



# ECS Southeast, LLC

## Preliminary Geotechnical Engineering Report

### Blythewood Site - Geo

10424 Wilson Boulevard  
Blythewood, South Carolina

ECS Project Number 38:2874

December 11, 2023





**ECS SOUTHEAST, LLC**

Geotechnical • Construction Materials • Environmental • Facilities

December 11, 2023

Ms. Kara Strickland, PE  
Pedcor Investments, LLC  
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Carmel, Indiana 46032

ECS Project No. 38:2874

Reference: Preliminary Geotechnical Engineering Report  
**Blythewood Site - Geo**  
10424 Wilson Boulevard  
Blythewood, Richland County, South Carolina

Dear Ms. Strickland:

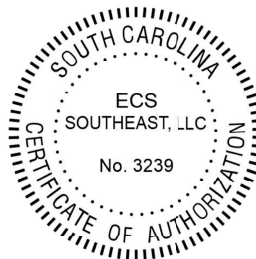
ECS Southeast, LLC (ECS) has completed the preliminary subsurface exploration, laboratory testing, and geotechnical engineering analyses for the above-referenced project. Our services were performed in general accordance with our Proposal No. 38:3309, dated October 20, 2023. This report presents our understanding of the geotechnical aspects of the project, the results of the field exploration and laboratory services conducted, and our preliminary design and construction recommendations.

It has been our pleasure to be of service to Pedcor Investments, LLC 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 document 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 Southeast, LLC**

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"ONE FIRM. ONE MISSION."

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## **APPENDICES**

### **Appendix A – Drawings & Reports**

- Site Location Diagram
- Field Exploration Diagram
- Subsurface Cross Sections

### **Appendix B – Field Operations**

- Reference Notes for Boring Logs
- Soil Test Boring Logs
- Hand Auger Boring Log
- ReMi Testing Results

### **Appendix C – Laboratory Testing**

- Laboratory Testing Summary
- Laboratory Testing Data Sheets



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## EXECUTIVE SUMMARY

The following summarizes the main findings of the exploration, particularly those that may have a cost impact on the planned development. Further, our preliminary foundation recommendations are summarized. Information gleaned from the executive summary should not be utilized in lieu of reading the entire geotechnical report.

- Lightly loaded structures (column and wall footing loads less than 200 kips and 4 kips per linear foot, respectively) can likely be supported by shallow foundations bearing on evaluated natural soils or new engineered fill. Moderately loaded structures (column and wall footing loads greater than 200 kips and 4 kips per linear foot, respectively) will require additional testing and detailed settlement analyses to determine if shallow foundations are adequate.
- For preliminary design purposes, the footings can be sized using a presumptive net allowable bearing pressure of 2,500 psf. A higher net allowable bearing pressure could be achieved depending on the results of the recommended design-phase geotechnical exploration and/or final foundation subgrade elevations.
- Groundwater was measured, where encountered, at depths ranging from approximately 11.5 to 18.5 feet below the existing ground surface. Variations in the long-term groundwater table may occur due to changes in precipitation, evaporation, surface water runoff, construction activities, and other factors.
- Based on the shear wave velocity measurements, a Seismic Site Class "C" is appropriate for this site.
- Once the final site layout and foundation plans have been developed, a final geotechnical study should be performed to determine the design net allowable bearing pressure(s) for the proposed structures.
- ECS should be retained to review the design documents for conformance with our recommendations.
- ECS should be retained for construction materials testing and special inspections to facilitate proper implementation of our recommendations.

Specific information regarding the subsurface exploration procedures, the site, and subsurface conditions at the time of our exploration, and our conclusions and recommendations concerning the geotechnical design and construction aspects of the project are discussed in detail in the subsequent sections of this report.

## 1.0 INTRODUCTION

The purpose of this study was to provide geotechnical information for preliminary design of the proposed multi-family development. The project will include the construction of 9 apartment buildings with associated clubhouse, pavements, and a stormwater management pond. The recommendations developed for this report are based on preliminary project information supplied by you.

This report contains the results of our subsurface exploration and laboratory services programs, review of existing site conditions, engineering analyses, and recommendations for preliminary design and construction of the project. The report includes the following items:

- Information on current site conditions.
- Description of the field exploration procedures.
- Final logs and records of the field exploration.
- Site location diagram and field exploration diagram.
- Evaluation of the on-site soil characteristics encountered at the test locations.
- Recommendations for site preparation.
- Preliminary recommendations regarding shallow foundations for the structures.
- Compaction requirements for fill and backfill areas.
- Preliminary recommendations for slab-on-grade design and construction.
- Preliminary pavement recommendations.
- Recommendations for seismic site classification.

## 2.0 PROJECT INFORMATION

The subject site is located at 10424 Wilson Boulevard in Blythewood, South Carolina, as shown below and on the Site Location Diagram in Appendix A.

The approximately 22.8-acre site is further identified as Richland County Parcel Number R1500-05-04 and is currently undeveloped and wooded. Based on available Richland County GIS topographical information, site grades generally range from approximately 442 to 452 feet (NAVD88).

We understand the proposed project will include the construction of an apartment complex consisting of 9 apartment buildings (with up to 216 units), a clubhouse, pavements, and a stormwater management pond. Detailed information about the proposed structures was not available at the time of this report. However, we anticipate that the apartment buildings will be up to 3-story, wood-framed structures with concrete slabs-on-grade ground floors.

We further understand that pavement section design for project will be based on a trip count of 1,100 passenger vehicles per day, 6 school bus trips per day, 1 garbage truck trip per week, and 4 delivery truck trips per week.

