

Exhibit AA. Acadiana Regional Airport P4 Site Preliminary Geotechnical Engineering Report



Professional Service Industries, Inc.
724 Central Avenue
Jefferson, Louisiana 70121
Phone: (504) 733-9411

September 3, 2019

OneAcadiana
804 E St. Mary Boulevard
Lafayette, Louisiana 70503

Acadiana Regional Airport P4 Site Preliminary Geotechnical Engineering Report

Attn: Mr. Zach Hager
Phone: 337.408.3669
Email: zach@oneacadiana.org

Re: Preliminary Geotechnical Site Characterization Services
LED Acadiana Regional Airport Site
Tiger Drive
Iberia Parish, Louisiana
PSI Project No. 02541141

Dear Mr. Hager,

Professional Service Industries, Inc. (PSI) is pleased to submit this report that presents the results of the requested preliminary geotechnical engineering parameters and guidance relative to the Louisiana Economic Development (LED) Acadiana Regional Airport Site located in Iberia Parish, Louisiana. This exploration was performed in general accordance with PSI Proposal No. 0254-274013; dated April 3, 2019, which was authorized by Mr. Jim Bourgeois with OneAcadiana on July 9, 2019.

We appreciate the opportunity to perform these geotechnical services and look forward to continued participation during the design and construction phases of this project. If you have any questions pertaining to this report, or if we may be of further service, please contact us.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.

William B. Barker
Geotechnical Project Manager



Name: Reda M. Bakeer, Ph.D., P.E.

Date: September 3, 2019

License No.: 27123

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SALES, OR AS THE BASIS FOR THE ISSUANCE OF A PERMIT.



GEOTECHNICAL SITE CHARACTERIZATION

PSI Project No. 02541141
Proposed LED Acadiana Regional Airport Site
Iberia Parish, Louisiana

Prepared for

OneAcadiana
804 E St. Mary Boulevard
Lafayette, Louisiana 70503

Prepared by

Professional Service Industries, Inc.
724 Central Avenue
Jefferson, Louisiana 70121
LA Registered Engineering Firm: EF0001219

September 3, 2019



William Barker
Project Manager



Reda M. Bakeer, Ph.D., P.E.
Chief Engineer

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1 PROJECT INFORMATION

Professional Service Industries, Inc. (PSI), an Intertek company, has completed a preliminary geotechnical exploration for the LED West Calcasieu Port Site, located about 12 miles south of Sulphur, Louisiana. Our scope of services were outlined in PSI Proposal 0254-274013, dated April 3, 2019. Our geotechnical services were authorized by Mr. Jim Bourgeois with OneAcadiana on July 9, 2019.

1.1 PROJECT DESCRIPTION

Initial project information provided by Mr. Elliot Boudreaux, of CSRS, Inc. indicates that the proposed project consists of conducting a Preliminary Geotechnical Investigation in order to develop General Geotechnical Characterizations for a site located in Iberia Parish, Louisiana. These services are required to support the Louisiana Economic Development (LED) Site Certification process. The LED Certified Site Application requires a preliminary geotechnical investigation that would generally characterize the site's soil and groundwater conditions to substantiate that unfavorable geotechnical conditions do not exist on the site.

The subject site is the approximately 173± acre parcel located south of Acadiana Regional Airport and north of the intersection at LA Highway 3212 (NW Bypass Highway) and Tiger Drive in Iberia Parish, Louisiana. In addition to the RFP, PSI was provided with an aerial map depicting the site location and boundaries, as well as a topographical map of the area.

The report containing the results of the requested geotechnical characterization investigation should be considered to be "preliminary" and could be used for general evaluation of the suitability of the site for development. However, it should not be used for the preliminary or final design and construction of any structures or foundations. It is understood that a subsequent detailed geotechnical exploration and analysis will be performed at a later stage once design and function of the proposed development have been finalized. Information needed would be the depth to groundwater, depth to a stiff clay material or a dense sand stratum, and the suitability of the soils for development. The explored depth is limited to 100 feet, so it should be noted that the report may state that the stiff clay strata is "deeper than 100 feet below the existing grade," if it is not encountered within this investigation depth. This is particularly important if the anticipated construction on the subject site could include relatively high loads, requires adding significant amounts of fill to reach design grades, or structures that cannot tolerate settlement. Please note that our scope of services does not include environmental drilling or sampling of soil or groundwater.

The preliminary geotechnical recommendations presented in this report are based on the available project information, site location, laboratory testing, and the subsurface materials, as well as the assumptions stated in this report. If any of the noted information is incorrect, PSI should be informed in advance and in writing so that we may amend the recommendations presented in this report if appropriate and if desired by the Client. PSI will not be responsible for the implementation of its recommendations when it is not notified in advance and in writing of changes in the project.

