lime Stone/Very shelly sand
84	133.90	0.00	2- Clay and silty sand
85	134.00	62.00	4- Lime Stone/Very shelly sand
86	136.40	0.00	2- Clay and silty sand
87	136.50	29.00	4- Lime Stone/Very shelly sand
88	139.00	20.00	4- Lime Stone/Very shelly sand
89	139.10	0.00	5- Cavity layer

Blowcount Average Per Soil Layer

Layer Num.	Starting Elevation (ft)	Bottom Elevation (ft)	Thickness (ft)	Average Blowcount (Blows/ft)	Soil Type
1	69.60	58.10	11.50	5.17	3-Clean Sand
2	58.10	55.60	2.50	9.00	2-Clay and Silty Sand
3	55.60	52.20	3.40	12.00	1-Plastic Clay
4	52.20	52.10	0.10	0.00	2-Clay and Silty Sand
5	52.10	50.60	1.50	6.00	1-Plastic Clay
6	50.60	48.20	2.40	4.00	4-Limestone, Very Shelly Sand
7	48.20	48.10	0.10	0.00	2-Clay and Silty Sand
8	48.10	40.70	7.40	13.34	4-Limestone, Very Shelly Sand
9	40.70	40.60	0.10	0.00	2-Clay and Silty Sand
10	40.60	38.20	2.40	30.00	4-Limestone, Very Shelly Sand
11	38.20	38.10	0.10	0.00	2-Clay and Silty Sand
12	38.10	33.20	4.90	19.04	4-Limestone, Very Shelly Sand
13	33.20	33.10	0.10	0.00	2-Clay and Silty Sand
14	33.10	30.70	2.40	34.00	4-Limestone, Very Shelly Sand

15	30.70	30.60	0.10	0.00	2-Clay and Silty Sand
16	30.60	28.20	2.40	18.00	4-Limestone, Very Shelly Sand
17	28.20	28.10	0.10	0.00	2-Clay and Silty Sand
18	28.10	25.70	2.40	29.00	4-Limestone, Very Shelly Sand
19	25.70	25.60	0.10	0.00	2-Clay and Silty Sand
20	25.60	23.20	2.40	13.00	4-Limestone, Very Shelly Sand
21	23.20	23.10	0.10	0.00	2-Clay and Silty Sand
22	23.10	20.70	2.40	100.00	4-Limestone, Very Shelly Sand
23	20.70	20.60	0.10	0.00	2-Clay and Silty Sand
24	20.60	18.20	2.40	65.00	4-Limestone, Very Shelly Sand
25	18.20	18.10	0.10	0.00	2-Clay and Silty Sand
26	18.10	13.20	4.90	100.00	4-Limestone, Very Shelly Sand
27	13.20	13.10	0.10	0.00	2-Clay and Silty Sand
28	13.10	10.70	2.40	21.00	4-Limestone, Very Shelly Sand
29	10.70	10.60	0.10	0.00	2-Clay and Silty Sand
30	10.60	8.20	2.40	100.00	4-Limestone, Very Shelly Sand
31	8.20	8.10	0.10	0.00	2-Clay and Silty Sand
32	8.10	-1.80	9.90	18.27	4-Limestone, Very Shelly Sand
33	-1.80	-1.90	0.10	0.00	2-Clay and Silty Sand
34	-1.90	-4.30	2.40	100.00	4-Limestone, Very Shelly Sand
35	-4.30	-4.40	0.10	0.00	2-Clay and Silty Sand
36	-4.40	-14.30	9.90	33.02	4-Limestone, Very Shelly Sand
37	-14.30	-14.40	0.10	0.00	2-Clay and Silty Sand
38	-14.40	-16.80	2.40	72.00	4-Limestone, Very Shelly Sand
39	-16.80	-16.90	0.10	0.00	2-Clay and Silty Sand
40	-16.90	-19.30	2.40	37.00	4-Limestone, Very Shelly Sand
41	-19.30	-19.40	0.10	0.00	2-Clay and Silty Sand
42	-19.40	-21.80	2.40	70.00	4-Limestone, Very Shelly Sand
43	-21.80	-21.90	0.10	0.00	2-Clay and Silty Sand
44	-21.90	-24.30	2.40	100.00	4-Limestone, Very Shelly Sand
45	-24.30	-24.40	0.10	0.00	2-Clay and Silty Sand
46	-24.40	-26.80	2.40	64.00	4-Limestone, Very Shelly Sand
47	-26.80	-26.90	0.10	0.00	2-Clay and Silty Sand
48	-26.90	-41.80	14.90	39.69	4-Limestone, Very