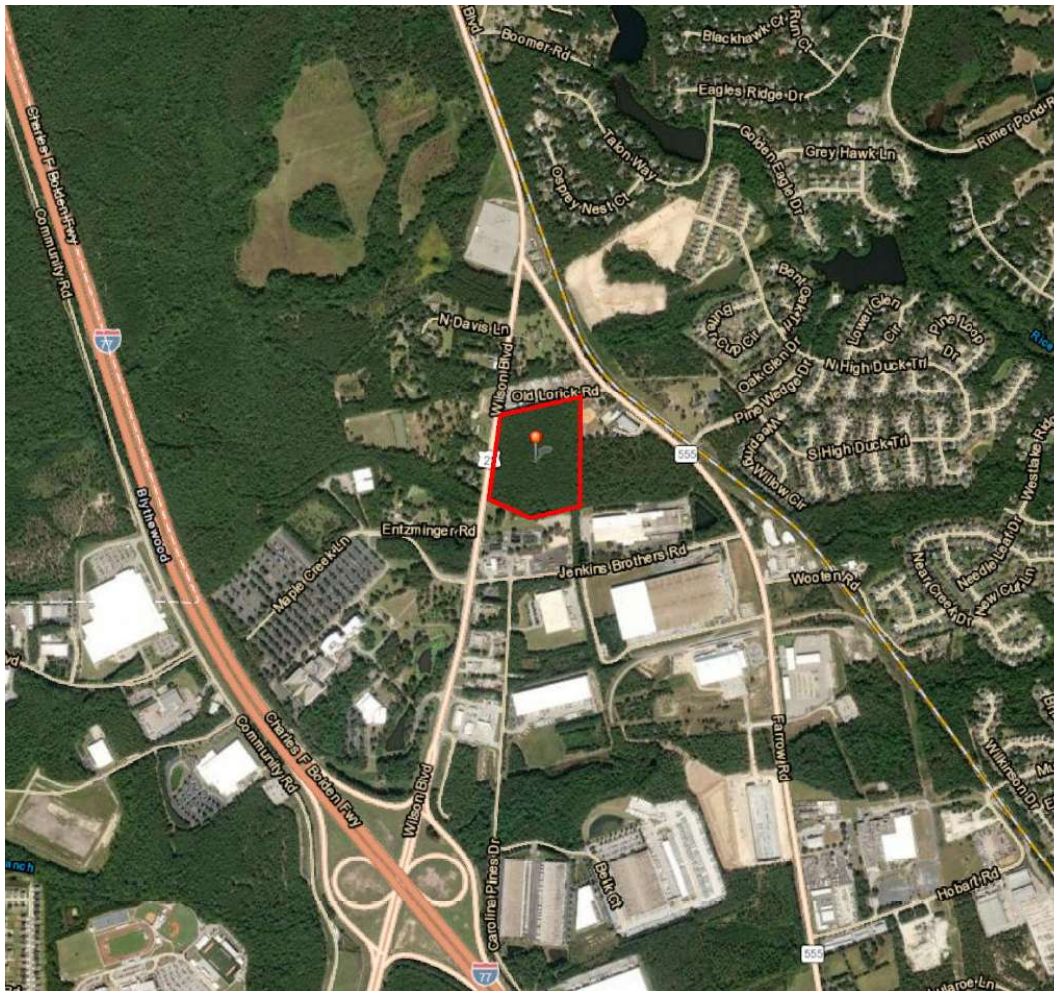


Figure 2-1 Site Location

### 3.0 FIELD EXPLORATION AND LABORATORY TESTING

#### 3.1 FIELD EXPLORATION

##### 3.1.1 Soil Test Borings

Fourteen soil test borings were drilled at the project site as shown on the Field Exploration Diagram in Appendix A. The borings were extended to a depth of approximately 20 feet below the existing ground surface. The borings were located in the field with handheld GPS technology and their locations indicated on the Field Exploration Diagram should be considered approximate.

The soil test borings were performed using a track mounted Geoprobe 7822 drill rig utilizing hollow stem auger drilling techniques. Representative soil samples were obtained by means of the split-barrel (split-spoon) sampling procedure in accordance with ASTM D1586. In this procedure, a 2-inch O.D., split-barrel sampler is driven into the soil 18 inches by a 140-pound hammer falling 30 inches. The number of blows required to drive the sampler through the 2<sup>nd</sup> and 3<sup>rd</sup> 6-inch intervals is termed the Standard

Penetration Test (SPT) N-value and is indicated for each sample on the boring logs. This value can be used as a qualitative indication of the in-place relative density of cohesionless soils. In a less reliable way, it also indicates the consistency of cohesive soils. This indication is qualitative, since many factors can affect the standard penetration resistance value and prevent a direct correlation with drilling crews, equipment, and procedures. Split-spoon samples were obtained at 2½-foot intervals within the upper 10 feet of the borings and at 5-foot intervals thereafter.

After recovery, each sample was removed from the sampler and visually classified. Representative portions of each sample were then sealed in airtight containers and brought to our laboratory.

The drill rig was equipped with an auto-hammer split-spoon driving assembly. The auto-hammer generally delivers more energy downhole to the sampler than the standard cathead driving assembly, therefore, the recorded SPT N-values are lower than the  $N_{60}$ -values recorded from using the cat-head assembly. Although the differences in energy will vary, it is common to assume the auto-hammer delivers about 1.3 times the energy of the cat-head assembly. The N-values recorded in the field using the auto-hammer assembly are reported on the soil test boring logs which are included in Appendix B.

### **3.1.2 Hand Auger Boring and Infiltration Testing**

One hand auger boring was performed in the proposed stormwater management pond area as shown on the Field Exploration Diagram in Appendix A. The hand auger boring was extended to a depth of approximately 7 feet below the existing ground surface. The hand auger boring was located in the field with handheld GPS technology and its location indicated on the Field Exploration Diagram should be considered approximate.