1.2 PURPOSE AND SCOPE OF SERVICES

The purposes of PSI's geotechnical services were to:

- Perform three (3) soil borings at the site;
- Evaluate general subsurface soil conditions and groundwater depth at the boring locations at the time of drilling;
- Perform limited laboratory testing on selected soil samples recovered from the borings; and,
- Provide a general discussion regarding the compatibility of this site with industrial/commercial development and the suitability of soils encountered.

The scope of services did not include an environmental assessment for determining the presence or absence of wetlands, or hazardous or toxic materials in the soil, surface water, groundwater, or air on or below, or around this site. Any statements in this report or on the boring logs regarding odors, colors, and unusual or suspicious items or conditions are strictly for informational purposes. Prior to development of this site, an environmental assessment is advisable. Additionally, PSI did not provide any service to investigate or detect the presence of moisture, mold or other biological contaminants in or around any structure, or any service that was designed or intended to prevent or lower the risk of the occurrence or the amplification of the same. Client acknowledges that mold is ubiquitous to the environment with mold amplification occurring when building materials are impacted by moisture. Client further acknowledges that site conditions are outside of PSI's control, and that mold amplification will likely occur, or continue to occur, in the presence of moisture. As such, PSI cannot and shall not be held responsible for the occurrence or recurrence of mold amplification.

2 GEOTECHNICAL EXPLORATION PROGRAM

2.1 FIELD EXPLORATION

PSI performed three (3) soil borings, to the depths described in Table 1, to explore the subsurface conditions at these randomly selected and accessible locations within the 173 acre site considering its present use.

Table 1: Soil Borings Information.

Boring(s)	Depth (feet)*
B-1	30
B-2	100
B-3	30

**Approximate depth below the existing ground surface at the boring locations.*

The approximate locations of the borings are indicated on the Exploration Location Plan included in the Appendix.

The soil borings were performed with a truck-mounted drilling rig using solid stem auger and wet rotary drilling techniques. Samples were generally obtained at two (2) foot intervals from the ground surface to a depth of ten (10) feet and at maximum five (5) foot intervals thereafter to the boring termination depths. Drilling and sampling were accomplished in general accordance with ASTM Standard Procedures.

Undisturbed samples of cohesive soils were generally obtained using thin-walled tubes in general accordance with the procedures for "Thin-Walled Tube Geotechnical Sampling of Soils" (ASTM D1587). These samples were extruded in the field with a hydraulic ram.

The samples were identified according to the project number, boring number and depth, and placed in polyethylene plastic wrapping to protect against moisture loss. In addition, undisturbed samples were wrapped in aluminum foil prior to placing in the plastic wrapping and were transported to the laboratory in containers to minimize further disturbance.

The results of the laboratory tests are presented on the accompanying boring logs given in the Appendix. The samples which were not altered by laboratory testing will be retained for 60 days from the date of this report and then will be discarded.

2.2 GEOTECHNICAL LABORATORY TESTING

Geotechnical Laboratory testing of selected soil samples was performed in general accordance with ASTM procedures and included the following:

- Visual Classification (ASTM D2487 / D2488)
- Moisture Content (ASTM D2216)
- Atterberg Limits (ASTM D4318)
- Percent Soil Particles Finer than No. 200 Sieve (ASTM D1140)

- Unconfined Compression Tests (ASTM D2166)
- Unconsolidated Undrained Triaxial Tests (ASTM D2850)

The results of the laboratory tests are presented on the accompanying boring logs given in the Appendix. The samples which were not altered by laboratory testing will be retained for 60 days from the date of this report and then will be discarded.

3 SUBSURFACE CONDITIONS

3.1 SOIL PROFILE

Based on the field observations and the results of the geotechnical laboratory testing, the soils were classified, and the boring logs were developed. The boring logs are presented in the Appendix along with a key to the terms and symbols used on the boring logs. In view of the site size and the limited number of borings made at this time, a generalized subsurface profile at each specific boring location is presented in Tables 2 through 4.

Table 2: Generalized Soil Profile – B-1.

Approximate Depth Range (feet) ⁽¹⁾	Consistency/Relative Density	Material Description
0 – 2	Very Stiff	Lean Clay (CL)
2 – 8	Firm	Lean Clay (CL)
8 – 13	Soft	Lean Clay (CL)
13 – 18	Very Soft	Fat Clay (CH)
18 – 30	Very Stiff	Lean Clay (CL)

⁽¹⁾Referenced from the existing grade at the boring location.

Table 3: Generalized Soil Profile – B-2.