Shelly Sand					
49	-41.80	-41.90	0.10	0.00	2-Clay and Silty Sand
50	-41.90	-46.80	4.90	57.90	4-Limestone, Very
Shelly Sand					
51	-46.80	-46.90	0.10	0.00	2-Clay and Silty Sand
52	-46.90	-49.30	2.40	26.00	4-Limestone, Very
Shelly Sand					
53	-49.30	-49.40	0.10	0.00	2-Clay and Silty Sand
54	-49.40	-51.80	2.40	42.00	4-Limestone, Very
Shelly Sand					
55	-51.80	-51.90	0.10	0.00	2-Clay and Silty Sand
56	-51.90	-54.30	2.40	64.00	4-Limestone, Very
Shelly Sand					
57	-54.30	-54.40	0.10	0.00	2-Clay and Silty Sand
58	-54.40	-59.30	4.90	100.00	4-Limestone, Very
Shelly Sand					
59	-59.30	-59.40	0.10	0.00	2-Clay and Silty Sand
60	-59.40	-64.30	4.90	26.92	4-Limestone, Very
Shelly Sand					
61	-64.30	-64.40	0.10	0.00	2-Clay and Silty Sand
62	-64.40	-66.80	2.40	62.00	4-Limestone, Very
Shelly Sand					
63	-66.80	-66.90	0.10	0.00	2-Clay and Silty Sand
64	-66.90	-69.50	2.60	28.65	4-Limestone, Very
Shelly Sand					
65	-69.50	-69.50	0.00	0.00	5-

Driven Pile Data:
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Pile unit weight = 150.00(pcf), Section Type: Pipe

Pile Geometry:

Width (in)	Length (ft)	Tip Elev. (ft)	Thickness (in)	Pile End
24.00	5.00	64.60	0.50	OPEN
24.00	7.00	62.60	0.50	OPEN
24.00	9.00	60.60	0.50	OPEN
24.00	11.00	58.60	0.50	OPEN
24.00	13.00	56.60	0.50	OPEN
24.00	15.00	54.60	0.50	OPEN
24.00	17.00	52.60	0.50	OPEN
24.00	19.00	50.60	0.50	OPEN
24.00	21.00	48.60	0.50	OPEN
24.00	23.00	46.60	0.50	OPEN
24.00	25.00	44.60	0.50	OPEN
24.00	27.00	42.60	0.50	OPEN
24.00	29.00	40.60	0.50	OPEN

24.00	31.00	38.60	0.50 OPEN
24.00	33.00	36.60	0.50 OPEN
24.00	35.00	34.60	0.50 OPEN
24.00	37.00	32.60	0.50 OPEN
24.00	39.00	30.60	0.50 OPEN
24.00	41.00	28.60	0.50 OPEN
24.00	43.00	26.60	0.50 OPEN
24.00	45.00	24.60	0.50 OPEN
24.00	47.00	22.60	0.50 OPEN
24.00	49.00	20.60	0.50 OPEN
24.00	51.00	18.60	0.50 OPEN
24.00	53.00	16.60	0.50 OPEN
24.00	55.00	14.60	0.50 OPEN
24.00	57.00	12.60	0.50 OPEN
24.00	59.00	10.60	0.50 OPEN
24.00	61.00	8.60	0.50 OPEN
24.00	63.00	6.60	0.50 OPEN
24.00	65.00	4.60	0.50 OPEN
24.00	67.00	2.60	0.50 OPEN
24.00	69.00	0.60	0.50 OPEN
24.00	71.00	-1.40	0.50 OPEN
24.00	73.00	-3.40	0.50 OPEN
24.00	75.00	-5.40	0.50 OPEN
24.00	77.00	-7.40	0.50 OPEN
24.00	79.00	-9.40	0.50 OPEN
24.00	81.00	-11.40	0.50 OPEN
24.00	83.00	-13.40	0.50 OPEN
24.00	85.00	-15.40	0.50 OPEN
24.00	87.00	-17.40	0.50 OPEN
24.00	89.00	-19.40	0.50 OPEN
24.00	91.00	-21.40	0.50 OPEN
24.00	93.00	-23.40	0.50 OPEN
24.00	95.00	-25.40	0.50 OPEN
24.00	97.00	-27.40	0.50 OPEN
24.00	99.00	-29.40	0.50 OPEN
24.00	101.00	-31.40	0.50 OPEN
24.00	103.00	-33.40	0.50 OPEN
24.00	105.00	-35.40	0.50 OPEN
24.00	107.00	-37.40	0.50 OPEN
24.00	109.00	-39.40	0.50 OPEN
24.00	111.00	-41.40	0.50 OPEN
24.00	113.00	-43.40	0.50 OPEN
24.00	115.00	-45.40	0.50 OPEN
24.00	117.00	-47.40	0.50 OPEN
24.00	119.00	-49.40	0.50 OPEN
24.00	121.00	-51.40	0.50 OPEN
24.00	123.00	-53.40	0.50 OPEN
24.00	125.00	-55.40	0.50 OPEN
24.00	127.00	-57.40	0.50 OPEN
24.00	129.00	-59.40	0.50 OPEN

