ECS Florida, LLC

Preliminary Geotechnical Engineering Report

Laurel Point

Highway 16
St. Augustine, Florida

ECS Project Number 35:31629

May 5, 2021

May 5, 2021

Mr. Michael Russo
KB Home
10475 Fortune Parkway
Suite 100
Jacksonville, Florida 32256

ECS Project No. 35:31692
Client ID: 0755

Reference: Preliminary Geotechnical Engineering Report
Laurel Point
Highway 16
St. Augustine, Florida

Dear Mr. Russo:

ECS Florida, LLC. (ECS) has completed the preliminary subsurface exploration and geotechnical engineering analyses for the above-referenced project. Our services were performed in general accordance with our agreed to scope of work. This preliminary report presents our understanding of the geotechnical aspects of the project along with the results of the field exploration and laboratory testing conducted, and our preliminary design and construction recommendations.

It has been our pleasure to be of service to KB Home during the design phase of this project. We would appreciate the opportunity to remain involved during the continuation of the design phase, and we would like to provide our services during construction phase operations as well to verify the assumptions of subsurface conditions made for this report. Should you have any questions concerning the information contained in this report, or if we can be of further assistance to you, please contact us.

Respectfully submitted,
ECS Florida, LLC.

Christopher M. Egan, State of Florida, Professional Engineer, License No. 79645

This item has been digitally signed and sealed by Christopher M. Egan on the date indicated here.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

2021-05-05 16:45:38

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APPENDICES

EXECUTIVE SUMMARY

This Executive Summary is intended as a very brief overview of the primary geotechnical conditions that are expected to affect design and construction. Information gleaned from the Executive Summary should not be utilized in lieu of reading the entire geotechnical report.

- Based on the results of our exploration, we consider the subsurface conditions at the site adaptable for support of the proposed structures on a properly designed conventional shallow foundation system with a maximum allowable bearing pressure of 2,500 psf. Provided the site preparation and earthwork construction recommendations outlined in Section 5.0 of this report are performed, the parameters presented in Section 4.0 of this report may be used for foundation design.

- We consider the subsurface conditions at the site favorable for support of a flexible or rigid pavement section when constructed on properly prepared subgrade soils as outlined in Section 5.0 of this report.

- The fine sands (SP) and fine sands with silt (SP-SM) encountered in the borings are considered suitable for use as fill soil. We do not recommend the use of clayey sand (SC) or clay (CL/CH) for use as fill soil.

- The borings encountered groundwater at depths varying from the ground surface to 2 feet below the existing ground surface at the time of our exploration. Temporary groundwater control measures may be required if the groundwater level is within 2 feet below the stripped and grubbed surface at the time of construction. Should groundwater control measures become necessary, dewatering methods should be determined by the contractor.

- Additional field testing should be performed to formulate detailed foundation design and site preparation and earthwork construction recommendations prior to final design.

1.0 INTRODUCTION

The purpose of this preliminary exploration was to provide preliminary geotechnical information for the preliminary design of foundations, pavements, and stormwater management facilities for the proposed single-family, residential development. The project will include 197 single-family lots, five stormwater ponds, one commercial parcel, and paved drive areas. The recommendations developed for this report are based on project information supplied by KB Homes.

Our services were provided in accordance with our Proposal No. 35:17713-GPR, dated March 22, 2021 and revised April 5, 2021, as authorized by Mr. Tommy Jinks on April 5, 2021, which includes our Terms and Conditions of Service.

This preliminary report contains the procedures and results of our subsurface exploration, review of existing site conditions, and preliminary engineering analyses.

The report includes the following items:

- A brief review and description of our field and laboratory test procedures and the results of testing conducted.
- A review of surface topographical features and site conditions.
- A review of area and site geologic conditions.
- A review of subsurface soil stratigraphy with pertinent available physical properties.
- Final copies of our soil boring logs.
- Preliminary recommendations for foundation design.
- Preliminary recommendations for pavement design.
- Preliminary evaluation of on-site soils for use as compacted fills.

2.0 PROJECT INFORMATION

2.1 PROJECT LOCATION/CURRENT SITE USE

The project site is located on the east side of Highway 16 near its intersection with Orient Drive in St. Augustine, St. Johns County, Florida. The site is bordered to the north by undeveloped land, to the east by Interstate 95, to the south by a school, and to the west by a single-family residential development and Highway 16. The general site location is shown on Figure 1 in Appendix A and Figure 2.1.1 following.

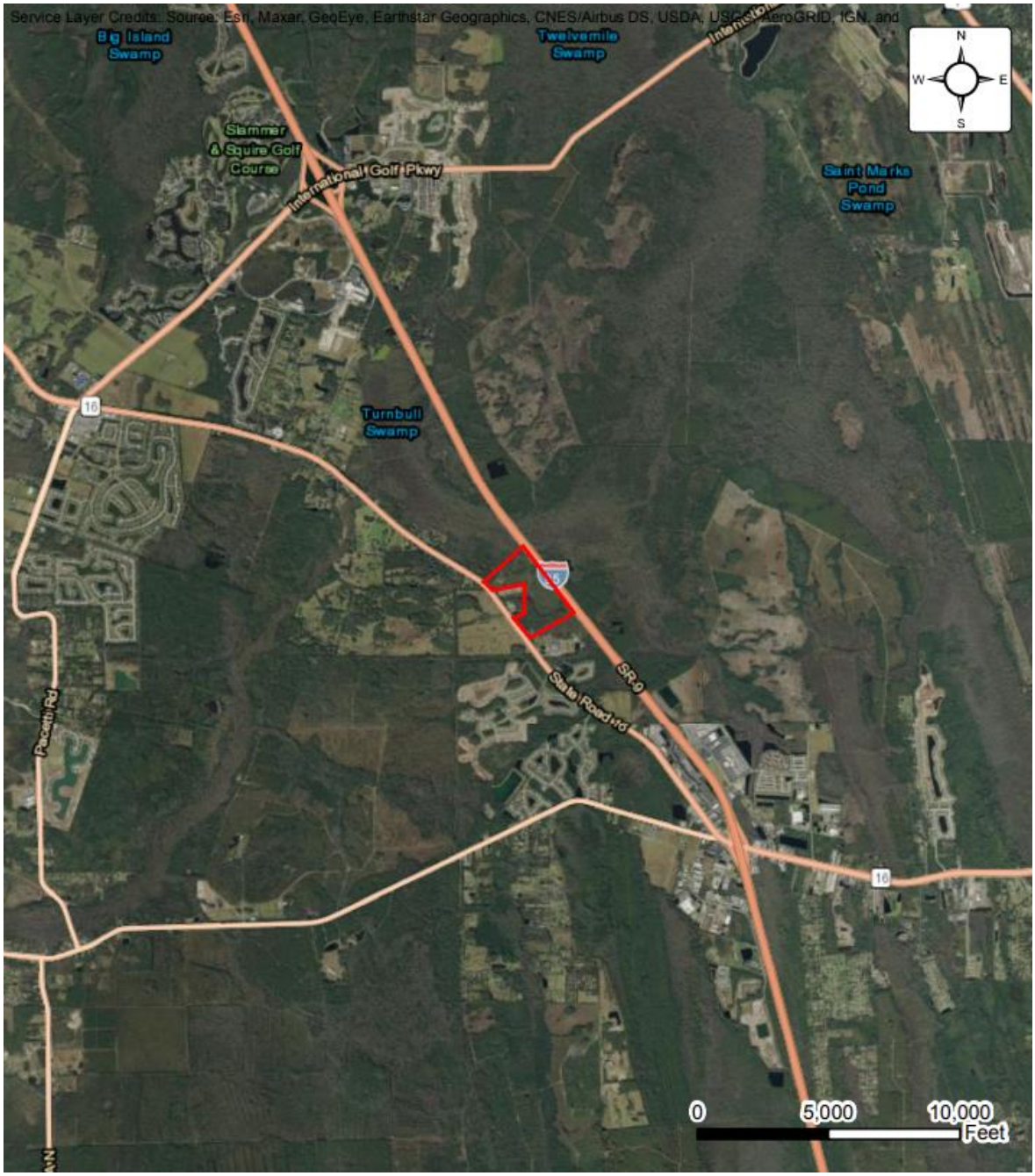


Figure 2.1.1. Site Location

At the time of our exploration, the site was undeveloped, with surface cover consisting of grass, brush, and trees. A site survey was not available to our office at the time of this report preparation. However, based on publicly available information, we understand that the site generally slopes downward to the north. Surface water was observed near planned structural areas within most areas of the site at the time of our exploration.

2.2 PROPOSED CONSTRUCTION

Based on our discussions with you, we understand the project is proposed include 197 single-family lots, five stormwater ponds, one commercial parcel, and paved drive areas. The project is

in the preliminary evaluation stage at the time of this report preparation. Therefore, structural loading and final grading information was not available to our office at the time of this preliminary report.

If actual project information varies from these conditions, then the recommendations in this report may need to be re-evaluated. We should be contacted if any of the above project information is incorrect so that we may reevaluate our recommendations.

3.0 FIELD EXPLORATION AND LABORATORY TESTING

Our exploration procedures are explained in greater detail in Appendix B including the insert titled Subsurface Exploration Procedures. Our scope of work included drilling eight Standard Penetration Test (SPT) borings and eight auger borings. Our borings were located with a handheld GPS unit and their approximate locations are shown on the Field Exploration Diagram (Figure 2) in Appendix A.

3.1 SUBSURFACE CHARACTERIZATION

The subsurface conditions encountered were generally consistent with published geological mapping. The following sections provide generalized characterizations of the soil strata. Please refer to the boring logs in Appendix B.

Typical Depth (ft)		Stratum	Description
From	To		
Existing Ground Surface	0.5 -1	n/a	Topsoil
0.5 - 1	30	I	Very Loose to Dense SAND (SP), SAND WITH SILT (SP-SM), and SAND WITH CLAY (SP-SC), Moist to Wet

As an exception, Boring PB-2 encountered a layer of clayey soil (SC, CH/CL) between depths of approximately 12 feet and 22 feet below existing site grades.

A graphical presentation of the subsurface conditions is shown on the Generalized Subsurface Soil Profiles included in Appendix A.