Approximate Depth Range (feet) ⁽¹⁾	Consistency/Relative Density	Material Description
0 – 2	Very Stiff	Lean Clay (CL)
2 – 8	Firm	Lean Clay (CL)
8 – 18	Very Soft to Soft	Lean Clay (CL)
18 – 33	Firm to Stiff	Lean Clay (CL)
33 – 53	Stiff to Very Stiff	Fat Clay (CH)
53 – 100	Firm to Stiff	Fat Clay (CH)

⁽¹⁾Referenced from the existing grade at the boring location.

Table 4: Generalized Soil Profile – B-3.

Approximate Depth Range (feet) ⁽¹⁾	Consistency/Relative Density	Material Description
0 – 4	Very Stiff	Lean Clay (CL)
4 – 8	Firm to Stiff	Lean Clay (CL)
8 – 12	Soft to Firm	Lean Clay (CL)
12 – 18	Very Soft	Lean Clay (CL)
18 – 30	Stiff to Very Stiff	Lean Clay (CL)

The above subsurface descriptions are of a generalized nature to highlight the major subsurface stratification features and material characteristics within each specific boring exploration area of the site. The boring logs included in the Appendix should be reviewed for specific information at the boring locations. These boring logs also include soil descriptions, stratification, penetration resistances, and locations of the samples and laboratory test data. The stratification shown on the logs represents the conditions only at the actual exploration locations and within that particular area at the time of our field exploration. Therefore, variation may occur, and should be expected across the site considering its size. The stratification represents the approximate boundary between subsurface materials, but the actual transition may be gradual. This is particularly important considering the limited number of borings made at readily accessible areas within the relatively large property where subsurface conditions could vary significantly than those outlined in Table 2 and 3. Groundwater level information obtained during field operations is also shown on the boring logs. As previously discussed, this report is intended for general site characterization and not for use in any formal designs.

3.2 GROUNDWATER INFORMATION

Table 5 presents groundwater levels observed during field activities.

Table 5: Groundwater Levels Detected during the Field Exploration.

Boring No.	Groundwater Depth (feet) ⁽¹⁾	
	During Drilling	Upon Completion
B-1	10	8 to 10
B-2	10	8
B-3	10	7

⁽¹⁾Referenced from the existing grade at the boring locations.

It is possible that seasonal variations (temperature, rainfall, adjacent waterways and drainage canals, etc.) as well as the water level or stage in the nearby water bodies will cause fluctuations in the groundwater level. Additionally, perched water may be encountered in discontinuous zones within the overburden. This condition develops as rainwater is entrapped in the more pervious surface lean clays underlain by less pervious cohesive fat clay strata. The groundwater levels presented in this report are the levels that were measured at the time of our field activities. It is recommended that the Contractor determine the actual groundwater levels at the site at the time of the construction activities to determine the impact, if any, on the construction procedures. This is particularly important considering the size of the site and the limited number of borings drilled at readily accessible locations.

4 PRELIMINARY GEOTECHNICAL EVALUATION AND RECOMMENDATIONS

4.1 GEOTECHNICAL DISCUSSION

The type and depth of foundation suitable for a given structure primarily depends on several factors including the subsurface conditions, the function of the structure, the loads it may carry, the cost of the foundation and the criteria set by the Design Engineer with respect to vertical and differential movements which the structure can withstand without damage. Detailed column loads for specific structures and grading plans were not provided at the time of this study.

Grade supported foundations or surface coverings will likely be governed by the anticipated load and settlement tolerances, particularly where a significant amount of new fill is placed. Driven piles should be viable foundation types considering the subsurface and groundwater conditions encountered. Prior to new fill placement, site preparation should include removal of surficial vegetation, topsoil, organic matter, and soft soil or demucking of wet areas or drainage conveyances and proof rolling in the presence of the Geotechnical Engineer of Record to assess general stability and firmness prior to fill placement.

Based on the limited number of soil borings made at readily accessible locations, field data and laboratory test results, the proposed site is generally suitable for industrial development. The results of the exploration indicate that aside from the the near surface desiccated crust, the underlying soils encountered at the boring locations -4 are moderately to highly compressible in nature, and poor to fair in bearing quality. In consideration of the existing soil conditions and the impact of any additional fill being planned to raise the site grades, a shallow foundation is expected to undergo excessive settlements and, therefore, will not be suitable for support of "typical" industrial heavy construction. However, spread footing type foundations (square, continuous, mats, etc.) could be used for support of lightly loaded auxiliary structures that can tolerate long-term settlements including some differential with time.

As stated previously, PSI's opinions and information presented in this site evaluation report are provided for planning purposes and preliminary considerations only; they are based on a very limited geotechnical exploration, and shall not to be used for final design and construction.