24.00	131.00	-61.40	0.50 OPEN
24.00	133.00	-63.40	0.50 OPEN
24.00	135.00	-65.40	0.50 OPEN
24.00	137.00	-67.40	0.50 OPEN
24.00	139.00	-69.40	0.50 OPEN
24.00	141.00	-71.40	0.50 OPEN
24.00	143.00	-73.40	0.50 OPEN
24.00	145.00	-75.40	0.50 OPEN
24.00	147.00	-77.40	0.50 OPEN
24.00	149.00	-79.40	0.50 OPEN

Driven Pile Capacity:
==========

Test Pile Length (ft)	Pile Width (in)	Ultimate Side Friction (tons)	Mobilized End Bearing (tons)	Estimated Davisson Capacity (tons)	Allowable Pile Capacity (tons)	Ultimate Pile Capacity (tons)
5.00	24.0	6.77	1.72	8.48	4.24	11.91
7.00	24.0	9.63	1.65	11.28	5.64	14.58
9.00	24.0	12.84	1.49	14.33	7.16	17.30
11.00	24.0	16.95	1.28	18.23	9.12	20.79
13.00	24.0	13.28	10.02	23.30	11.65	43.34
15.00	24.0	20.49	9.06	29.55	14.78	47.68
17.00	24.0	22.22	15.24	37.46	18.73	67.94
19.00	24.0	51.26	3.43	54.69	27.34	61.55
21.00	24.0	51.97	2.57	54.54	27.27	59.69
23.00	24.0	55.24	2.76	58.00	29.00	63.53
25.00	24.0	58.44	2.82	61.27	30.63	66.91
27.00	24.0	60.84	3.12	63.96	31.98	70.19
29.00	24.0	64.45	3.84	68.29	34.15	75.98
31.00	24.0	69.46	3.89	73.35	36.67	81.13
33.00	24.0	74.63	4.15	78.78	39.39	87.07
35.00	24.0	79.40	4.16	83.56	41.78	91.88
37.00	24.0	83.04	4.33	87.38	43.69	96.04
39.00	24.0	44.47	45.96	90.43	45.22	182.36
41.00	24.0	45.90	47.20	93.09	46.55	187.48
43.00	24.0	95.03	4.66	99.68	49.84	109.00
45.00	24.0	97.48	4.98	102.46	51.23	112.42
47.00	24.0	104.35	6.34	110.69	55.34	123.36
49.00	24.0	114.26	6.84	121.10	60.55	134.77
51.00	24.0	125.83	6.54	132.37	66.19	145.45
53.00	24.0	145.24	6.35	151.59	75.80	164.30
55.00	24.0	85.42	71.54	156.96	78.48	300.04
57.00	24.0	88.80	74.45	163.25	81.63	312.16
59.00	24.0	90.35	78.63	168.97	84.49	326.23