3.2 GROUNDWATER OBSERVATIONS

3.2.1 Encountered Groundwater

Water levels were measured during our field exploration and are presented in our boring logs in Appendix B. Groundwater depths measured at the time of drilling ranged from the ground surface to 2 feet below the ground surface. Variations in the long-term water table may occur as a result of changes in precipitation, evaporation, surface water runoff, construction activities, and other factors.

3.2.2 Estimated Seasonal High Groundwater

The normal seasonal high groundwater level is affected by a number of factors. The drainage characteristics of the soils, land surface elevation, relief points such as drainage ditches, lakes, rivers, swamp areas, etc., and distance to relief points are some of the more important factors influencing the seasonal high groundwater level.

Based on our interpretation of the site conditions, including the boring logs and Web Soil Survey, we estimate the normal seasonal high groundwater level at the boring locations to be at the depths shown on the Generalized Subsurface Profiles. It is possible that groundwater levels may exceed the estimated normal seasonal high groundwater level as a result of significant or prolonged rains.

3.3 VISUAL CLASSIFICATION

Each sample was visually classified on the basis of texture and plasticity in accordance with ASTM D2488 Standard Practice for Description and Identification of Soils (Visual-Manual Procedures) and including USCS classification symbols, and ASTM D2487 Standard Practice for Classification for Engineering Purposes (Unified Soil Classification System (USCS). After classification, the samples were grouped in the major zones noted on the boring logs in Appendix B. The group symbols for each soil type are indicated in parentheses along with the soil descriptions. The stratification lines between strata on the logs are approximate; in situ, the transitions may be gradual.

4.0 PRELIMINARY ENGINEERING EVALUATION

Our preliminary geotechnical engineering evaluation of the site and subsurface conditions at the property, with respect to the anticipated construction, are based upon: 1) our site observations; 2) the limited field data obtained; and 3) our understanding of the project information as presented in this report. As the project progresses and more definitive information becomes available concerning the locations and proposed final grades for the buildings, retention ponds and pavement areas, and detailed structural loadings become known, we recommend this information be supplied to us so that detailed foundation design and site preparation/earthwork construction recommendations can be provided prior to final design. In this regard, additional field testing, which we feel is necessary to formulate detailed foundation design and site preparation and earthwork construction recommendations, should be conducted prior to final design.

4.1 STRUCTURES

Based on the above preliminary evaluation of the site and subsurface conditions at the borings with respect to the anticipated construction, it appears the proposed structure can be constructed on a conventional shallow foundation system subsequent to performing the necessary site preparation and earthwork construction procedures. It appears maximum allowable soil bearing pressures for shallow foundations supporting the proposed structure will be on the order of 2,500 psf. We emphasize the necessary site preparation and earthwork construction procedures will be primarily dependent on the maximum anticipated structural loads applied to the foundations.

We note very loose soils were encountered in many borings at depths between approximately 12 feet and 22 feet below existing ground surface. While we do not anticipate this layer would cause excessive settlement of relatively lightly loaded structures, heavy structures or elevating fill in excess of 3 feet may experience significant settlements due to this layer. Additional exploration to evaluate these conditions should be considered as part of the final geotechnical exploration.

4.2 PAVEMENT AREAS

The groundwater level was observed at the ground surface to 2 feet below the existing ground surface. It is anticipated the pavement areas will be constructed with flexible pavement (i.e., asphalt wearing surface supported on limerock). Satisfactory performance of the pavement is dependent on the integrity of the base layer beneath the asphalt. We recommend a minimum of 2 feet separation between the normal seasonal high groundwater level and the bottom of base course should be maintained. Installation of underdrains may need to be considered depending on the final pavement grades.

4.3 BORROW SUITABILITY

Based on the boring results and classification of the soil samples, the fine sand, fine sand with silt, and fine sand with clay (SP, SP-SM, SP-SC), as encountered in the borings, are considered suitable for fill soil. We do not recommend reuse of the clayey fine sands (SC) or clay (CL/CH) as structural fill material because of their high plasticity and high affinity for moisture. Soils containing surficial organic material (topsoil) will require removal and are considered unsuitable for use as embankment fill. The organic soils may be used in non-structural areas.

It should be anticipated the soils in the proposed pond area that are below the groundwater level will have moisture contents in excess of the modified Proctor optimum moisture content and will require stockpiling or spreading to bring the moisture content within 2 percent of the soil's optimum moisture content, corresponding to the required degree of compaction.

4.4 OTHER CONSIDERATIONS

Because of the need for stripping and clearing of the topsoil materials and potential over-excavation of the clayey soils, it may be necessary to install temporary groundwater control measures to dewater the area to facilitate the clearing and compaction processes.

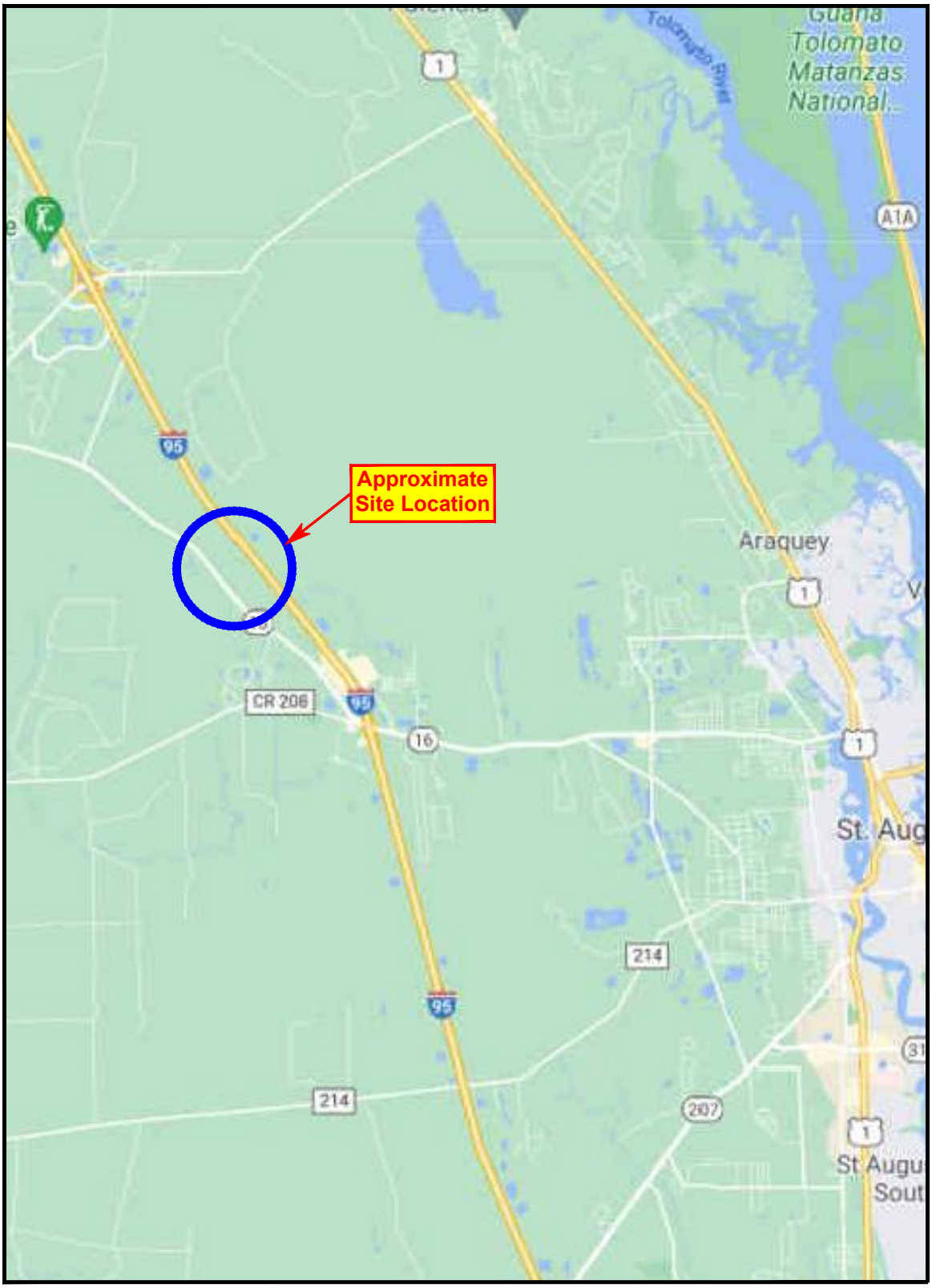
As previously mentioned, additional field testing, if any, which we feel is necessary to formulate detailed foundation design and site preparation and earthwork construction recommendations, should be conducted prior to final design.

5.0 CLOSING

Our geotechnical exploration has been performed, our findings obtained, and our evaluation prepared in accordance with generally accepted geotechnical engineering principles and practices. ECS is not responsible for any independent conclusions, interpretation, opinions or recommendations made by others based on the information contained in this preliminary report.