4.2 PRELIMINARY SHALLOW FOUNDATION DESIGN

Provided the preliminary findings gleaned from the limited number of borings made at readily accessible locations are confirmed with a comprehensive subsurface investigation, lightly loaded structures can be supported on conventional spread footings bearing on naturally occurring firm clay or properly compacted structural fill. In this case, additional geotechnical recommendations will have to be provided with regard to site preparation, design parameters and anticipated long-term settlement based on the specific structural loads and configuration.

Foundations should be placed at least 2 feet below the finished grade on naturally occurring firm to stiff clay or controlled-compacted structural fill and can be designed for a preliminary net allowable bearing pressure of 2,000 psf for dead load plus transient live loads (i.e. wind loads) or 1,800 psf for dead plus sustained live loads (i.e. equipment inside a structure), whichever results in a larger bearing area. Minimum footing dimension for continuous wall footings should be at least 18 inches. It should be noted that poor quality and/or soft materials may exist at parts of the site considering the limited number of explorations location. Therefore, the footing excavation should be thoroughly inspected to assure that all poor-quality and/or soft materials are removed and replaced with structural fill. The location, depth and lateral extent of unsuitable or poor quality materials shall be delineated through the comprehensive subsurface investigation to be conducted as part of the design phase for the proposed development.

No detailed settlement analyses were made since the anticipated loads, footing configuration, etc. are not known at this time. However, spread footings with a width no larger than five (5) feet, designed as described above and seated in firm clay or controlled-compacted structural fill, should experience a total settlement on the order of less than one inch. If a cluster of closely spaced footings (i.e., if the center to center spacing of the footings is less than two times the width of the footing) are planned, PSI should be contacted to calculate the amount of settlement. However, the near surface firm to stiff clays are underlain by firm and more compressible clays which could experience larger and differential settlement partially under large footings and if significant fill thickness is needed to raise the site grade.

The foundation excavations shall be observed by a representative of the Geotechnical Engineer of Record or a designated representative prior to steel or concrete placement to assess that the foundation materials can support the design loads and are consistent with the materials discussed in the report. Soft or loose soil zones, if encountered at the bottom of the shallow footing excavations, shall be removed and replaced with properly compacted structural fill as directed by the Geotechnical Engineer of Record.

After opening, isolated spread footing excavations should be observed, and concrete placed as quickly as possible to avoid exposure of the footing bottoms to wetting and drying. Surface run-off water should be drained away from the excavations and not be allowed to pond. If possible, the foundation concrete should be placed during the same day the excavation is made. If it is required that footing excavations be left open for more than one day, they should be protected to reduce evaporation or entry of moisture. While no detailed analyses were made, structures placed on existing soils will be subject up to 1 to 2 inches of movement.

4.3 PRELIMINARY DEEP FOUNDATION DESIGN

Using the static method of analyses and results of the soil borings allowable axial capacities have been computed for the following pile types: 7" tip -12" butt diameter large Class "B" treated timber piles and a 14-inch square precast, pre-stressed concrete (PPC) piles. It is recommended that only one pile type and length be used to support a given structure. The estimated pile capacities provided include a design factors of safety of 2.0 in compression and 3.0 in tension. The piles at this site will generally derive their support in compression and tension, or uplift, through "skin friction" along their embedded lengths with little to no additional "point support" since a competent sand stratum was not encountered.

The recommended driven lengths and the estimated corresponding allowable compression and tension capacities for the piles are presented in Tables 6 and 7. The recommended pile lengths are referenced from the existing ground surface and any length of pile needed above, or below, this reference should be added to, or subtracted from, the pile lengths.

TABLE 6. Preliminary Timber Pile Allowable Capacities

ESTIMATED ALLOWABLE SINGLE PILE CAPACITY (tons) ⁽¹⁾		
Pile Length (feet) ⁽²⁾	Class "B" Timber (7" tip – 12" butt)	
	Comp.	Tens.
35	10	7
40	13	9
45	16	11
50	19	13
55	22	15
60	25	17

⁽¹⁾ Capacities are soil-pile related capacities and consideration should be given to the structural integrity of the pile member.

⁽²⁾ Pile lengths are referenced from existing ground surface at the time of drilling.

TABLE 7. Preliminary 14-inch square PPC Allowable Capacities.

ESTIMATED ALLOWABLE SINGLE PILE CAPACITY (tons)⁽¹⁾		
Pile Length (feet)⁽²⁾	Sq. Precast Concrete (14-inch)	
	Comp.	Tens.
60	36	24
65	42	28
70	48	32
75	54	36
80	61	41
85	68	45
90	75	50
95	83	55

⁽¹⁾ Capacities are soil-pile related capacities and consideration should be given to the structural integrity of the pile member.