61.00	24.0	97.33	79.33	176.66	88.33	335.33
63.00	24.0	100.14	83.89	184.03	92.02	351.82
65.00	24.0	102.45	82.26	184.71	92.36	349.24
67.00	24.0	105.65	78.32	183.98	91.99	340.62
69.00	24.0	108.58	80.18	188.76	94.38	349.13
71.00	24.0	110.04	84.49	194.53	97.26	363.50
73.00	24.0	116.59	87.80	204.39	102.19	379.98
75.00	24.0	120.49	97.37	217.87	108.93	412.61
77.00	24.0	125.14	91.17	216.31	108.15	398.64
79.00	24.0	130.63	89.92	220.55	110.27	400.39
81.00	24.0	136.30	85.62	221.92	110.96	393.17
83.00	24.0	140.03	83.06	223.09	111.55	389.22
85.00	24.0	145.16	81.83	226.99	113.49	390.64
87.00	24.0	148.89	83.40	232.29	116.14	399.09
89.00	24.0	151.33	86.13	237.46	118.73	409.71
91.00	24.0	157.54	86.50	244.04	122.02	417.05
93.00	24.0	164.62	90.41	255.03	127.52	435.84
95.00	24.0	169.89	94.83	264.73	132.36	454.39
97.00	24.0	173.71	101.02	274.73	137.37	476.78
99.00	24.0	178.94	101.68	280.62	140.31	483.98
101.00	24.0	184.10	103.53	287.63	143.82	494.69
103.00	24.0	190.60	105.41	296.01	148.01	506.83
105.00	24.0	197.91	103.52	301.43	150.71	508.47
107.00	24.0	203.57	108.20	311.77	155.89	528.18
109.00	24.0	209.67	105.78	315.45	157.72	527.01
111.00	24.0	213.02	104.40	317.42	158.71	526.21
113.00	24.0	221.00	100.44	321.44	160.72	522.31
115.00	24.0	229.64	91.24	320.88	160.44	503.35
117.00	24.0	232.65	87.38	320.03	160.01	494.78
119.00	24.0	234.34	98.92	333.26	166.63	531.10
121.00	24.0	238.03	99.54	337.57	168.79	536.66
123.00	24.0	243.66	98.16	341.82	170.91	538.14
125.00	24.0	251.09	98.58	349.67	174.84	546.83
127.00	24.0	263.33	88.13	351.46	175.73	527.73
129.00	24.0	268.15	88.23	356.38	178.19	532.84
131.00	24.0	272.23	83.55	355.78	177.89	522.88
133.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone				
135.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone				
137.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone				
139.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone				
141.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone				
143.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone				
145.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone				
147.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone				
149.00	24.0	Soil Elevations Must Extend At or Below Contribution Zone				

NOTES

1. MOBILIZED END BEARING IS 1/3 OF THE ORIGINAL RB-121 VALUES.

2. DAVISSON PILE CAPACITY IS AN ESTIMATE BASED ON FAILURE CRITERIA, AND EQUALS ULTIMATE SIDE FRICTION PLUS MOBILIZED END BEARING.

3. ALLOWABLE PILE CAPACITY IS 1/2 THE DAVISSON PILE CAPACITY.

4. ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 3 x THE MOBILIZED END BEARING.
   EXCEPTION: FOR H-PILES TIPPED IN SAND OR LIMESTONE, THE ULTIMATE PILE CAPACITY IS ULTIMATE SIDE FRICTION PLUS 2 x THE MOBILIZED END BEARING.

FB-MULTIPIER PARAMETERS

FB-MultiPier Soil Parameters

Project Name:	South Sumter Connector Trail PD&E Study	GSE @ Boring Loc. (ft):	+48.3	Elevation Datum:	NAVD
GEC Project Number:	4037G	Water Table Elevation (ft):	+47.0	Foundation:	
FPID No:	435471-1-22-01	Minmum Pile Tip Elevation (ft):	-10.0	Reference Boring(s):	SPT-1