APPENDIX A – Diagrams & Reports

Figure 1 - Site Location Diagram
Figure 2 - Field Exploration Diagram
Figures 3-5 – Generalized Subsurface Soil Profiles



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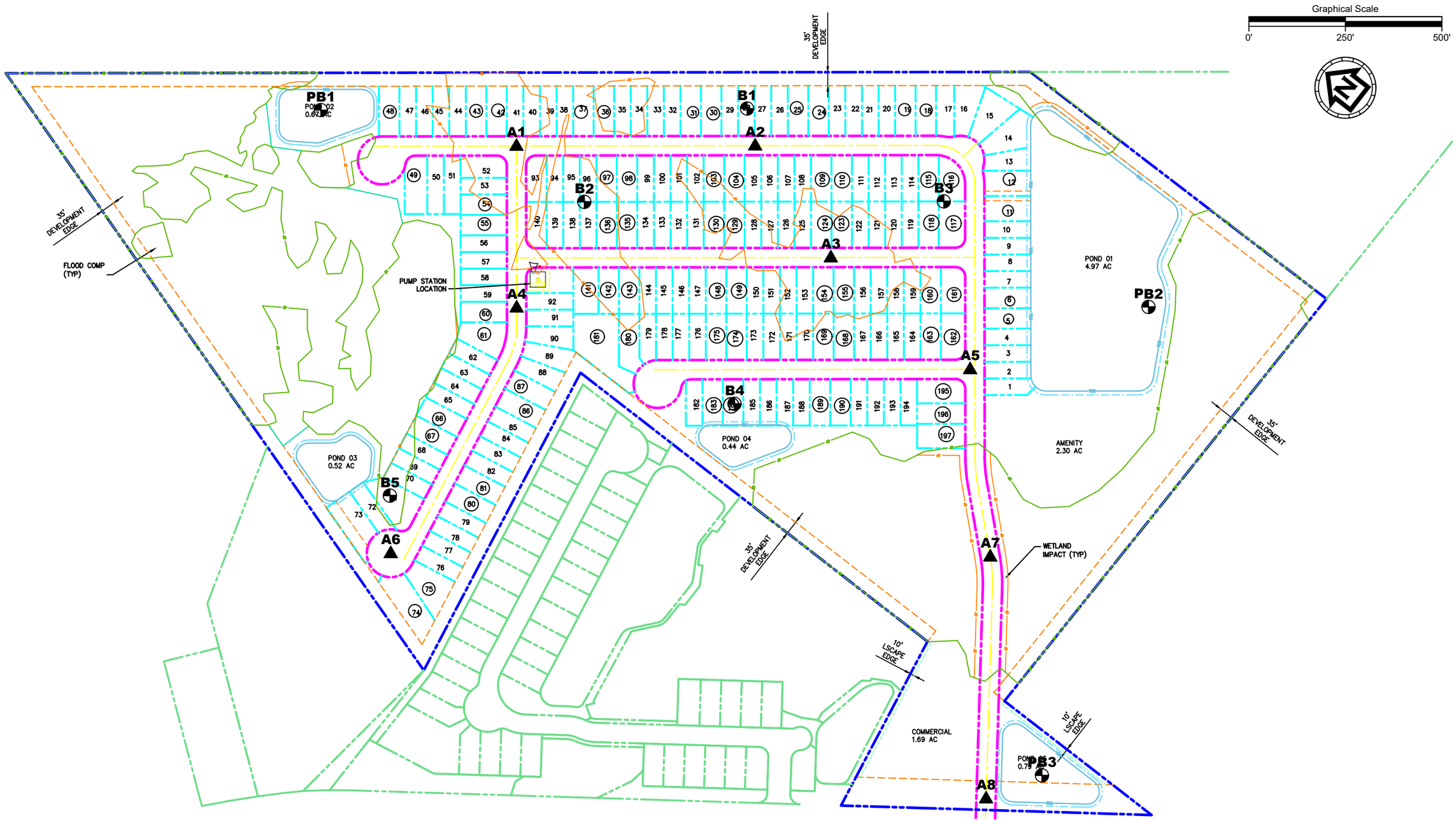
Site Location Diagram

Laurel Point

St. Johns County, Florida

Date: 04/29/21	Project No.: 35-31629	Figure 1

JAS - 35-31629



LEGEND

- Approximate Location of Standard Penetration Test (SPT) Boring
- Approximate Location of Auger Boring

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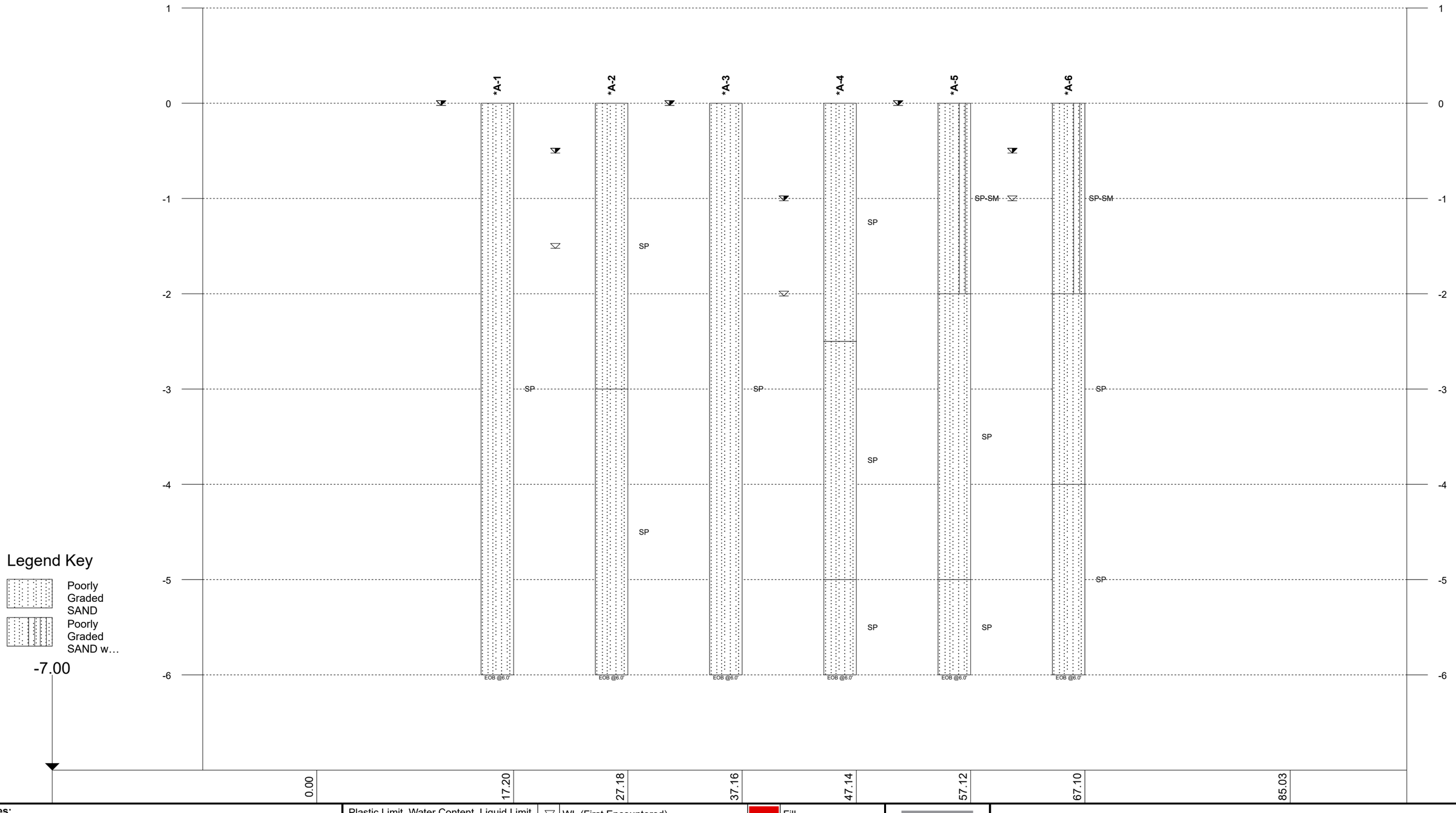
Field Exploration Diagram

Laurel Point

St. Johns County, Florida

Date: 04/29/21	Project No.: 35-31629	Figure 2

JAS - 35-31629



Legend Key

- Poorly Graded SAND
- Poorly Graded SAND w…

-7.00

Notes:

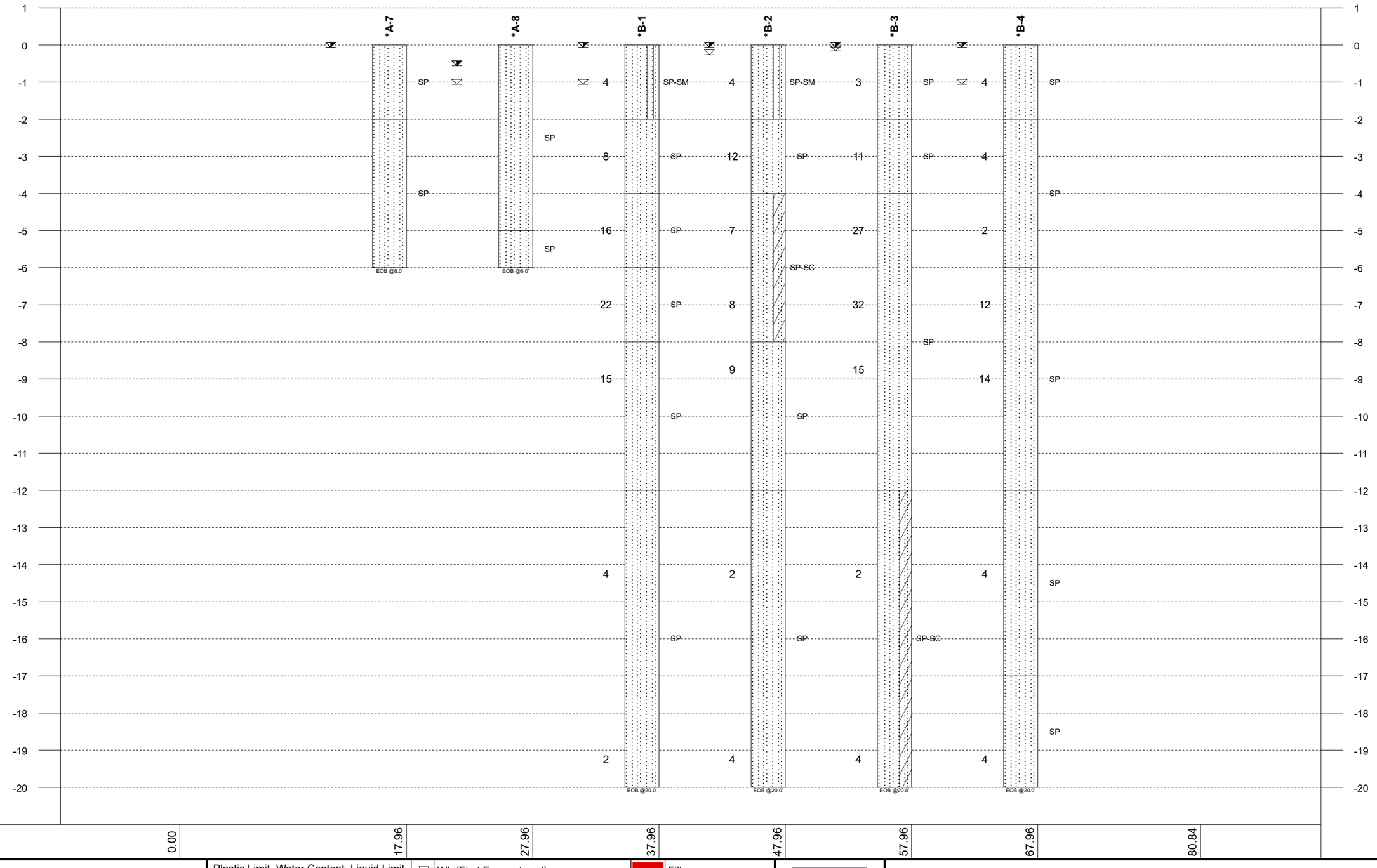
1- EOB: END OF BORING AR: AUGER REFUSAL SR: SAMPLER REFUSAL.
2- THE NUMBER BELOW THE STRIPS IS THE DISTANCE ALONG THE BASELINE.
3- SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL INFORMATION.
4- STANDARD PENETRATION TEST RESISTANCE (LEFT OF BORING) IN BLOWS PER FOOT (ASTM D1586).