Representative soil samples were obtained by means of the hand operated auger sampling procedure in general accordance with ASTM D1452. In this procedure, the auger boring is made by rotating and advancing the auger bucket to the desired depths while periodically removing the bucket from the hole to clear and observe the auger cuttings. The auger cuttings were observed in the field for visual classification and indication of the seasonal high water table (SHWT). Representative portions of each sample were then sealed in airtight containers and brought to our laboratory. The hand auger boring log is included in Appendix B.

Infiltration testing was conducted within hand auger boring utilizing a compact constant head permeameter (CCHP). The CCHP is a field testing device that provides the means to collect data for determining in-situ saturated hydraulic conductivity ( $K_{sat}$ ) of the vadose (unsaturated) zone.

### **3.1.3 Refraction Microtremor Survey**

A Refraction Microtremor (ReMi) survey was performed at the project site along 2 arrays as shown on the Field Exploration Diagram in Appendix A. The data was gathered in the field with standard seismic refraction equipment to measure site characteristics using ambient vibrations (microtremors) as a seismic source. Data was collected using a 24-channel DAQlink 4 Seismograph with 24 geophones at 10-foot spacing. Ten unfiltered 30-second records were recorded along the array. The ReMi array locations indicated on the Field Exploration Diagram should be considered approximate.

The data was processed using proprietary SeisOpt® ReMi™ software to reveal a one-dimensional shear-wave (S-wave) velocity image of the subsurface materials beneath the array. The survey also provided the average shear wave velocity to a depth of 100 feet that was used to assess the seismic Site Class. The ReMi Testing Results are included in Appendix B.

### **3.2 LABORATORY SERVICES**

Each sample was visually classified based on texture and plasticity in accordance with ASTM D2488 Standard Practice for Description and Identification of Soils (Visual-Manual Procedures). The laboratory testing consisted of selected tests performed on samples obtained during our field exploration operations. Classification and index property tests were performed on representative soil samples in accordance with ASTM D2487 Standard Practice for Classification for Engineering Purposes (Unified Soil Classification System (USCS)). Classification and index property tests performed included natural moisture content (ASTM D2216), percent passing sieve number 200 (ASTM D1140), particle size distribution (ASTM D422), and Atterberg limits (ASTM D4318). Laboratory testing also included standard Proctor (ASTM D698) and California Bearing Ratio (CBR) (ASTM D1883).

After identification and classification, the samples were grouped into 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.

The laboratory testing was performed in general conformance with the referenced ASTM standards. The Laboratory Testing Summary and select test data sheets are included in Appendix C.

## **4.0 SUBSURFACE CONDITIONS**

### **4.1 REGIONAL/SITE GEOLOGY**

The site is located in the Coastal Plain Physiographic Province of South Carolina. The Coastal Plain is composed of seven terraces, each representing a former level of the Atlantic Ocean. Soils in this area generally consist of sedimentary materials transported from other areas by the ocean or rivers. These deposits vary in thickness from a thin veneer along the western edge of the region to more than 10,000 feet near the coast. The sedimentary deposits of the Coastal Plain rest upon consolidated rocks similar to those underlying the adjacent Piedmont Physiographic Province. In general, shallow unconfined groundwater movement within the overlying soils is largely controlled by topographic gradients. Recharge occurs primarily by infiltration along higher elevations and typically discharges into streams or other surface water bodies. The elevation of the shallow water table is transient and can vary greatly with seasonal fluctuations in precipitation.

### **4.2 SUBSURFACE CHARACTERIZATION**

The subsurface conditions encountered were generally consistent with published geological mapping. The following table provides generalized characterizations of the soil strata encountered during our subsurface exploration. For subsurface information at a specific location, refer to the logs presented in Appendix B.



Stratum	Approximate Bottom of Stratum Depth Range	Description	Range of Resistance Values
Surficial Materials	See Description	Topsoil: 1 to 3 inches	NA
Coastal Plain I	6 feet	USCS Classifications: SP-SM, SC, SM	SPT: 6 to 26 BPF
Coastal Plain II	End of Boring	USCS Classifications: SM, SC, MH, SP-SM, SP	SPT: 10 to 78 BPF

Notes: (1) Surficial materials are approximate and should not be relied upon for surficial material removal takeoffs. (2) Resistance Values: SPT – Standard Penetration Test N-values.

A graphical presentation of the subsurface conditions is shown on the Subsurface Cross Section Diagrams included in Appendix A. Please note that the ground surface elevations shown on the boring logs and cross sections were not surveyed by a licensed surveyor. These elevations were interpolated using topographic information obtained from the Richland County GIS website and they should be considered approximate.

### 4.3 GROUNDWATER OBSERVATIONS

Groundwater levels were measured at the test locations during our field exploration as noted on the logs in Appendix B. Groundwater was encountered at depths ranging from approximately 11.5 to 18.5 feet below the existing ground surface.

Normally, the shallowest groundwater levels occur in late winter and spring and the deepest levels occur in late summer and fall. Groundwater elevations should be expected to vary depending on seasonal fluctuations in precipitation, surface water absorption characteristics, and other factors not readily apparent at the time of our exploration and may be higher or lower than inferred from the recent test boring data.

### 4.4 SHWT ESTIMATION AND INFILTRATION TESTING RESULTS

The seasonal high water table (SHWT) was estimated and groundwater depth was measured within the hand auger boring. A summary of the findings are as follows:

**SHWT and Groundwater Depths**

Location	SHWT (ft)	Groundwater (ft)
I-01	3.5	Not Encountered

**Infiltration Testing Results**

Location	Description	Rate (in./hr.)	Test Depth (in.)
I-01	(SC) Clayey Sand	1.16	36

Hydraulic conductivity and SHWT depths may vary within the proposed site due to changes in elevation and subsurface conditions. The values provided are field values. An appropriate factor of safety should be applied for design.