Layer No.		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Soil Description ID*		SND	CLY	WLS	MCK	WLS	SND	WLS	WLS	WLS
Soil Type		Cohesionless	Cohesive	Cohesionless	Cohesive	Cohesionless	Cohesionless	Cohesionless	Cohesionless	Cohesionless
Layer Top Elevation (ft)		+48	+40	+32	+25	+20	+7	-1	-11	-19
Layer Bottom Elevation (ft)		+40	+32	+25	+20	+7	-1	-11	-19	-88
Layer Thickness (ft)		8	8	7	5	13	8	10	8	69
Average N-Value, N_{avg} (bpf)[2]		5	6	7	0	6	21	13	34	60
Corrected N-Value, N_{60} (bpf)		3	5	6	0	5	19	12	31	54
Lateral Properties										
Recommended Lateral Soil Model		Sand (Reese)	Clay (Soft, Matlock)	Sand (Reese)	Clay (Soft, Matlock)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)
Total Unit Weight, γ (pcf)		97	112	107	67	107	112	112	122	127
Angle of Internal Friction, ϕ (degrees)		28	---	36	---	36	31	37	39	40
Subgrade Modulus, K (pci)		20	100	80	5	80	70	100	250	300
Undrained Shear Strength, c_u (psf)		---	667	---	0	---	---	---	---	---
Major Principal Strain at 50%, ε_{50}		---	0.01	---	0.01	---	---	---	---	---
Average Undrained Shear Strength, C_{avg} (psf)		---	667	---	0	---	---	---	---	---
Unconfined Compressive Strength, q_u (psf)		---	---	---	---	---	---	---	---	---
Axial/Torsional Properties										
Recommended Axial Soil Model		Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
Recommended Torsional Soil Model		Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
Shear Modulus, G (ksi)		0.18	0.16	1.74	0.00	1.45	1.03	3.39	8.28	13.89
Poisson's Ratio, ν		0.15	0.45	0.20	0.10	0.20	0.28	0.23	0.30	0.35
Undrained Shear Strength, c_u (psf)		---	667	---	0	---	---	---	---	---
Angle of Internal Friction, ϕ (degrees)		28	---	36	---	36	31	37	39	40
Youngs Modulus, E (psf)		60,000	---	600,000	---	500,000	380,000	1,200,000	3,100,000	5,400,000
Concrete	[1]Ultimate Unit Skin Friction, T_f (psf)	114	524	120	0	100	722	240	620	1080
Steel	[1]Ultimate Unit Skin Friction, T_f (psf)	---	520	120	0	100	709	240	620	1080
Tip Model										
Recommended Tip Soil Model		Driven Pile (McVay)	Driven Pile (McVay)	Driven Pile (McVay)	Driven Pile (McVay)	Driven Pile (McVay)	Driven Pile (McVay)	Driven Pile (McVay)	Driven Pile (McVay)	Driven Pile (McVay)
Shear Modulus, G (ksi)		0.18	0.16	1.74	0.00	1.45	1.03	3.39	8.28	13.89
Poisson's Ratio, ν		0.15	0.45	0.20	0.10	0.20	0.28	0.23	0.30	0.35
Uncorrected N-value (bpf)		---	---	---	---	---	---	---	---	---
Undrained Shear Strength, c_u (psf)		---	---	---	---	---	---	---	---	---
18" Square PPC Pile	**Bearing Failure, Q_f (kips)	---	---	---	---	---	---	194	502	875
24" Square PPC Pile	**Bearing Failure, Q_f (kips)	---	---	---	---	---	---	346	893	1,555
14x89 Steel H Pile	**Bearing Failure, Q_f (kips)	---	---	---	---	---	---	16	40	70
24" Steel Pipe Pile	**Bearing Failure, Q_f (kips)	---	---	---	---	---	---	0.07	0.19	0.33

*ID	General Soil Description
SND	Fine Sand to Fine Sand with Silt to Silty Fine Sand (SP, SP-SM, SM)
CLY	Fat Clay (CH)
SIL	Clayey Fine Sand (SC) to Sandy Silt to Silt (ML)
SIH	Elastic Silt (MH)
WLS	Weathered Limestone
LST	Limestone
MCK	Muck (PT)
SMK	Sandy Muck (PT)

**Multiplied by end area of chosen pile type to obtain Ultimate End Bearing as a force.

Pile Type	End Area (in^2)
18" Square PPC Pile:	324.0
24" Square PPC Pile:	576.0
14x89 Steel H Pile:	26.1
24" Steel Pipe Pile (closed end):	452.4

Notes

1. For the input of **vertical failure shear stress** and **torsional shear stress** the ultimate unit skin friction for a pile can be used.
2. Average N-values greater than 60 truncated to a maximum N-value of 60 for calculations.
3. Soil resistance generated by the MSE wall fill should only be included when resisting a lateral load that causes pile deflection into the abutment fill (one direction only). Lateral resistance on the other 3 sides of the end bent piles should be assumed to be zero within the MSE wall fill.

FB-MultiPier Soil Parameters

Project Name:	South Sumter Connector Trail PD&E Study	GSE @ Boring Loc. (ft):	+58.8	Elevation Datum:	NAVD
GEC Project Number:	4037G	Water Table Elevation (ft):	+48.8	Foundation:	
FPID No:	435471-1-22-01	Minmum Pile Tip Elevation (ft):	-50.0	Reference Boring(s):	SPT-2