Plastic Limit Water Content Liquid Limit (X—●—△)	WL (First Encountered)	Fill
[FINES CONTENT %]	WL (Completion)	Possible Fill
BOTTOM OF CASING	WL (Seasonal High Water)	Probable Fill
100% LOSS OF CIRCULATION	WL (Stabilized)	Rock

GENERALIZED SUBSURFACE SOIL PROFILE Figure 3

Laurel Point
KB Home
Highway 16, St Augustine, Florida 32092

Project No: 35:31629 Date: 04/29/2021



Legend Key

- Poorly Graded SAND
- Poorly Graded SAND w…
- Poorly Graded SAND w…

-21.00

Notes:

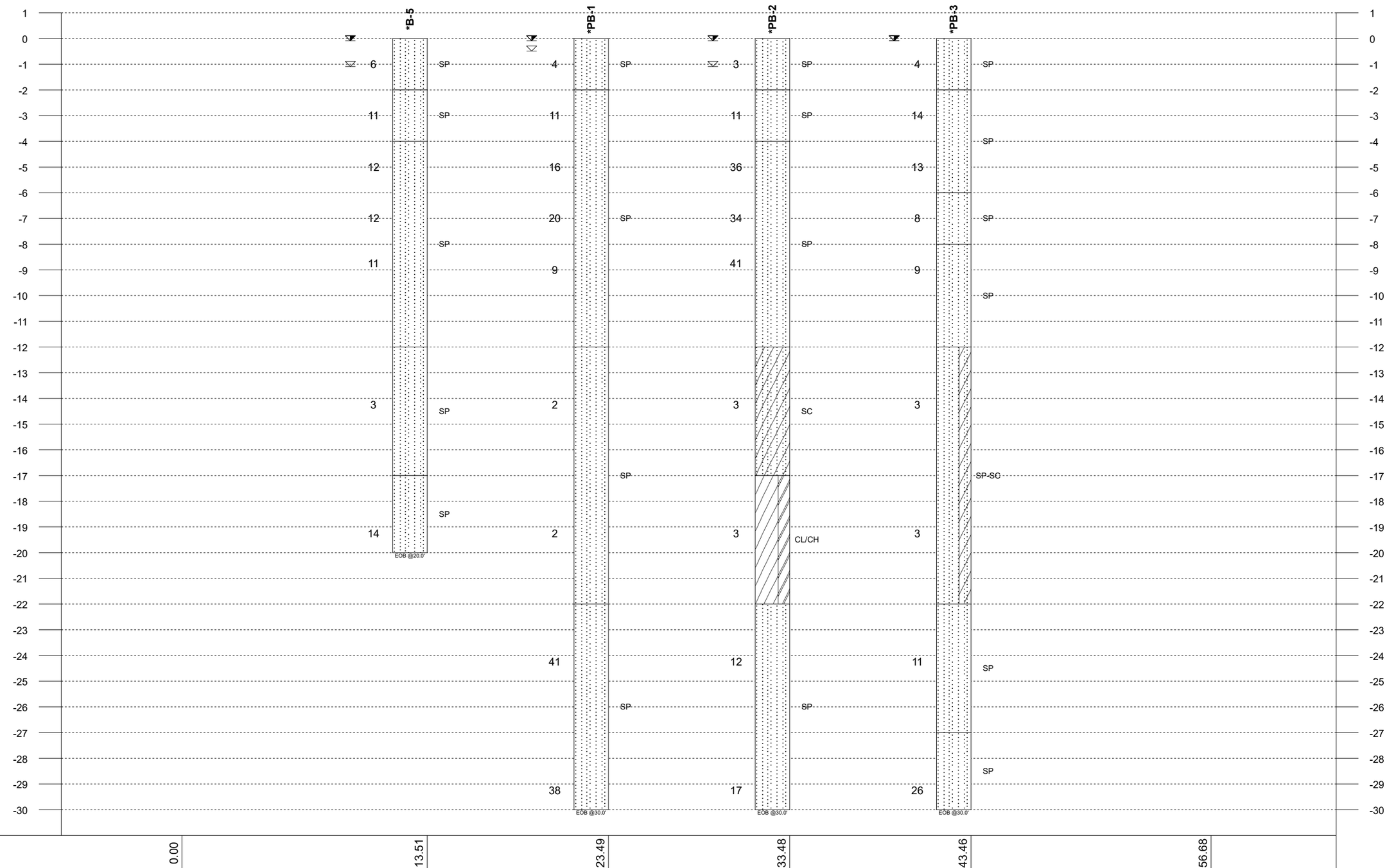
1- EOB: END OF BORING AR: AUGER REFUSAL SR: SAMPLER REFUSAL.
2- THE NUMBER BELOW THE STRIPS IS THE DISTANCE ALONG THE BASELINE.
3- SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL INFORMATION.
4- STANDARD PENETRATION TEST RESISTANCE (LEFT OF BORING) IN BLOWS PER FOOT (ASTM D1586).

Plastic Limit Water Content Liquid Limit X—●—△			
[FINES CONTENT %]			
BOTTOM OF CASING	WL (First Encountered)	Fill	
LOSS OF CIRCULATION	WL (Completion)	Possible Fill	
	WL (Seasonal High Water)	Probable Fill	
	WL (Stabilized)	Rock	

GENERALIZED SUBSURFACE SOIL PROFILE Figure 4

Laurel Point
KB Home
Highway 16, St Augustine, Florida 32092

Project No: 35:31629 Date: 04/29/2021



Legend Key

- Poorly Graded SAND
- CLAYEY SAND
- Poorly Graded SAND w… Low-high plasticity clays

-31.00

Notes:

1- EOB: END OF BORING AR: AUGER REFUSAL SR: SAMPLER REFUSAL.
2- THE NUMBER BELOW THE STRIPS IS THE DISTANCE ALONG THE BASELINE.
3- SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL INFORMATION.
4- STANDARD PENETRATION TEST RESISTANCE (LEFT OF BORING) IN BLOWS PER FOOT (ASTM D1586).

Plastic Limit Water Content Liquid Limit
X———●———△
[FINES CONTENT %]

BOTTOM OF CASING
LOSS OF CIRCULATION

WL (First Encountered)
WL (Completion)
WL (Seasonal High Water)
WL (Stabilized)

Fill
Possible Fill
Probable Fill
Rock

GENERALIZED SUBSURFACE SOIL PROFILE Figure 5

Laurel Point
KB Home
Highway 16, St Augustine, Florida 32092

Project No: 35:31629 Date: 04/29/2021

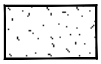
APPENDIX B – Field Operations

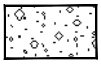
Reference Notes for Boring Logs
Subsurface Exploration Procedure: Standard Penetration Testing (SPT)
Boring Logs

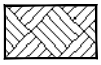
REFERENCE NOTES FOR BORING LOGS

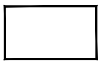
MATERIAL[1,2]

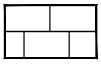

ASPHALT


CONCRETE


GRAVEL

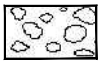

TOPSOIL

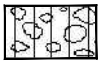

VOID


BRICK

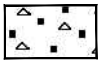

AGGREGATE BASE COURSE

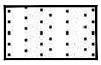

GW **WELL-GRADED GRAVEL**
gravel-sand mixtures, little or no fines

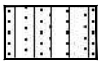

GP **POORLY-GRADED GRAVEL**
gravel-sand mixtures, little or no fines


GM **SILTY GRAVEL**
gravel-sand-silt mixtures

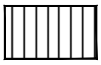

GC **CLAYEY GRAVEL**
gravel-sand-clay mixtures

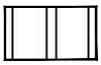

SW **WELL-GRADED SAND**
gravelly sand, little or no fines

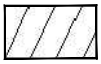

SP **POORLY-GRADED SAND**
gravelly sand, little or no fines


SM **SILTY SAND**
sand-silt mixtures

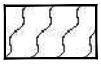

SC **CLAYEY SAND**
sand-clay mixtures

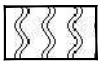

ML **SILT**
non-plastic to medium plasticity

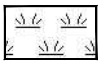

MH **ELASTIC SILT**
high plasticity


CL **LEAN CLAY**
low to medium plasticity


CH **FAT CLAY**
high plasticity


OL **ORGANIC SILT or CLAY**
non-plastic to low plasticity


OH **ORGANIC SILT or CLAY**
high plasticity


PT **PEAT**
highly organic soils

DRILLING SAMPLING SYMBOLS & ABBREVIATIONS

SS	Split Spoon Sampler	PM	Pressuremeter Test
ST	Shelby Tube Sampler	RD	Rock Bit Drilling
WS	Wash Sample	RC	Rock Core, NX, BX, AX
BS	Bulk Sample of Cuttings	REC	Rock Sample Recovery %
PA	Power Auger (no sample)	RQD	Rock Quality Designation %
HSA	Hollow Stem Auger		

PARTICLE SIZE IDENTIFICATION

DESIGNATION		PARTICLE SIZES
Boulders		12 inches (300 mm) or larger
Cobbles		3 inches to 12 inches (75 mm to 300 mm)
Gravel:	Coarse	¾ inch to 3 inches (19 mm to 75 mm)
	Fine	4.75 mm to 19 mm (No. 4 sieve to ¾ inch)
Sand:	Coarse	2.00 mm to 4.75 mm (No. 10 to No. 4 sieve)
	Medium	0.425 mm to 2.00 mm (No. 40 to No. 10 sieve)
	Fine	0.074 mm to 0.425 mm (No. 200 to No. 40 sieve)
Silt & Clay ("Fines")		<0.074 mm (smaller than a No. 200 sieve)

COHESIVE SILTS & CLAYS

UNCONFINED COMPRESSIVE STRENGTH, Q_P[4]	SPT[5] (BPF)	CONSISTENCY[7] (COHESIVE)
<0.25	<2	Very Soft
0.25 - <0.50	3 - 4	Soft
0.50 - <1.00	5 - 8	Firm
1.00 - <2.00	9 - 15	Stiff
2.00 - <4.00	16 - 30	Very Stiff
4.00 - 8.00	31 - 50	Hard
>8.00	>50	Very Hard

GRAVELS, SANDS & NON-COHESIVE SILTS

SPT[5]	DENSITY
<5	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
>50	Very Dense

RELATIVE AMOUNT[7]	COARSE GRAINED (%)[8]	FINE GRAINED (%)[8]
Trace	≤5	≤5
With	10 - 20	10 - 25
Adjective *(ex: "Silty")*	25 - 45	30 - 45

WATER LEVELS[6]

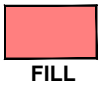

WL (First Encountered)


WL (Completion)


WL (Seasonal High Water)


WL (Stabilized)

FILL AND ROCK


FILL


POSSIBLE FILL


PROBABLE FILL


ROCK

[1]Classifications and symbols per ASTM D 2488-17 (Visual-Manual Procedure) unless noted otherwise.