## **5.0 PRELIMINARY DESIGN RECOMMENDATIONS**

### **5.1 FOUNDATIONS**

Lightly loaded structures (column and wall footing loads less than 200 kips and 4 kips per linear foot, respectively) can likely be supported by shallow foundations bearing on evaluated natural soils or new engineered fill. Moderately loaded structures (column and wall footing loads greater than 200 kips and 4 kips per linear foot, respectively) will require additional testing and detailed settlement analyses to determine if shallow foundations are adequate.

For preliminary design purposes, the footings can be sized using a presumptive net allowable bearing pressure of 2,500 psf. A higher net allowable bearing pressure could be achieved depending on the results of the recommended design-phase geotechnical exploration and/or final foundation subgrade elevations. The column footings should have a minimum width of 30 inches and the wall footings should have a minimum width of 24 inches. In addition, the foundations should be embedded a minimum depth of 18 inches below the finished floor elevation or finished exterior grade.

Once the final locations of the buildings, foundation layout, and foundation loads have been determined, this information should be provided to ECS. We may be able to modify these preliminary foundation recommendations once additional project information is available. Also, additional field testing and detailed settlement analyses may increase the recommended design bearing pressure. We request the preliminary unfactored loads and column/bearing wall foundation plans be provided before performing further testing.

### **5.2 FLOOR SLABS ON GRADE**

#### **5.2.1 Floor Slabs**

ECS recommends ground floor slabs be designed as slabs-on-grade over evaluated natural soils or new compacted structural fills that are unyielding when proofrolled. A preliminary modulus of subgrade reaction of 150 psi/in (pci) is recommended for design of floor slabs bearing on unyielding natural soils and newly placed and properly compacted structural fill soils. This modulus value is appropriate for point loads from vehicle wheels or point loads from equipment and rack posts, legs, and columns. A lower value should be used for distributed loads on floor slabs or equipment pads.

To allow for some relative displacement, the floor slabs should be structurally separated from both columns and load bearing walls. In addition, slabs should be provided with sufficient joints to control cracking associated with concrete volume changes. To help reduce curling of the slab and any resulting cracking, proper curing techniques should be used.

#### **5.2.2 Post-Tensioned (PT) Slabs**

A post-tensioned (PT) slab and foundation system consisting of a monolithic PT slab with continuous footings under load-bearing walls may be utilized to support the proposed residential buildings. The PT slabs should be designed in accordance with the Building Research Advisory Board (BRAB) Criteria for

Selection and Design of Residential Slabs-on-Ground or PTI Design of Post-Tensioned Slabs-on-Ground guidelines.

The near-surface soils encountered in the borings consisted of predominately loose to medium dense cohesionless sands. According to BRAB's slab type selection criteria and based on the soil conditions encountered at the test locations, a Type I slab should be appropriate for this site.

The thickened sections of the PT monolithic slab should extend at least 12 inches below finish exterior grade at perimeter walls and at least 12 inches below finish floor elevation for interior load-bearing walls. The bottoms of the thickened sections should have a minimum width of 12 inches. Previous recommendations given for a traditional slab-on-grade also apply for the PT monolithic slab-on-grade (e.g., modulus of subgrade reaction, etc.)

### 5.3 SEISMIC DESIGN CONSIDERATIONS

In accordance with the 2021 IBC, ASCE 7 requires site classification for seismic design based on the upper 100 feet of a soil profile. Three methods are utilized in classifying sites, namely the shear wave velocity ( $V_s$ ) method; the Standard Penetration Resistance (N-value) method; and the undrained shear strength ( $S_u$ ) method. The seismic site class definitions for the weighted average of shear wave velocity, SPT N-value, and undrained shear strength in the upper 100 feet of the soil profile are shown in the following table:

Site Class	Soil Profile Name	Shear Wave Velocity, $V_s$ (ft/s)	N-value (bpf)	Undrained Shear Strength, $S_u$ (psf)
A	Hard Rock	$V_s > 5,000$	N/A	N/A
B	Rock	$2,500 < V_s \leq 5,000$	N/A	N/A
C	Very dense soil and soft rock	$1,200 < V_s \leq 2,500$	$N > 50$	$S_u \geq 2000$
D	Stiff Soil Profile	$600 \leq V_s \leq 1,200$	$15 \leq N \leq 50$	$1000 \leq S_u \leq 2000$
E	Soft Soil Profile	$V_s < 600$	$N < 15$	$S_u < 1000$

Based on the shear wave velocity measurements and our interpretation of the subsurface conditions encountered, we recommend a Seismic Site Classification of "C" be used for this site. The Site Class definition should not be confused with the Seismic Design Category designation which the Structural Engineer typically assesses.

### 5.4 PAVEMENTS

Provided the pavement subgrades are prepared in strict accordance with the Subgrade Preparation and Earthwork Operations sections of this report, new pavements may be supported on new engineered fill, evaluated existing fill, or unyielding natural soils. We have developed the pavement section recommended below using AASHTO guidelines based on a design CBR value of 10 which is typical of the soils encountered in the borings, and unyielding subgrade during proofrolling.

Based on the provided traffic loading information, we estimate a design traffic loading of up to 50,000 equivalent single axle loadings (ESALs) in 20 years. It is important to understand the recommended section does not consider construction traffic.



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Material Designation	Flexible Pavement
Asphalt Surface Course (Type C)	3 inches
Graded Aggregate Base Course	6 inches

Base course materials beneath pavements should be compacted to at least 98% of their modified Proctor maximum dry density (ASTM D1557). The asphalt concrete and all crushed stone materials should conform to the SCDOT Standard Specifications.

An important consideration with the design, construction and performance of pavements is surface and subsurface drainage. Where standing water develops, either on the pavement surface or within the base course layer, softening of the subgrades and other problems related to the deterioration of the pavement can be expected. Furthermore, good drainage should help reduce the possibility of the subgrade materials becoming saturated during the normal service period of the pavement.