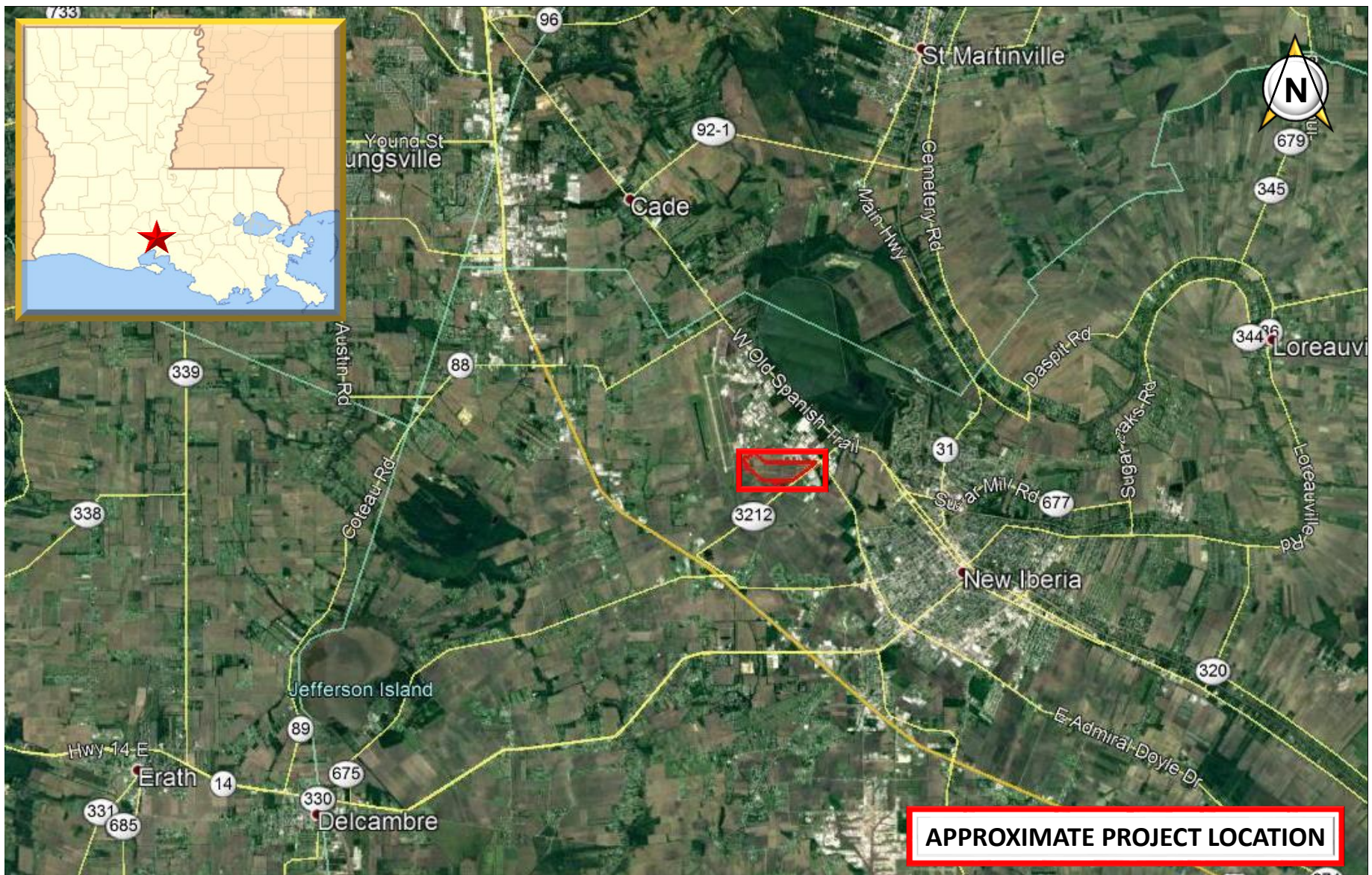
⁽²⁾ Pile lengths are referenced from existing ground surface at the time of drilling.

The estimated preliminary pile capacities include a factor of safety of two (2) in compression and three (3) in tension. In both cases, pile lengths are measured from the existing ground surface at the boring locations. Any pile lengths needed above, or below, this reference grade should be added to or subtracted from, the tabulated lengths, respectively. Also, a pile cutoff of 2 and 4 feet for timber and PPC piles, respectively, should be of no consequence. It should be noted that if more than three (3) feet of fill is planned, the above pile capacities should be re-evaluated to account for drag loads on the piles. Additional analyses will need to be performed with regard to lateral loads, group effect and settlement based on the specific project loads and layout as well as fill thickness.