[2]To be consistent with general practice, "POORLY GRADED" has been removed from GP, GP-GM, GP-GC, SP, SP-SM, SP-SC soil types on the boring logs.

[3]Non-ASTM designations are included in soil descriptions and symbols along with ASTM symbol [Ex: (SM-FILL)].

[4]Typically estimated via pocket penetrometer or Torvane shear test and expressed in tons per square foot (tsf).

[5]Standard Penetration Test (SPT) refers to the number of hammer blows (blow count) of a 140 lb. hammer falling 30 inches on a 2 inch OD split spoon sampler required to drive the sampler 12 inches (ASTM D 1586). "N-value" is another term for "blow count" and is expressed in blows per foot (bpf). SPT correlations per 7.4.2 Method B and need to be corrected if using an auto hammer.

[6]The water levels are those levels actually measured in the borehole at the times indicated by the symbol. The measurements are relatively reliable when augering, without adding fluids, in granular soils. In clay and cohesive silts, the determination of water levels may require several days for the water level to stabilize. In such cases, additional methods of measurement are generally employed.

[7]Minor deviation from ASTM D 2488-17 Note 14.

[8]Percentages are estimated to the nearest 5% per ASTM D 2488-17.

SUBSURFACE EXPLORATION PROCEDURE: STANDARD PENETRATION TESTING (SPT) ASTM D 1586 Split-Barrel Sampling

Standard Penetration Testing, or **SPT**, is the most frequently used subsurface exploration test performed worldwide. This test provides samples for identification purposes, as well as a measure of penetration resistance, or N-value. The N-Value, or blow counts, when corrected and correlated, can approximate engineering properties of soils used for geotechnical design and engineering purposes.

SPT Procedure:

- Involves driving a hollow tube (split-spoon) into the ground by dropping a 140-lb hammer a height of 30-inches at desired depth
- Recording the number of hammer blows required to drive split-spoon a distance of 12 inches (in 3 or 4 Increments of 6 inches each)

- Auger is advanced* and an additional SPT is performed
- One SPT test is typically performed for every two to five feet

- Obtain two-inch diameter soil sample

**Drilling Methods May Vary—* The predominant drilling methods used for SPT are open hole fluid rotary drilling and hollow-stem auger drilling.

CLIENT:	PROJECT NO.:	SHEET:
KB Home	**35:31629**	**1 of 1**
PROJECT NAME:	HAND AUGER NO.:	SURFACE ELEVATION:
Laurel Point	**A-1**	
SITE LOCATION:		STATION:
Highway 16, St Augustine, Florida 32092		
NORTHING: **0.0**	EASTING: **0.0**	

DEPTH (FT)	WATER LEVELS	ELEVATION (FT)	DESCRIPTION OF MATERIAL	EXCAVATION EFFORT	DCP	SAMPLE NUMBER	FINES CONTENT (%)	MOISTURE CONTENT (%)
	▽		(SP) SAND, dark brown, wet			S-1		
5		-5	**END OF DRILLING AT 6.0 FT**					
10		-10						
15								

REMARKS:

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDRY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

EXCAVATION EFFORT: E - EASY M - MEDIUM D - DIFFICULT VD - VERY DIFFICULT

▽ WL (First Encountered) **0.00**	▼ WL (Seasonal High) **0.00**	ECS REP:	DATE COMPLETED:	UNITS:	CAVE-IN-DEPTH:
▼ WL (Completion)		**S.B.**	**Apr 27 2021**	**English**	

HAND AUGER LOG

CLIENT:	PROJECT NO.:	SHEET:
KB Home	**35:31629**	**1 of 1**
PROJECT NAME:	HAND AUGER NO.:	SURFACE ELEVATION:
Laurel Point	**A-2**	
SITE LOCATION:		STATION:
Highway 16, St Augustine, Florida 32092		
NORTHING: **0.0**	EASTING: **10.0**	

DEPTH (FT)	WATER LEVELS	ELEVATION (FT)	DESCRIPTION OF MATERIAL	EXCAVATION EFFORT	DCP	SAMPLE NUMBER	FINES CONTENT (%)	MOISTURE CONTENT (%)
	▽		(SP) SAND, gray, moist					
	▽					S-1		
			(SP) SAND, brown, wet					
5		-5				S-2		
			END OF DRILLING AT 6.0 FT					
10		-10						
15								

REMARKS:

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDRY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

EXCAVATION EFFORT: E - EASY M - MEDIUM D - DIFFICULT VD - VERY DIFFICULT

▽ WL (First Encountered) **1.50**	▼ WL (Seasonal High) **0.50**	ECS REP:	DATE COMPLETED:	UNITS:	CAVE-IN-DEPTH:
▼ WL (Completion)			**Apr 27 2021**	**English**	

HAND AUGER LOG

CLIENT:	PROJECT NO.:	SHEET:
KB Home	**35:31629**	**1 of 1**
PROJECT NAME:	HAND AUGER NO.:	SURFACE ELEVATION:
Laurel Point	**A-3**	
SITE LOCATION:		STATION:
Highway 16, St Augustine, Florida 32092		
NORTHING: **0.0**	EASTING: **20.0**	

DEPTH (FT)	WATER LEVELS	ELEVATION (FT)	DESCRIPTION OF MATERIAL	EXCAVATION EFFORT	DCP	SAMPLE NUMBER	FINES CONTENT (%)	MOISTURE CONTENT (%)
	▽		(SP) SAND, gray, wet			S-1		
5		-5	**END OF DRILLING AT 6.0 FT**					
10		-10						
15								

REMARKS:

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDRY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

EXCAVATION EFFORT: E - EASY M - MEDIUM D - DIFFICULT VD - VERY DIFFICULT

▽ WL (First Encountered) **0.00**	▼ WL (Seasonal High) **0.00**	ECS REP:	DATE COMPLETED:	UNITS:	CAVE-IN-DEPTH:
▼ WL (Completion)			**Apr 27 2021**	**English**	

HAND AUGER LOG

CLIENT:	PROJECT NO.:	SHEET:
KB Home	**35:31629**	**1 of 1**
PROJECT NAME:	HAND AUGER NO.:	SURFACE ELEVATION:
Laurel Point	**A-4**	
SITE LOCATION:		STATION:
Highway 16, St Augustine, Florida 32092		
NORTHING: **0.0**	EASTING: **30.0**	

DEPTH (FT)	WATER LEVELS	ELEVATION (FT)	DESCRIPTION OF MATERIAL	EXCAVATION EFFORT	DCP	SAMPLE NUMBER	FINES CONTENT (%)	MOISTURE CONTENT (%)
	▽		(SP) SAND, dark brown, moist					
	▽					S-1		
			(SP) SAND, gray, wet					
5		-5				S-2		
			(SP) SAND, brown, wet					
			END OF DRILLING AT 6.0 FT					
10		-10						
15								

REMARKS:

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDRY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

EXCAVATION EFFORT: E - EASY M - MEDIUM D - DIFFICULT VD - VERY DIFFICULT

▽ WL (First Encountered) **2.00**	▼ WL (Seasonal High) **1.00**	ECS REP:	DATE COMPLETED:	UNITS:	CAVE-IN-DEPTH:
▼ WL (Completion)			**Apr 27 2021**	**English**	

HAND AUGER LOG

CLIENT:	PROJECT NO.:	SHEET:
KB Home	**35:31629**	**1 of 1**
PROJECT NAME:	HAND AUGER NO.:	SURFACE ELEVATION:
Laurel Point	**A-5**	
SITE LOCATION:		STATION:
Highway 16, St Augustine, Florida 32092		
NORTHING: **0.0**	EASTING: **40.0**	

DEPTH (FT)	WATER LEVELS	ELEVATION (FT)	DESCRIPTION OF MATERIAL	EXCAVATION EFFORT	DCP	SAMPLE NUMBER	FINES CONTENT (%)	MOISTURE CONTENT (%)
	▽		(SP-SM) SAND WITH SILT, dark brown, wet					
			(SP) SAND, gray, wet			S-1		
5		-5	(SP) SAND, brown, wet					
			END OF DRILLING AT 6.0 FT					
10		-10						
15								

REMARKS:

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDRY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

EXCAVATION EFFORT: E - EASY M - MEDIUM D - DIFFICULT VD - VERY DIFFICULT

▽ WL (First Encountered) **0.00**	▼ WL (Seasonal High) **0.00**	ECS REP:	DATE COMPLETED:	UNITS:	CAVE-IN-DEPTH:
▼ WL (Completion)			**Apr 27 2021**	**English**	

HAND AUGER LOG

CLIENT:	PROJECT NO.:	SHEET:
KB Home	**35:31629**	**1 of 1**
PROJECT NAME:	HAND AUGER NO.:	SURFACE ELEVATION:
Laurel Point	**A-6**	
SITE LOCATION:		STATION:
Highway 16, St Augustine, Florida 32092		
NORTHING: **0.0**	EASTING: **50.0**	