## 6.0 SITE CONSTRUCTION RECOMMENDATIONS

### 6.1 SUBGRADE PREPARATION

#### 6.1.1 Stripping and Grubbing

The first step in preparing the site for the proposed construction should be to remove existing vegetation or topsoil, and other soft, unsuitable, or deleterious material from the existing ground surface. The borings generally encountered 1 to 3 inches of topsoil. Deeper topsoil or organic laden soils are likely present in wet, low-lying, and poorly drained areas. In wooded areas, root balls may extend as deep as 2 feet or more and will require additional localized stripping. ECS should be retained to document that topsoil and other deleterious surficial materials have been removed prior to the placement of engineered fill or construction of structures.

#### 6.1.2 Proofrolling

After removing unsuitable surface materials, cutting to the proposed grade, and prior to the placement of any structural fill or other construction materials, the exposed subgrade should be evaluated by ECS. The exposed subgrade should be thoroughly proofrolled with construction equipment having a minimum axle load of 10 tons (e.g., fully loaded tandem-axle dump truck). The areas subject to proofrolling should be traversed by the equipment in two perpendicular (orthogonal) directions with overlapping passes of the vehicle under the observation of ECS. This procedure is intended to assist in identifying any localized yielding materials.

Where proofrolling identifies areas that are yielding or “pumping” subgrade, those areas should be marked for repair prior to the placement of any subsequent structural fill or other construction materials. As needed, test pits or hand augers with Dynamic Cone Penetrometer (DCP) testing can be used to further delineate the yielding material identified during proofrolling. Methods of subgrade repair, such as undercutting, moisture conditioning, or installation of geosynthetic fabric or geogrid should be discussed with ECS to determine the appropriate procedure regarding the existing conditions causing the instability.

## 6.2 EARTHWORK OPERATIONS

### 6.2.1 Structural Fill Materials

**Product Submittals:** Prior to placement of structural fill, representative bulk samples (about 50 pounds) of on-site and off-site borrow should be submitted to ECS for laboratory testing, which will include Atterberg limits, natural moisture content, grain-size distribution, and moisture-density relationships (i.e., Proctors) for compaction. Import materials should be tested prior to being hauled to the site to determine if they meet project specifications.

**Structural Fill Materials:** Structural fill materials should consist of inorganic soils classified as SM, SC, SW, SP, GM, and GC, or a combination of these group symbols, per ASTM D2487. The materials should not contain organic matter, debris, and particle sizes greater than 3 inches in the largest dimension. Open graded materials, such as Gravels (GW and GP), which contain void space in their mass should not be used in structural fills unless properly encapsulated with filter fabric. Recommended structural fill material should have the properties shown in the table below.

Structural Fill Properties			
Location with Respect to Final Grade	LL	PI	% Fines
Building and Pavement Areas	40 max	15 max	35 max

**Unsatisfactory Materials:** Unsatisfactory fill materials include materials which do not satisfy the requirements for recommended structural fill materials, as well as topsoil and organic materials (OH, OL), elastic Silt (MH), and high plasticity Clay (CH).

**On-Site Borrow Materials:** The encountered sandy (i.e., SP-SM, SP, SM, and SC) natural soils can typically be reused as new fill in building and pavement areas provided they are not too wet or contain detrimental materials, and should be further evaluated at the time of construction.

Depending on weather conditions at the time of construction, moisture conditioning of the on-site soils may be difficult. As such, the potential need for importing drier materials should be considered in project planning.

### 6.2.2 Compaction

**Structural Fill Compaction:** Structural fill should be placed in maximum 8-inch loose lifts, moisture conditioned as necessary to within -3 and +3% of the soil's optimum moisture content and be compacted to a dry density of at least 95% of the standard Proctor maximum dry density (ASTM D698). Within 24 inches of the finished soil subgrade elevation beneath foundations, slabs on grade, and pavements, structural fill should be compacted to at least 98% of its standard Proctor maximum dry density. ECS should be called on to document that the specified fill compaction has been achieved.

**Fill Compaction Control:** The expanded limits of the proposed construction areas should be well defined at the time of fill placement. Grade controls should be maintained throughout the filling operations. All filling operations should be observed on a full-time basis by ECS to determine that the minimum

compaction requirements are being achieved. Field density testing of fills should be performed at the frequencies shown in the table below, but not less than 1 test per lift.

**Frequency of Compaction Tests in Fill Areas**

Location	Frequency of Tests
Expanded Building Limits	1 test per 2,500 sq. ft. per lift
Pavement Areas	1 test per 5,000 sq. ft. per lift
Utility Trenches	1 test per 100 linear ft. per lift
Outparcels/SWM Facilities	1 test per 5,000 sq. ft. per lift
All Other Non-Critical Areas	1 test per 10,000 sq. ft. per lift

**Fill Placement Considerations:** Fill materials should not be placed on frozen soils, on frost-heaved soils, and/or on excessively wet soils. Borrow fill materials should not contain frozen materials at the time of placement, and all frozen or frost-heaved soils should be removed prior to placement of structural fill or other fill soils and aggregates. Excessively wet soils or aggregates should be scarified, aerated, and moisture conditioned, prior to compaction.

Where fill materials will be placed to widen existing embankment fills, or placed up against sloping ground, the soil subgrade should be scarified and the new fill benched or keyed into the existing material. Fill material should be placed in horizontal lifts.

### 6.3 FOUNDATION AND SLAB OBSERVATIONS

**Protection of Foundation Excavations:** Exposure to the environment may weaken the soils at the footing bearing level if the foundation excavations remain open for too long a time. Therefore, foundation concrete should be placed the same day that excavations are made. If the bearing soils are softened by surface water intrusion or exposure, the softened soils must be removed from the foundation excavation bottom immediately prior to placement of concrete. If the excavation must remain open overnight, or if rainfall becomes imminent while the bearing soils are exposed, a 2 to 3-inch thick "mud mat" of "lean" concrete should be placed on the bearing soils before the placement of reinforcing steel.