5 REPORT LIMITATIONS

The preliminary information submitted in this report is based on the available subsurface data obtained by PSI at the time of our field exploration. PSI warrants that the preliminary findings contained herein have been made in accordance with generally accepted drilling procedures and visual soil classification methods in the local area. No other warranties are implied or expressed. This report has been prepared for the exclusive use of the Southwest Louisiana Economic Development Alliance for the specific purpose of determining general subsurface information at the subject site to develop a general geotechnical site characterization.

APPENDIX



GEOTECHNICAL ENGINEERING SERVICES
LED ACADIANA REGIONAL AIRPORT SITE
 IBERIA PARISH, LOUISIANA

SITE VICINITY MAP
 PSI PROJECT NO.: 02541141
 GOOGLE EARTH IMAGERY DATE: 1/2019





GEOTECHNICAL ENGINEERING SERVICES
LED ACADIANA REGIONAL AIRPORT SITE
IBERIA PARISH, LOUISIANA

EXPLORATION LOCATION PLAN

PSI PROJECT NO.: 02541141
GOOGLE EARTH IMAGERY DATE: 1/2019

intertek
psi

LOG OF BORING B-1

LED - ACADIANA REGIONAL AIRPORT

IBERIA PARISH, LOUISIANA

TYPE OF BORING: AUGER TO WET ROTARY

LOCATION: SEE EXPLORATION PLAN

PSI Project No.: 02541141

DEPTH, FT.	SOIL TYPE	USCS SYMBOL	SAMPLES	SOIL DESCRIPTION	N-BLOWS/FT.	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	% PASSING No. 200 SIEVE	SHEAR STRENGTH (tsf) ○ HP ● UC △ TV ▲ UU	SHEAR STRENGTH (tsf)				DRY UNIT WEIGHT (pcf)			
												HP (tsf)	UC (tsf)	TV (tsf)	UU (tsf)				
							LL	PL	PI								0.0	0.5	1.0
		CL		Very stiff brown LEAN CLAY		20									1.50				
-2.5		CL		Firm light brown LEAN CLAY		26	45	24	21						0.45	0.45			98
-5.0		CL		Firm tan and gray LEAN CLAY		27									0.42				
-7.5		CL				27	37	24	13						0.31	0.25			92
-10.0		CL		Soft tan LEAN CLAY		29											0.15		
-12.5																			
-15.0		CH		Very soft tan FAT CLAY		39											0.10	0.10	85
-17.5																			
-20.0		CL		Very stiff tan LEAN CLAY		20	50	19	31						1.08				
-22.5																			
-25.0						21									1.08			1.63	106
-27.5																			
-30.0		CL		Very stiff gray LEAN CLAY		23									1.08				
BORING TERMINATED AT 30 FEET																			
-32.5																			
-35.0																			
-37.5																			
-40.0																			
-42.5																			
-45.0																			
-47.5																			
-50.0																			

DEPTH OF BORING: 30 FEET

DATE DRILLED: 7/24/19

NOTE: N / A = NOT AVAILABLE

▽ GROUNDWATER DURING DRILLING: 10 FEET

▼ GROUNDWATER UPON COMPLETION: 8-10 FEET

⚡ DELAYED GROUNDWATER: N / A

BORING LOG - JEFFERSON - PSIHOUSTON.GDT - 8/30/19 15:45 - 0254



Professional Service Industries, Inc.
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Jefferson Louisiana 70121
(504) 733-9411

LOG OF BORING B-2

LED - ACADIANA REGIONAL AIRPORT

IBERIA PARISH, LOUISIANA

TYPE OF BORING: AUGER TO WET ROTARY

LOCATION: SEE EXPLORATION PLAN

PSI Project No.: 02541141

DEPTH, FT.	SOIL TYPE	USCS SYMBOL	SAMPLES	SOIL DESCRIPTION	N-BLOWS/FT.	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	% PASSING No. 200 SIEVE	SHEAR STRENGTH (tsf) ○ HP ● UC △ TV ▲ UU	SHEAR STRENGTH (tsf)				DRY UNIT WEIGHT (pcf)
												HP (tsf)	UC (tsf)	TV (tsf)	UU (tsf)	
		CL		Very stiff brown LEAN CLAY		17	38	21	17			1.50				
-2.5		CL		Firm to stiff light brown and gray LEAN CLAY		25						0.67	0.68			99
-5.0						23						0.83				
-7.5						24	46	24	22			0.42				
-10.0		CL		Very soft to soft brown LEAN CLAY		27								0.10		
-12.5																
-15.0						33								0.15	0.21	92
-17.5																
-20.0		CL		Firm to stiff brown LEAN CLAY		25						0.33				
-22.5																
-25.0						21	37	17	20			0.67				
-27.5																
-30.0						24								0.68	0.49	103
-32.5																
-35.0		CH		Stiff to very stiff brown FAT CLAY		33						0.92				
-37.5																
-40.0						31	88	28	60			0.92				
-42.5																
-45.0						32								0.85	1.25	90
-47.5																
-50.0						32						0.67				