DEPTH (FT)	WATER LEVELS	ELEVATION (FT)	DESCRIPTION OF MATERIAL	EXCAVATION EFFORT	DCP	SAMPLE NUMBER	FINES CONTENT (%)	MOISTURE CONTENT (%)
	▽		(SP-SM) SAND WITH SILT, dark brown, moist					
	▼		(SP) SAND, dark brown, wet			S-1		
5		-5	(SP) SAND, brown, wet					
			END OF DRILLING AT 6.0 FT					
10		-10						
15								

REMARKS:

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDRY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

EXCAVATION EFFORT: E - EASY M - MEDIUM D - DIFFICULT VD - VERY DIFFICULT

▽ WL (First Encountered) **1.00**	▼ WL (Seasonal High) **0.50**	ECS REP:	DATE COMPLETED:	UNITS:	CAVE-IN-DEPTH:
▼ WL (Completion)			**Apr 27 2021**	**English**	

HAND AUGER LOG

CLIENT:	PROJECT NO.:	SHEET:
KB Home	**35:31629**	**1 of 1**
PROJECT NAME:	HAND AUGER NO.:	SURFACE ELEVATION:
Laurel Point	**A-7**	
SITE LOCATION:		STATION:
Highway 16, St Augustine, Florida 32092		
NORTHING: **50.0**	EASTING: **0.0**	

DEPTH (FT)	WATER LEVELS	ELEVATION (FT)	DESCRIPTION OF MATERIAL	EXCAVATION EFFORT	DCP	SAMPLE NUMBER	FINES CONTENT (%)	MOISTURE CONTENT (%)
	▽		(SP) SAND, gray, wet					
			(SP) SAND, gray, wet			S-1		
5		-5				S-2		
			END OF DRILLING AT 6.0 FT					
10		-10						
15								

REMARKS:

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDRY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

EXCAVATION EFFORT: E - EASY M - MEDIUM D - DIFFICULT VD - VERY DIFFICULT

▽ WL (First Encountered) **0.00**	▼ WL (Seasonal High) **0.00**	ECS REP:	DATE COMPLETED:	UNITS:	CAVE-IN-DEPTH:
▼ WL (Completion)			**Apr 27 2021**	**English**	

HAND AUGER LOG

CLIENT:	PROJECT NO.:	SHEET:
KB Home	**35:31629**	**1 of 1**
PROJECT NAME:	HAND AUGER NO.:	SURFACE ELEVATION:
Laurel Point	**A-8**	
SITE LOCATION:		STATION:
Highway 16, St Augustine, Florida 32092		
NORTHING: **50.0**	EASTING: **10.0**	

DEPTH (FT)	WATER LEVELS	ELEVATION (FT)	DESCRIPTION OF MATERIAL	EXCAVATION EFFORT	DCP	SAMPLE NUMBER	FINES CONTENT (%)	MOISTURE CONTENT (%)
	▽		(SP) SAND, dark brown, wet					
	▼							
5		-5	(SP) SAND, brown, wet					
			END OF DRILLING AT 6.0 FT					
10		-10						
15								

REMARKS:

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDRY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

EXCAVATION EFFORT: E - EASY M - MEDIUM D - DIFFICULT VD - VERY DIFFICULT

▽ WL (First Encountered) **1.00**	▼ WL (Seasonal High) **0.50**	ECS REP:	DATE COMPLETED:	UNITS:	CAVE-IN-DEPTH:
▼ WL (Completion)			**Apr 27 2021**	**English**	

HAND AUGER LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
KB Home	**35:31629**	**B-1**	**1 of 1**
PROJECT NAME:	DRILLER/CONTRACTOR:		
Laurel Point	**ECS**		
SITE LOCATION: **Highway 16, St Augustine, Florida 32092**			LOSS OF CIRCULATION
NORTHING: **50.0**	EASTING: **20.0**	STATION:	SURFACE ELEVATION:
			BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0	S-1	SS	24	24	(SP-SM) SAND WITH SILT, dark brown, moist, very loose	▼ ▽	0	1-2-2-1 (4)
	S-2	SS	24	24	(SP) SAND, gray, wet, loose			3-4-4-6 (8)
5	S-3	SS	24	24	(SP) SAND, brown, wet, medium dense		-5	6-8-8-10 (16)
	S-4	SS	24	24	(SP) SAND, light brown, wet, medium dense			10-12-10-10 (22)
	S-5	SS	24	24	(SP) SAND, brown, wet, medium dense			10-8-7-7 (15)
10							-10	
					(SP) SAND, gray, wet, very loose			
	S-6	SS	18	18				2-2-2 (4)
15							-15	
	S-7	SS	18	18				1-1-1 (2)
20					**END OF DRILLING AT 20.0 FT**		-20	
25							-25	
30							-30	

Plastic Limit Water Content Liquid Limit
X———●———△

⊗ STANDARD PENETRATION BLOWS/FT

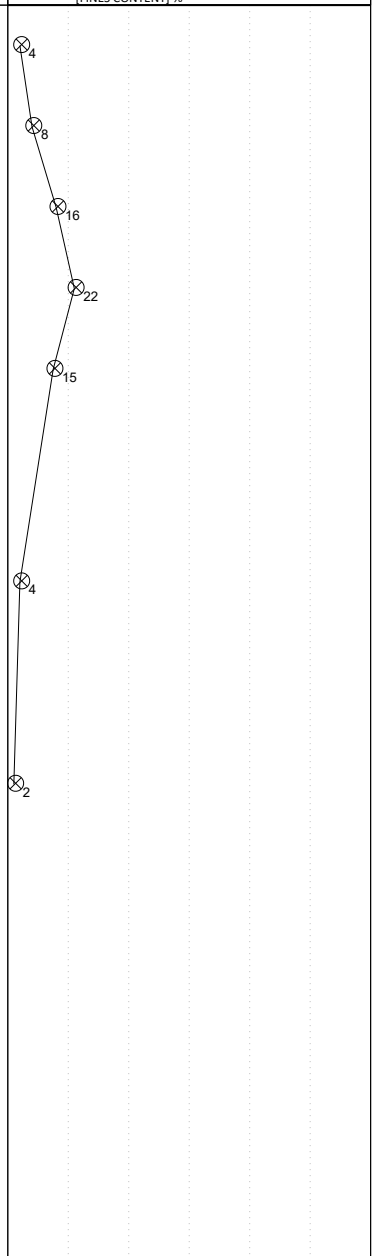
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

○ CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

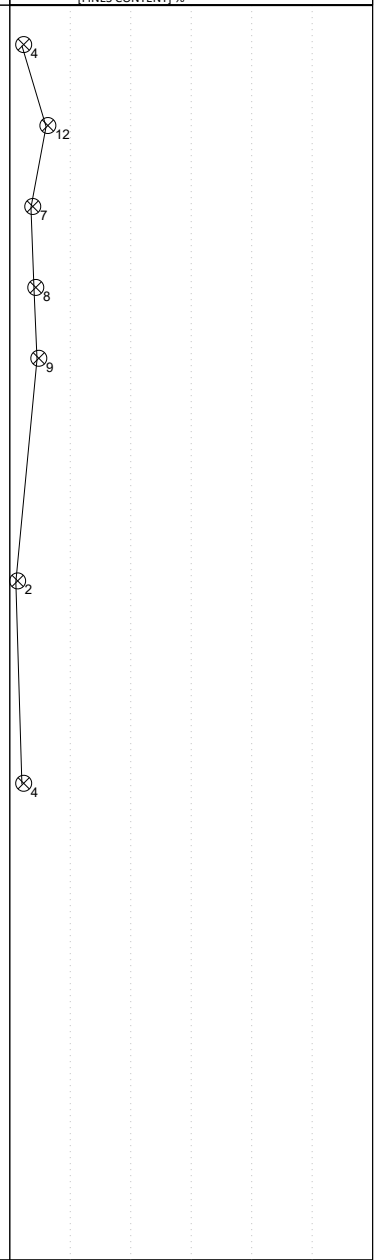
▽ WL (First Encountered)	**1.00**	BORING STARTED: **Apr 27 2021**		CAVE IN DEPTH:
▼ WL (Completion)		BORING COMPLETED: **Apr 27 2021**		HAMMER TYPE: **Auto**
▼▽ WL (Seasonal High Water)	**0.00**	EQUIPMENT: **ATV**	LOGGED BY: **SK3**	DRILLING METHOD: **Mud rotary**
▽▽ WL (Stabilized)				

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
KB Home	**35:31629**	**B-2**	**1 of 1**
PROJECT NAME:	DRILLER/CONTRACTOR:		
Laurel Point	**ECS**		
SITE LOCATION: **Highway 16, St Augustine, Florida 32092**			LOSS OF CIRCULATION
NORTHING: **50.0**	EASTING: **30.0**	STATION:	SURFACE ELEVATION:
			BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0	S-1	SS	24	24	(SP-SM) SAND WITH SILT, dark brown, wet, very loose	▼	0	1-2-2-3 (4)
	S-2	SS	24	24	(SP) SAND, brown, wet, medium dense			3-5-7-7 (12)
5	S-3	SS	24	24	(SP-SC) SAND WITH CLAY, gray, wet, loose		-5	3-3-4-4 (7)
	S-4	SS	24	24				3-4-4-4 (8)
	S-5	SS	18	18	(SP) SAND, brown, wet, loose			3-4-5 (9)
10							-10	
					(SP) SAND, gray, wet, very loose			
	S-6	SS	18	18				2-1-1 (2)
15							-15	
	S-7	SS	18	18				2-2-2 (4)
20					**END OF DRILLING AT 20.0 FT**		-20	
25							-25	
30							-30	

Plastic Limit Water Content Liquid Limit
X———●———△
⊗ STANDARD PENETRATION BLOWS/FT
ROCK QUALITY DESIGNATION & RECOVERY
RQD
REC
○ CALIBRATED PENETROMETER TON/SF
[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**0.20**	BORING STARTED: **Apr 26 2021**		CAVE IN DEPTH:
▼ WL (Completion)		BORING COMPLETED: **Apr 27 2021**		HAMMER TYPE: **Auto**
▼ WL (Seasonal High Water)	**0.00**	EQUIPMENT: **ATV**	LOGGED BY: **SK3**	DRILLING METHOD: **Mud rotary**
▽ WL (Stabilized)				