Layer No.	1	2	3	4	5	6	7	8	9	10
Soil Description ID*	SND	SND	SIL	WLS	WLS	WLS	WLS	WLS	WLS	WLS
Soil Type	Cohesionless	Cohesionless	Cohesionless	Cohesionless	Cohesionless	Cohesionless	Cohesionless	Cohesionless	Cohesionless	Cohesionless
Layer Top Elevation (ft)	+59	+38	+22	+16	-3	-15	-37	-45	-55	-70
Layer Bottom Elevation (ft)	+38	+22	+16	-3	-15	-37	-45	-55	-70	-92
Layer Thickness (ft)	21	16	6	19	12	22	8	10	15	22
Average N-Value, N_{avg} (bpf)[2]	8	30	11	8	53	24	60	9	47	60
Corrected N-Value, N_{60} (bpf)	6	27	10	7	48	22	54	8	43	54
Lateral Properties										
Recommended Lateral Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)
Total Unit Weight, γ (pcf)	102	117	112	107	127	117	127	112	127	127
Angle of Internal Friction, ϕ (degrees)	29	32	22	36	40	38	40	36	40	40
Subgrade Modulus, K (pci)	30	80	100	80	300	200	300	100	300	300
Undrained Shear Strength, c_u (psf)	---	---	---	---	---	---	---	---	---	---
Major Principal Strain at 50%, ε_{50}	---	---	---	---	---	---	---	---	---	---
Average Undrained Shear Strength, C_{avg} (psf)	---	---	---	---	---	---	---	---	---	---
Unconfined Compressive Strength, q_u (psf)	---	---	---	---	---	---	---	---	---	---
Axial/Torsional Properties										
Recommended Axial Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
Recommended Torsional Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
Shear Modulus, G (ksi)	0.35	1.44	0.27	2.03	12.35	6.11	13.89	2.31	11.06	13.89
Poisson's Ratio, ν	0.20	0.30	0.30	0.20	0.35	0.25	0.35	0.20	0.35	0.35
Undrained Shear Strength, c_u (psf)	---	---	---	---	---	---	---	---	---	---
Angle of Internal Friction, ϕ (degrees)	29	32	22	36	40	38	40	36	40	40
Youngs Modulus, E (psf)	120,000	540,000	100,000	700,000	4,800,000	2,200,000	5,400,000	800,000	4,300,000	5,400,000
Concrete [1]Ultimate Unit Skin Friction, T_f (psf)	228	1026	873	140	960	440	1080	160	860	1080
Steel [1]Ultimate Unit Skin Friction, T_f (psf)	---	955	527	140	960	440	1080	160	860	1080
Tip Model										
Recommended Tip Soil Model	Driven Pile (McVay)	Driven Pile (McVay)	Driven Pile (McVay)	Driven Pile (McVay)	Driven Pile (McVay)	Driven Pile (McVay)	Driven Pile (McVay)	Driven Pile (McVay)	Driven Pile (McVay)	Driven Pile (McVay)
Shear Modulus, G (ksi)	0.35	1.44	0.27	2.03	12.35	6.11	13.89	2.31	11.06	13.89
Poisson's Ratio, ν	0.20	0.30	0.30	0.20	0.35	0.25	0.35	0.20	0.35	0.35
Uncorrected N-value (bpf)	---	---	---	---	---	---	---	---	---	---
Undrained Shear Strength, c_u (psf)	---	---	---	---	---	---	---	---	---	---
18" Square PPC Pile **Bearing Failure, Q_f (kips)	---	---	---	---	---	---	---	130	697	875
24" Square PPC Pile **Bearing Failure, Q_f (kips)	---	---	---	---	---	---	---	230	1,238	1,555
14x89 Steel H Pile **Bearing Failure, Q_f (kips)	---	---	---	---	---	---	---	10	56	70
24" Steel Pipe Pile **Bearing Failure, Q_f (kips)	---	---	---	---	---	---	---	0.05	0.26	0.33

*ID	General Soil Description
SND	Fine Sand to Fine Sand with Silt to Silty Fine Sand (SP, SP-SM, SM)
CLY	Fat Clay (CH)
SIL	Clayey Fine Sand (SC) to Sandy Silt to Silt (ML)
SIH	Elastic Silt (MH)
WLS	Weathered Limestone
LST	Limestone
MCK	Muck (PT)
SMK	Sandy Muck (PT)

**Multiplied by end area of chosen pile type to obtain Ultimate End Bearing as a force.

Pile Type	End Area (in^2)
18" Square PPC Pile:	324.0
24" Square PPC Pile:	576.0
14x89 Steel H Pile:	26.1
24" Steel Pipe Pile (closed end):	452.4

Notes

1. For the input of **vertical failure shear stress** and **torsional shear stress** the ultimate unit skin friction for a pile can be used.
2. Average N-values greater than 60 truncated to a maximum N-value of 60 for calculations.
3. Soil resistance generated by the MSE wall fill should only be included when resisting a lateral load that causes pile deflection into the abutment fill (one direction only). Lateral resistance on the other 3 sides of the end bent piles should be assumed to be zero within the MSE wall fill.