**Footing Subgrade Observations:** It is important to have ECS observe the foundation subgrade prior to placing foundation concrete, to document that the bearing soils are what were anticipated. If loose, soft, or unsuitable soils are observed at the footing bearing elevations, these soils should be removed and replaced prior to concrete placement.

**Slab Subgrade Observation:** A representative of ECS should be called on to observe slab subgrades prior to drainage layer placement to document that adequate subgrade preparation has been achieved. A proofroll using a loaded dump truck should be performed in their presence at that time.

## 6.4 GENERAL CONSTRUCTION CONSIDERATIONS

**Moisture Conditioning:** During the cooler and wetter periods of the year, delays and additional costs should be anticipated. At these times, reduction of soil moisture may need to be accomplished by a combination of mechanical manipulation and the use of chemical additives, such as lime or cement, to lower moisture contents to levels appropriate for compaction. Alternatively, during the drier times of the year, such as the summer months, moisture may need to be added to the soil to provide adequate moisture for successful compaction according to the project requirements.

**Subgrade Protection:** Measures should also be taken to limit site disturbance, especially from rubber-tired heavy construction equipment, and to control and remove surface water from development areas, including structure and pavement areas. It would be advisable to designate a haul road and construction staging area to limit the areas of disturbance and to prevent construction traffic from excessively degrading prepared subgrade soils.

**Surface Drainage:** Surface drainage conditions should be properly maintained. Surface water should be directed away from the construction area, and the work area should be sloped away from the construction area at a gradient of 1% or greater to reduce the potential of ponding water and the subsequent saturation of the surface soils. At the end of each workday, the subgrade soils should be sealed by rolling the surface with a smooth drum roller to minimize infiltration of surface water.

**Excavation Safety:** All excavations and slopes should be made and maintained in accordance with OSHA excavation safety standards. The contractor is solely responsible for designing and constructing stable, temporary excavations and slopes and should shore, slope, or bench the sides of the excavations and slopes as required to maintain stability of both the excavation sides and bottom. The contractor's responsible person, as defined in 29 CFR Part 1926, should evaluate the soil exposed in the excavations as part of the contractor's safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in local, state, and federal safety regulations. ECS is providing this information solely as a service to our client. ECS is not assuming responsibility for construction site safety or the contractor's activities; such responsibility is not being implied and should not be inferred.

## 7.0 CLOSING

ECS has prepared this report to guide the geotechnical-related design and construction aspects of the project. We performed these services in accordance with the standard of care expected of professionals in the industry performing similar services on projects of like size and complexity at this time in the region. No other representation, expressed or implied, and no warranty or guarantee is included or intended in this report.

The description of the proposed project is based on information provided to ECS by you. If any of this information is inaccurate or changes, either because of our interpretation of the documents provided or site or design changes that may occur later, ECS should be contacted so we can review our recommendations and provide additional or alternate recommendations that reflect the proposed construction.

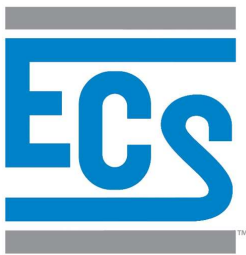
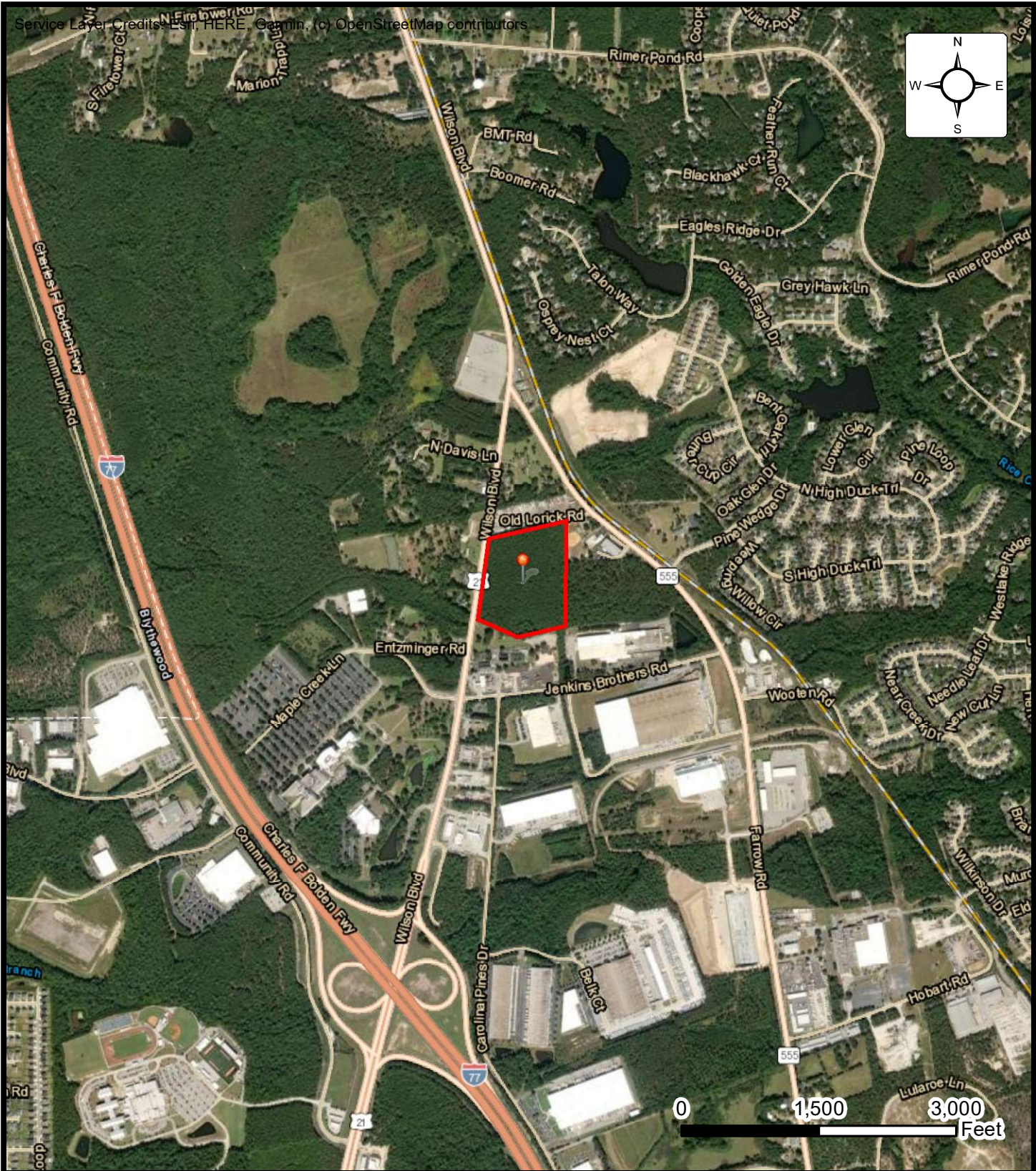
We recommend that ECS review the project plans and specifications so we can confirm that those plans/specifications are in accordance with the recommendations of this geotechnical report.