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
KB Home	**35:31629**	**B-3**	**1 of 1**
PROJECT NAME:	DRILLER/CONTRACTOR:		
Laurel Point	**ECS**		
SITE LOCATION: **Highway 16, St Augustine, Florida 32092**			LOSS OF CIRCULATION
NORTHING: **50.0**	EASTING: **40.0**	STATION:	SURFACE ELEVATION:
			BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0	S-1	SS	24	24	(SP) SAND, contains roots, dark brown, moist, very loose	▼	0	1-1-2-2 (3)
	S-2	SS	24	24	(SP) SAND, gray, wet, very loose			3-4-7-8 (11)
5	S-3	SS	24	24	(SP) SAND, gray, wet, medium dense to dense		-5	8-12-15-13 (27)
	S-4	SS	24	24				12-14-18-14 (32)
	S-5	SS	18	18				6-7-8 (15)
10							-10	
	S-6	SS	18	18	(SP-SC) SAND WITH CLAY, gray, wet, very loose			1-1-1 (2)
15							-15	
	S-7	SS	18	18				2-2-2 (4)
20					**END OF DRILLING AT 20.0 FT**		-20	
25							-25	
30							-30	

Plastic Limit Water Content Liquid Limit

⊗ STANDARD PENETRATION BLOWS/FT

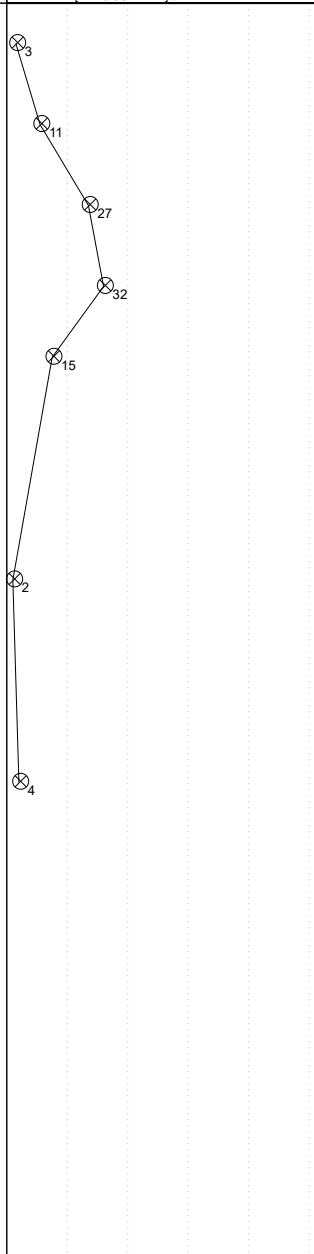
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

○ CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

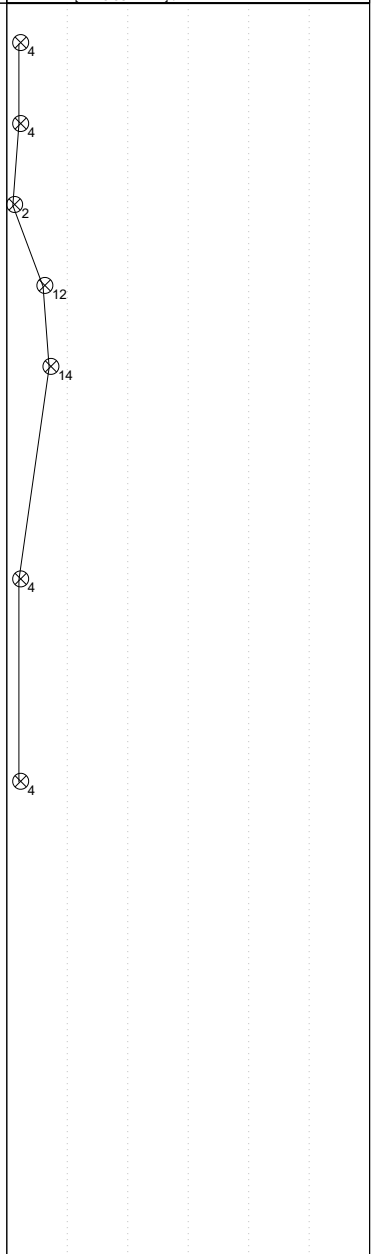
▽ WL (First Encountered)	**0.10**	BORING STARTED: **Apr 26 2021**		CAVE IN DEPTH:
▼ WL (Completion)		BORING COMPLETED: **Apr 26 2021**		HAMMER TYPE: **Auto**
▼ WL (Seasonal High Water)	**0.00**	EQUIPMENT: **ATV**	LOGGED BY: **SK3**	DRILLING METHOD: **Mud rotary**
▽ WL (Stabilized)				

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
KB Home	**35:31629**	**B-4**	**1 of 1**
PROJECT NAME:	DRILLER/CONTRACTOR:		
Laurel Point	**ECS**		
SITE LOCATION: **Highway 16, St Augustine, Florida 32092**			LOSS OF CIRCULATION
NORTHING: **50.0**	EASTING: **50.0**	STATION:	SURFACE ELEVATION: / BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0	S-1	SS	24	24	(SP) SAND, contains roots, dark brown, moist, very loose	▼ ▽	0	1-2-2-4 (4)
	S-2	SS	24	24	(SP) SAND, brown, wet, very loose			2-2-2-3 (4)
5	S-3	SS	24	24			-5	1-1-1-1 (2)
	S-4	SS	24	24	(SP) SAND, light brown, wet, medium dense			4-5-7-4 (12)
	S-5	SS	24	24				6-7-7-8 (14)
10							-10	
					(SP) SAND, brown, wet, very loose			
	S-6	SS	18	18				2-2-2 (4)
15							-15	
					(SP) SAND, gray, wet, very loose			
	S-7	SS	18	18				2-2-2 (4)
20					**END OF DRILLING AT 20.0 FT**		-20	
25							-25	
30							-30	

Plastic Limit Water Content Liquid Limit
X———●———△
⊗ STANDARD PENETRATION BLOWS/FT
ROCK QUALITY DESIGNATION & RECOVERY
RQD
REC
○ CALIBRATED PENETROMETER TON/SF
[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered) **1.00**	BORING STARTED: **Apr 26 2021**		CAVE IN DEPTH:
▼ WL (Completion)	BORING COMPLETED: **Apr 27 2021**		HAMMER TYPE: **Auto**
▼▽ WL (Seasonal High Water) **0.00**	EQUIPMENT: **ATV**	LOGGED BY: **SK3**	DRILLING METHOD: **Mud rotary**
▽▽ WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
KB Home	**35:31629**	**B-5**	**1 of 1**
PROJECT NAME:	DRILLER/CONTRACTOR:		
Laurel Point	**ECS**		
SITE LOCATION: **Highway 16, St Augustine, Florida 32092**			LOSS OF CIRCULATION
NORTHING: **100.0**	EASTING: **0.0**	STATION:	SURFACE ELEVATION:
			BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0	S-1	SS	24	24	(SP) SAND, brown, moist, loose	▼ ▽	0	1-3-3-3 (6)
	S-2	SS	24	24	(SP) SAND, light brown, wet, medium dense			3-5-6-7 (11)
5	S-3	SS	24	24	(SP) SAND, gray, wet, medium dense		-5	5-5-7-7 (12)
	S-4	SS	24	24				5-6-6-5 (12)
	S-5	SS	18	18				5-5-6 (11)
10							-10	
					(SP) SAND, gray, wet, very loose			
	S-6	SS	18	18				2-1-2 (3)
15							-15	
					(SP) SAND, gray, wet, medium dense			
	S-7	SS	18	18				4-5-9 (14)
20					**END OF DRILLING AT 20.0 FT**		-20	
25							-25	
30							-30	

Plastic Limit Water Content Liquid Limit
X———●———△

⊗ STANDARD PENETRATION BLOWS/FT

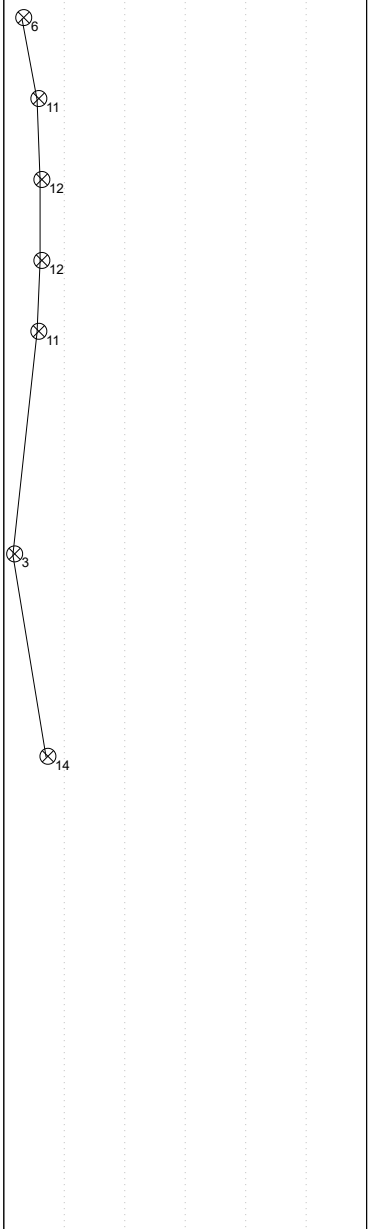
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

○ CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered)	**1.00**	BORING STARTED: **Apr 26 2021**		CAVE IN DEPTH:
▼ WL (Completion)		BORING COMPLETED: **Apr 27 2021**		HAMMER TYPE: **Auto**
▼▽ WL (Seasonal High Water)	**0.00**	EQUIPMENT: **ATV**	LOGGED BY: **SK3**	DRILLING METHOD: **Mud rotary**
▽▽ WL (Stabilized)				