FB-MultiPier Soil Parameters

Project Name:	South Sumter Connector Trail PD&E Study	GSE @ Boring Loc. (ft):	+69.6	Elevation Datum:	NAVD
GEC Project Number:	4037G	Water Table Elevation (ft):	+64.0	Foundation:	
FPID No:	435471-1-22-01	Minmum Pile Tip Elevation (ft):	-15.0	Reference Boring(s):	SPT-3

Layer No.	1	2	3	4	5	6	7	8	9	10
Soil Description ID*	SND	SIL	WLS	WLS	WLS	WLS	WLS	WLS	WLS	WLS
Soil Type	Cohesionless	Cohesionless	Cohesionless	Cohesionless	Cohesionless	Cohesionless	Cohesionless	Cohesionless	Cohesionless	Cohesionless
Layer Top Elevation (ft)	+70	+59	+51	+23	+8	-2	-15	-55	-67	-77
Layer Bottom Elevation (ft)	+59	+51	+23	+8	-2	-15	-55	-67	-77	-81
Layer Thickness (ft)	11	8	28	15	10	13	40	12	10	4
Average N-Value, N_{avg} (bpf)[2]	6	11	23	60	23	58	60	60	25	60
Corrected N-Value, N_{60} (bpf)	4	8	21	54	20	52	54	54	22	54
Lateral Properties										
Recommended Lateral Soil Model	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)	Sand (Reese)
Total Unit Weight, γ (pcf)	102	112	117	127	117	127	127	127	117	127
Angle of Internal Friction, ϕ (degrees)	29	22	38	40	38	40	40	40	38	40
Subgrade Modulus, K (pci)	30	100	200	300	200	300	300	300	200	300
Undrained Shear Strength, c_u (psf)	---	---	---	---	---	---	---	---	---	---
Major Principal Strain at 50%, ε_{50}	---	---	---	---	---	---	---	---	---	---
Average Undrained Shear Strength, C_{avg} (psf)	---	---	---	---	---	---	---	---	---	---
Unconfined Compressive Strength, q_u (psf)	---	---	---	---	---	---	---	---	---	---
Axial/Torsional Properties										
Recommended Axial Soil Model	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile	Driven Pile
Recommended Torsional Soil Model	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic	Hyperbolic
Shear Modulus, G (ksi)	0.23	0.21	5.83	13.89	5.56	13.37	13.89	13.89	6.11	13.89
Poisson's Ratio, ν	0.20	0.30	0.25	0.35	0.25	0.35	0.35	0.35	0.25	0.35
Undrained Shear Strength, c_u (psf)	---	---	---	---	---	---	---	---	---	---
Angle of Internal Friction, ϕ (degrees)	29	22	38	40	38	40	40	40	38	40
Youngs Modulus, E (psf)	80,000	80,000	2,100,000	5,400,000	2,000,000	5,200,000	5,400,000	5,400,000	2,200,000	5,400,000
Concrete [1]Ultimate Unit Skin Friction, T_f (psf)	152	712	420	1080	400	1040	1080	1080	440	1080
Steel [1]Ultimate Unit Skin Friction, T_f (psf)	---	426	420	1080	400	1040	1080	1080	440	1080
Tip Model										
Recommended Tip Soil Model	Driven Pile (McVay)	Driven Pile (McVay)	Driven Pile (McVay)	Driven Pile (McVay)	Driven Pile (McVay)	Driven Pile (McVay)	Driven Pile (McVay)	Driven Pile (McVay)	Driven Pile (McVay)	Driven Pile (McVay)
Shear Modulus, G (ksi)	0.23	0.21	5.83	13.89	5.56	13.37	13.89	13.89	6.11	13.89
Poisson's Ratio, ν	0.20	0.30	0.25	0.35	0.25	0.35	0.35	0.35	0.25	0.35
Uncorrected N-value (bpf)	---	---	---	---	---	---	---	---	---	---
Undrained Shear Strength, c_u (psf)	---	---	---	---	---	---	---	---	---	---
18" Square PPC Pile **Bearing Failure, Q_f (kips)	---	---	---	---	---	---	875	875	356	875
24" Square PPC Pile **Bearing Failure, Q_f (kips)	---	---	---	---	---	---	1,555	1,555	634	1,555
14x89 Steel H Pile **Bearing Failure, Q_f (kips)	---	---	---	---	---	---	70	70	29	70
24" Steel Pipe Pile **Bearing Failure, Q_f (kips)	---	---	---	---	---	---	0.33	0.33	0.13	0.33