Field observations, monitoring, and quality assurance testing during earthwork and foundation installation are an extension of, and integral to, the geotechnical design recommendation. We recommend that the owner retain these quality assurance services and that ECS be allowed to continue our involvement throughout these critical phases of construction to provide general consultation as issues arise. ECS is not responsible for the conclusions, opinions, or recommendations of others based on the data in this report.

## **APPENDIX A – Drawings & Reports**

Site Location Diagram  
Field Exploration Diagram  
Subsurface Cross Sections





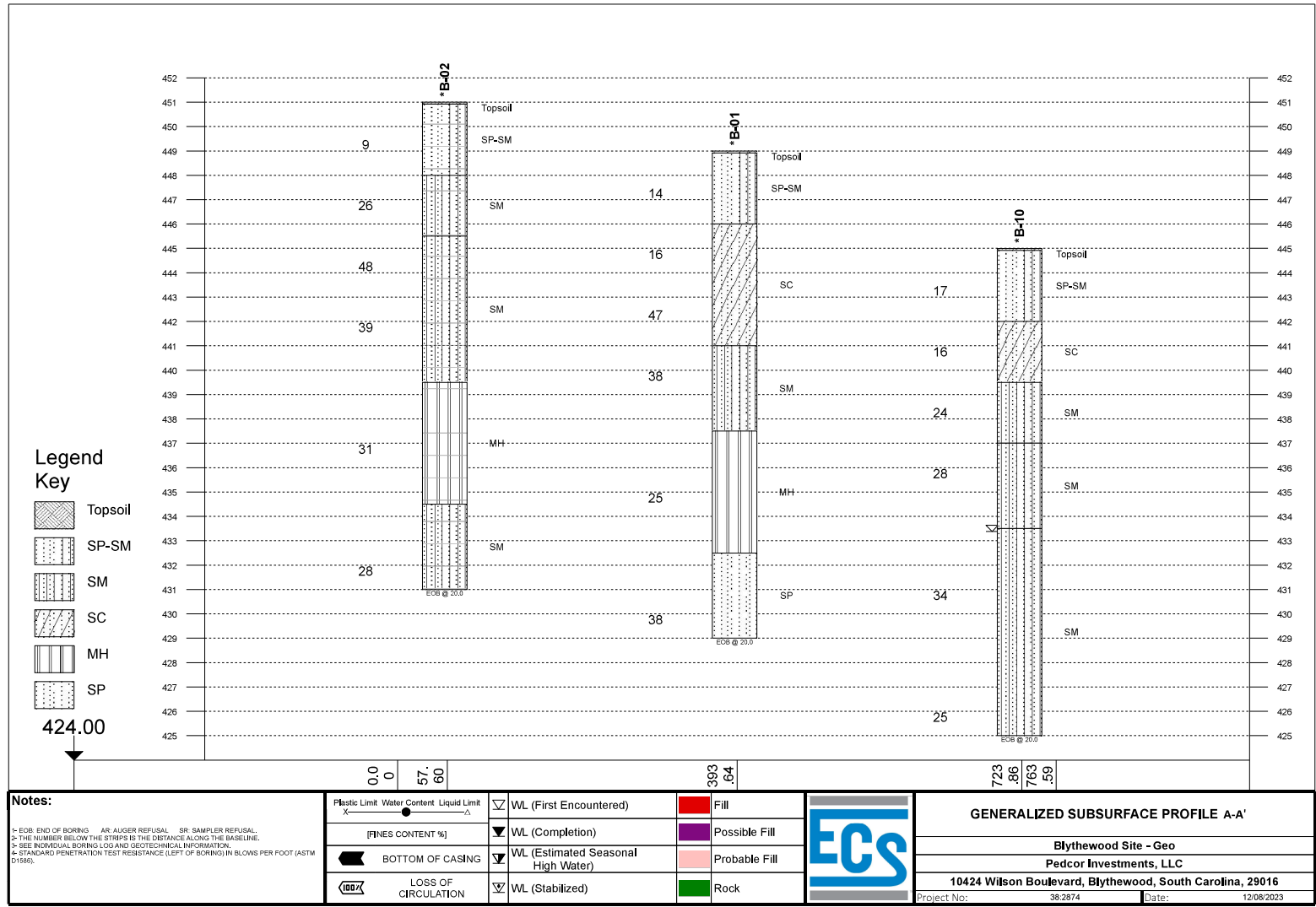
**BORING LOCATION DIAGRAM**  
**BLYTHEWOOD SITE - GEO**  
**10424 WILSON BOULEVARD, BLYTHEWOOD, SC**  
**PEDCOR INVESTMENTS, LLC**