DEPTH OF BORING: 100 FEET

DATE DRILLED: 7/25/19

NOTE: N / A = NOT AVAILABLE

▽ GROUNDWATER DURING DRILLING: 10 FEET

▼ GROUNDWATER UPON COMPLETION: 8 FEET

⚡ DELAYED GROUNDWATER: N / A

BORING LOG - JEFFERSON - PSIHOUSTON.GDT - 8/30/19 15:45 - 0254



Professional Service Industries, Inc.
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LOG OF BORING B-2

LED - ACADIANA REGIONAL AIRPORT

IBERIA PARISH, LOUISIANA

TYPE OF BORING: AUGER TO WET ROTARY

LOCATION: SEE EXPLORATION PLAN

PSI Project No.: 02541141

DEPTH, FT.	SOIL TYPE	USCS SYMBOL	SAMPLES	SOIL DESCRIPTION	N-BLOWS/FT.	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	% PASSING No. 200 SIEVE	SHEAR STRENGTH (tsf)				SHEAR STRENGTH (tsf)				DRY UNIT WEIGHT (pcf)
											SHEAR STRENGTH (tsf)								
											HP (tsf)	UC (tsf)	TV (tsf)	UU (tsf)					
							LL	PL	PI		0.0	0.5	1.0	1.5					
52.5				Stiff to very stiff brown FAT CLAY															
55.0		CH		Firm to stiff brown FAT CLAY , with sand		24				81		⊕			0.50				
57.5																			
60.0						26						⊕	▲		0.58			0.67	98
62.5																			
65.0						24						⊕			0.50				
67.5																			
70.0						28						⊕			0.42				
72.5		CH		Firm to stiff gray FAT CLAY		30						⊕	▲		0.33			0.94	87
75.0																			
77.5						32						⊕			0.50				
80.0																			
82.5						33	53	23	30			⊕			0.58				
85.0																			
87.5		CH		Firm to stiff brown FAT CLAY		40							▲				0.80	0.93	79
90.0																			
92.5						49						⊕			0.50				
95.0																			
97.5													▲	▲			0.75	0.96	76
100.0				BORING TERMINATED AT 100 FEET															

DEPTH OF BORING: 100 FEET

DATE DRILLED: 7/25/19

NOTE: N / A = NOT AVAILABLE

BORING LOG - JEFFERSON - PS-HOUSTON.GDT - 8/30/19 15:45 - 0254

LOG OF BORING B-3

LED - ACADIANA REGIONAL AIRPORT

IBERIA PARISH, LOUISIANA

TYPE OF BORING: AUGER TO WET ROTARY

LOCATION: SEE EXPLORATION PLAN

PSI Project No.: 02541141

DEPTH, FT.	SOIL TYPE	USCS SYMBOL	SAMPLES	SOIL DESCRIPTION	N-BLOWS/FT.	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	% PASSING No. 200 SIEVE	SHEAR STRENGTH (tsf) ○ HP ● UC △ TV ▲ UU	SHEAR STRENGTH (tsf)				DRY UNIT WEIGHT (pcf)
												HP (tsf)	UC (tsf)	TV (tsf)	UU (tsf)	
		CL		Very stiff dark brown LEAN CLAY		17	43	22	21			1.50				
-2.5		CL		Very stiff brown LEAN CLAY		22						0.92	1.38			106
-5.0		CL		Firm to stiff brown LEAN CLAY		20	48	24	24			0.50				
-7.5		CL		Stiff light brown LEAN CLAY ▼		22						1.00	0.51			103
-10.0		CL		Soft to firm light brown LEAN CLAY ▽		27								0.25		
-12.5		CL		Very soft light brown LEAN CLAY		29	36	21	15					0.10		
-15.0																
-17.5		CL		Stiff to very stiff light brown LEAN CLAY		22								0.50	0.71	104
-20.0																
-22.5						19						0.83				
-25.0																
-27.5						21								0.88	1.93	108
-30.0				BORING TERMINATED AT 30 FEET												
-32.5																
-35.0																
-37.5																
-40.0																
-42.5																
-45.0																
-47.5																
-50.0																

DEPTH OF BORING: 30 FEET

DATE DRILLED: 7/25/19

NOTE: N / A = NOT AVAILABLE

▽ GROUNDWATER DURING DRILLING: 10 FEET

▼ GROUNDWATER UPON COMPLETION: 7 FEET

▾ DELAYED GROUNDWATER: N / A

BORING LOG - JEFFERSON - PSIHOUSTON.GDT - 8/30/19 15:45 - 0254



Professional Service Industries, Inc.
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Jefferson Louisiana 70121
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KEY TO TERMS AND SYMBOLS USED ON LOGS