*ID	General Soil Description
SND	Fine Sand to Fine Sand with Silt to Silty Fine Sand (SP, SP-SM, SM)
CLY	Fat Clay (CH)
SIL	Clayey Fine Sand (SC) to Sandy Silt to Silt (ML)
SIH	Elastic Silt (MH)
WLS	Weathered Limestone
LST	Limestone
MCK	Muck (PT)
SMK	Sandy Muck (PT)

**Multiplied by end area of chosen pile type to obtain Ultimate End Bearing as a force.

Pile Type	End Area (in^2)
18" Square PPC Pile:	324.0
24" Square PPC Pile:	576.0
14x89 Steel H Pile:	26.1
24" Steel Pipe Pile (closed end):	452.4

Notes

1. For the input of **vertical failure shear stress** and **torsional shear stress** the ultimate unit skin friction for a pile can be used.
2. Average N-values greater than 60 truncated to a maximum N-value of 60 for calculations.
3. Soil resistance generated by the MSE wall fill should only be included when resisting a lateral load that causes pile deflection into the abutment fill (one direction only). Lateral resistance on the other 3 sides of the end bent piles should be assumed to be zero within the MSE wall fill.

COMMENT RESPONSE LOG

Project Development & Environment Study
South Sumter Connector Trail From Good Neighbor Trail to the Van Fleet Trail
Hernando & Sumter Counties
FM No. 435471-1-12-01

Preliminary Geotechnical Report Comments/Responses

PDF Page No.	Detail	Comments	Responses
i	Opening Letter	1. Even though is preliminary we need one boring per bent and only have one per bridge. 2. No info on bridge type or dimensions. 3. Need more description of the existent road or structures or improvements on site.	1. GEC performed borings per the negotiated scope of services. 2. Bridge type/dimensions were not provided during the preliminary phase. 3. GEC will revise to include the purpose & need for the project.
6	3.2 Groundwater Measurement	1. Estimated to be at what depth? Groundwater depth range.	1. Section 3.2 details the method for obtaining the groundwater measurements. Groundwater depths are provided in Section 5.2
8	Table 3 Substructure Environmental Classification Summary 5.1 Bridge SPT Boring Results	1. Review steel classification for SPT-1. Should this be Moderately Aggressive for concrete and also for steel? 2. Typo on table reference. Is it Tables 4A and 4B or 5A and 5B?	1. GEC reviewed environmental classifications for SPT-1 and appear to be the appropriate designations. 2. GEC to revise page 8 to be Tables 4A and 4B.
10	5.2 Groundwater Levels	1. Typo on seasonal groundwater level. Is the range from 1.3 to 10 feet or 1.3 to 20 feet?	1. GEC to revise. Groundwater levels will range from 1.3 to 10 feet below the existing ground surface.
18	6.5 Test Pile Program Recommendations	1. Ahould preforming be needed? 2. Please use Dynamic Testing instead of PDA. 3. Should the scour need to be considered? 4. Is this bridge considered as Category 1 or 2?	1. Preforming may be required depending on final foundation loads and pile design. 2. GEC to revise. 3. Scour to be considered during the final design. 4. Per TranSystems, the bridge is considered a Category 1.

PDF Page No.	Detail	Comments	Responses
22, 23	Table 6	1. Should this table be presented with Elevation Scale? 2. Check the anticipated pile tip depth for the following boring: a. SPT 1 for 18 inch PCP: should it be 92 feet, not 80 feet? b. SPT 3 for 24 inch PCP: should it be 85 feet, not 95 feet? c. SPT 1 for 24 inch PCP: should it be 90 feet, not 75 feet?	1. Survey data was not provided for the borings. 2a. GEC will revise. 2b. A fluid loss occurred around 85 feet. District 5 policy has been to try and tip piles below drilling fluid losses. Will recommend minimum tip depth of 85 and anticipated depth of 90 feet. 2c. We believe 75 feet is satisfactory and curve indicates we are exceeding maximum pile driving resistance of 450 tons at 75 feet.
33, 34	Figure 3&4 – SPT Log	1. Should SPT log be presented with Elevation Scale?	1. Survey data was not provided for the borings.
37 - 44	Sample FB-Deep Analysis	1. Should all FB-Deep outputs be provided?	1. Normally only sample output is provided but we will provide all outputs.
-	-	1. Should FB-Pier Soil Parameter be provided?	1. GEC will provide.