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
KB Home	**35:31629**	**PB-1**	**1 of 1**
PROJECT NAME:	DRILLER/CONTRACTOR:		
Laurel Point	**ECS**		
SITE LOCATION: **Highway 16, St Augustine, Florida 32092**			LOSS OF CIRCULATION
NORTHING: **100.0**	EASTING: **10.0**	STATION:	SURFACE ELEVATION:
			BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0	S-1	SS	24	24	(SP) SAND, dark brown, wet, very loose	▼	0	1-2-2-3 (4)
	S-2	SS	24	24	(SP) SAND, light brown, wet, loose to medium dense			4-5-6-9 (11)
5	S-3	SS	24	24			-5	6-8-8-10 (16)
	S-4	SS	24	24				10-12-8-7 (20)
	S-5	SS	24	24				5-5-4-4 (9)
10							-10	
					(SP) SAND, gray, wet, loose			
15	S-6	SS	18	18			-15	2-1-1 (2)
	S-7	SS	18	18				2-1-1 (2)
20							-20	
					(SP) SAND, gray, wet, dense			
25	S-8	SS	18	18			-25	13-17-24 (41)
	S-9	SS	18	18				11-17-21 (38)
30					**END OF DRILLING AT 30.0 FT**		-30	

Plastic Limit Water Content Liquid Limit

⊗ STANDARD PENETRATION BLOWS/FT

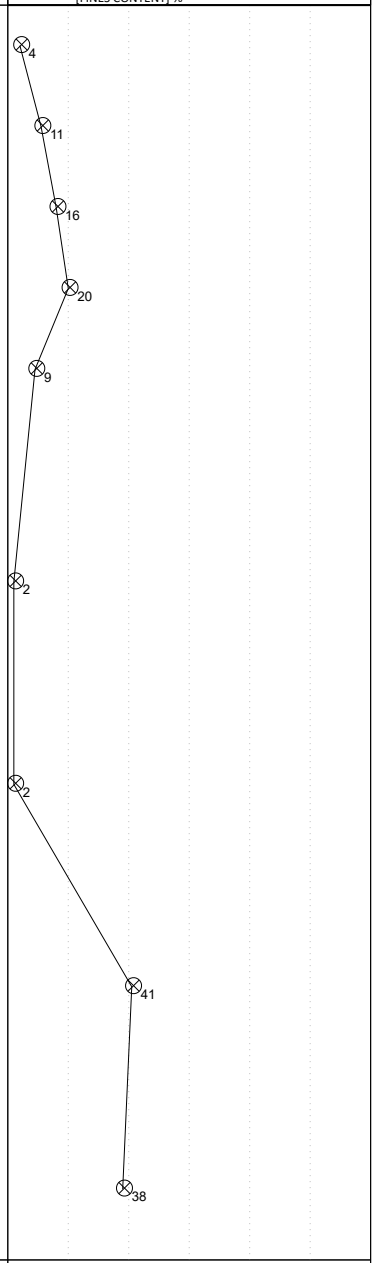
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

○ CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered) **0.40**	BORING STARTED: **Apr 26 2021**		CAVE IN DEPTH:
▼ WL (Completion)	BORING COMPLETED: **Apr 27 2021**		HAMMER TYPE: **Auto**
▼ WL (Seasonal High Water) **0.00**	EQUIPMENT: **ATV**	LOGGED BY: **SK3**	DRILLING METHOD: **Mud rotary**
▽ WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
KB Home	**35:31629**	**PB-2**	**1 of 1**
PROJECT NAME:	DRILLER/CONTRACTOR:		
Laurel Point	**ECS**		
SITE LOCATION: **Highway 16, St Augustine, Florida 32092**			LOSS OF CIRCULATION
NORTHING: **100.0**	EASTING: **20.0**	STATION:	SURFACE ELEVATION: / BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0	S-1	SS	24	24	(SP) SAND, dark brown, moist, very loose	▼ ▽	0	1-1-2-3 (3)
	S-2	SS	24	24	(SP) SAND, dark brown, moist, medium dense			3-5-6-9 (11)
5	S-3	SS	24	24	(SP) SAND, gray, moist, dense		-5	10-17-19-21 (36)
	S-4	SS	24	24				14-16-18-23 (34)
	S-5	SS	18	18				11-15-26 (41)
10							-10	
	S-6	SS	18	18	(SC) CLAYEY SAND, gray, moist, very loose, contains shell			1-1-2 (3)
15							-15	
	S-7	SS	18	18	(CL/CH) LEAN TO FAT CLAY, gray, wet, soft, contains shell			2-1-2 (3)
20							-20	
	S-8	SS	18	18	(SP) SAND, gray, wet, medium dense, contains shell			3-5-7 (12)
25							-25	
	S-9	SS	18	18				6-8-9 (17)
30					**END OF DRILLING AT 30.0 FT**		-30	

Plastic Limit Water Content Liquid Limit (X———●———△)

⊗ STANDARD PENETRATION BLOWS/FT

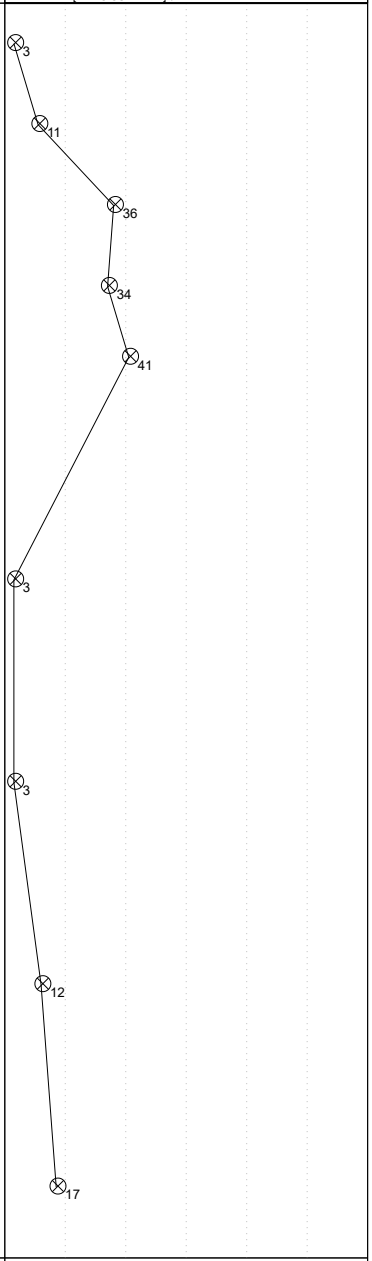
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

○ CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered) **1.00**	BORING STARTED: **Apr 26 2021**		CAVE IN DEPTH:
▼ WL (Completion)	BORING COMPLETED: **Apr 27 2021**		HAMMER TYPE: **Auto**
▼▽ WL (Seasonal High Water) **0.00**	EQUIPMENT: **ATV**	LOGGED BY: **SK3**	DRILLING METHOD: **Mud rotary**
▽▽ WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG

CLIENT:	PROJECT NO.:	BORING NO.:	SHEET:
KB Home	**35:31629**	**PB-3**	**1 of 1**
PROJECT NAME:	DRILLER/CONTRACTOR:		
Laurel Point	**ECS**		
SITE LOCATION: **Highway 16, St Augustine, Florida 32092**			LOSS OF CIRCULATION
NORTHING: **100.0**	EASTING: **30.0**	STATION:	SURFACE ELEVATION:
			BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
	S-1	SS	24	24	(SP) SAND, dark brown, wet, very loose	▼		1-2-2-4 (4)
	S-2	SS	24	24	(SP) SAND, brown, wet, medium dense			3-6-8-7 (14)
5	S-3	SS	24	24			-5	5-6-7-8 (13)
	S-4	SS	24	24	(SP) SAND, brown, wet, loose			3-3-5-8 (8)
	S-5	SS	24	24	(SP) SAND, gray, wet, very loose, contains shell			3-4-5-5 (9)
10							-10	
	S-6	SS	18	18	(SP-SC) SAND WITH CLAY, gray, wet, very loose, contains shell			1-2-1 (3)
15							-15	
	S-7	SS	18	18				2-2-1 (3)
20							-20	
	S-8	SS	18	18	(SP) SAND, gray, wet, medium dense, contains shell			5-4-7 (11)
25							-25	
	S-9	SS	18	18	(SP) SAND, light brown, wet, medium dense			9-11-15 (26)
30					**END OF DRILLING AT 30.0 FT**		-30	

Plastic Limit Water Content Liquid Limit

⊗ STANDARD PENETRATION BLOWS/FT

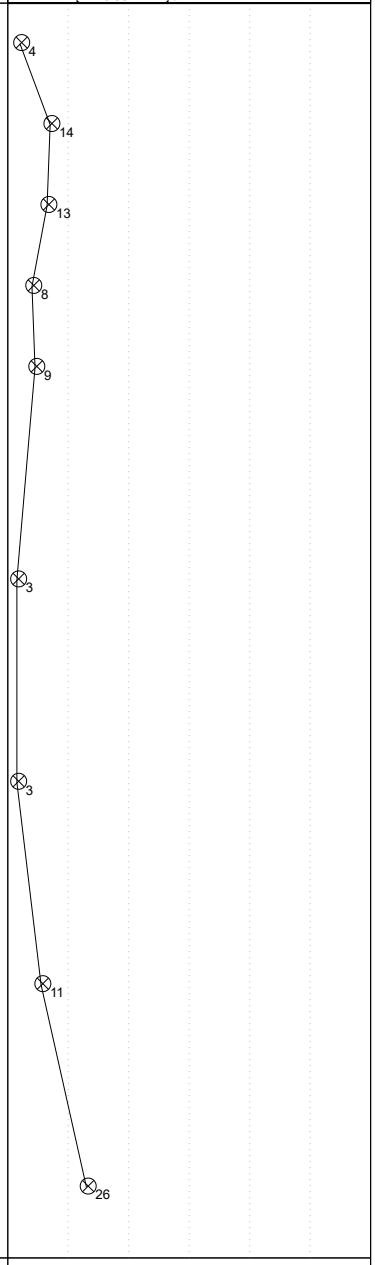
ROCK QUALITY DESIGNATION & RECOVERY

RQD

REC

○ CALIBRATED PENETROMETER TON/SF

[FINES CONTENT] %



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered) **0.00**	BORING STARTED: **Apr 26 2021**		CAVE IN DEPTH:
▼ WL (Completion)	BORING COMPLETED: **Apr 27 2021**		HAMMER TYPE: **Auto**
▼ WL (Seasonal High Water) **0.00**	EQUIPMENT: **ATV**	LOGGED BY: **SK3**	DRILLING METHOD: **Mud rotary**
▽ WL (Stabilized)			

GEOTECHNICAL BOREHOLE LOG