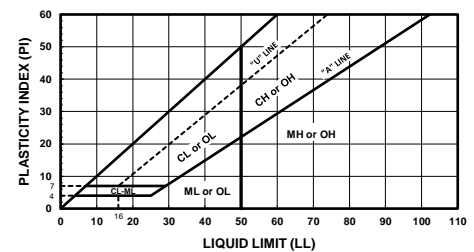
SOIL TYPE					
FAT CLAY	LEAN CLAY	ORGANIC CLAY	SAND	SILT	GRAVEL
SOIL TYPE			MODIFIERS		
TOPSOIL	FILL	CLAYEY	SANDY	SILTY	GRAVELLY

SAMPLER TYPE			
NO RECOVERY	AUGER SAMPLE	SHELBY TUBE	SPLIT SPOON
GROUNDWATER DURING DRILLING GROUNDWATER UPON COMPLETION			

UNIFIED SOIL CLASSIFICATION SYSTEM - ASTM D 2487 (1980)					
MAJOR DIVISIONS			LETTER SYMBOL	TYPICAL DESCRIPTIONS	
COARSE-GRAINED SOILS LESS THAN 50% PASSING NO. 200 SIEVE	GRAVEL & GRAVELLY SOILS LESS THAN 50% PASSING NO. 4 SIEVE	CLEAN GRAVEL (LITTLE OR NO FINES)	GW	WELL-GRADED GRAVEL, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES	
			GP	POORLY GRADED GRAVEL, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES	
		WITH APPRECIABLE FINES	GM	SILTY GRAVEL, GRAVEL-SAND-SILT MIXTURES	
			GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES	
	SANDS MORE THAN 50% PASSING NO. 4 SIEVE	CLEAN SANDS (LITTLE OR NO FINES)	SW	WELL-GRADED SAND	
			SP	POORLY-GRADED SANDS	
		WITH APPRECIABLE FINES	SM	SILTY SANDS	
			SC	CLAYEY SANDS	
FINE-GRAINED SOILS MORE THAN 50% PASSING NO. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT < 50		ML	INORGANIC SILTS & VERY FINE SANDS, CLAYEY SILT W/ LOW PLASTICITY INDEX	
			CL	INORGANIC LEAN CLAYS GRAVELLY, SANDY, OR SILTY LEAN CLAYS	
			OL	ORGANIC SILTS & ORGANIC SILTY CLAYS W/LOW PLASTICITY INDEX	
	SILTS AND CLAYS LIQUID LIMIT ≥ 50		MH	INORGANIC SILTS W/ HIGH PLASTICITY INDEX, ELASTIC SILTS	
			CH	INORGANIC FAT CLAYS GRAVELLY, SANDY, OR SILTY FAT CLAYS	
			OH	ORGANIC CLAYS OF MED TO HIGH PLASTICITY, ORGANIC SILTS	
HIGHLY ORGANIC SOIL			PT	PEAT AND OTHER HIGHLY ORGANIC SOILS	
UNCLASSIFIED FILL MATERIALS			ARTIFICIALLY DEPOSITED AND OTHER UNCLASSIFIED SOILS AND MAN-MADE SOIL MIXTURES		

CONSISTENCY - COHESIVE SOILS	
CONSISTENCY	SHEAR STRENGTH IN TONS/FT ²
VERY SOFT	0 TO 0.125
SOFT	0.125 TO 0.25
FIRM	0.25 TO .50
STIFF	0.50 TO 1.00
VERY STIFF	1.00 TO 2.00
HARD	> 2.00 OR 2.00+

RELATIVE DENSITY - GRANULAR SOILS	
DENSITY	N-VALUE (BLOWS/FT)
VERY LOOSE	0-4
LOOSE	4-9
MEDIUM DENSE	10-29
DENSE	30-49
VERY DENSE	> 50 OR 50+



ABBREVIATIONS

HP - HAND PENETROMETER UC - UNCONFINED COMPRESSION TEST
 TV - MINIATURE TORVANE UU - UNCONSOLIDATED UNDRAINED TRIAXIAL

NOTE: BORING LOGS INDICATE SHEAR STRENGTH AS OBTAINED BY ABOVE TESTS

CLASSIFICATION OF GRANULAR SOILS

U.S. STANDARD SIEVE SIZE(S)									
12"		3"	3/4"	4	10	40	200		
BOULDERS	COBBLES	GRAVEL		SAND			SILT OR CLAY	CLAY	
		COARSE	FINE	COARSE	MEDIUM	FINE			
300	75	19	4.75	2.0	0.42	0.075	0.005		
GRAIN SIZE IN MM									