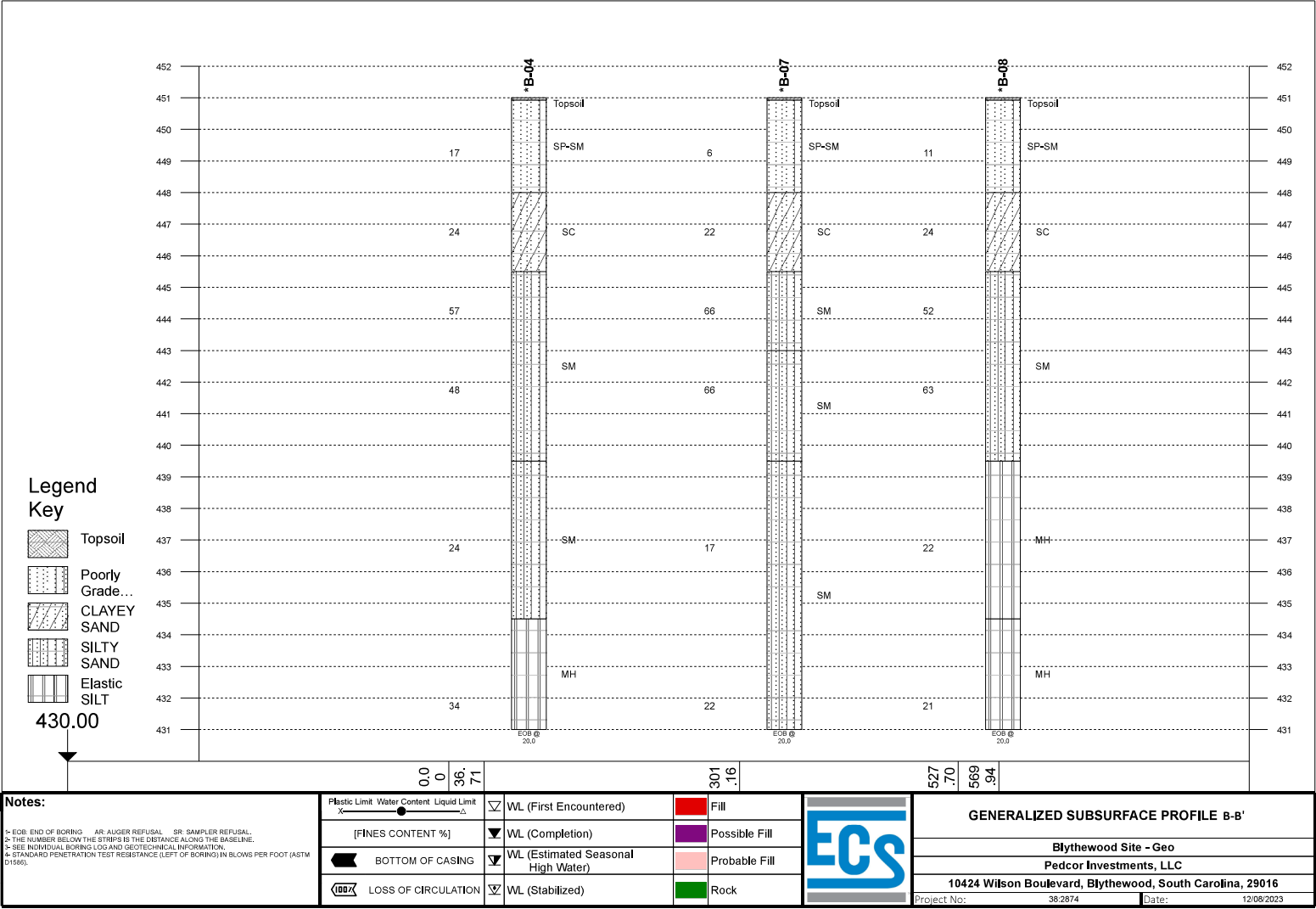
ENGINEER BB
SCALE AS NOTED
PROJECT NO. 38:2874
FIGURE 1 OF 2
DATE 12/1/2023











## **APPENDIX B – Field Operations**

Reference Notes for Boring Logs

Soil Test Boring Logs

Hand Auger Boring Logs

ReMi Testing Results



# REFERENCE NOTES FOR BORING LOGS

MATERIAL <sup>1,2</sup>	
	<b>ASPHALT</b>
	<b>CONCRETE</b>
	<b>GRAVEL</b>
	<b>TOPSOIL</b>
	<b>VOID</b>
	<b>BRICK</b>
	<b>AGGREGATE BASE COURSE</b>
	<b>GW WELL-GRADED GRAVEL</b> gravel-sand mixtures, little or no fines
	<b>GP POORLY-GRADED GRAVEL</b> gravel-sand mixtures, little or no fines
	<b>GM SILTY GRAVEL</b> gravel-sand-silt mixtures
	<b>GC CLAYEY GRAVEL</b> gravel-sand-clay mixtures
	<b>SW WELL-GRADED SAND</b> gravelly sand, little or no fines
	<b>SP POORLY-GRADED SAND</b> gravelly sand, little or no fines
	<b>SM SILTY SAND</b> sand-silt mixtures
	<b>SC CLAYEY SAND</b> sand-clay mixtures
	<b>ML SILT</b> non-plastic to medium plasticity
	<b>MH ELASTIC SILT</b> high plasticity
	<b>CL LEAN CLAY</b> low to medium plasticity
	<b>CH FAT CLAY</b> high plasticity
	<b>OL ORGANIC SILT or CLAY</b> non-plastic to low plasticity
	<b>OH ORGANIC SILT or CLAY</b> high plasticity
	<b>PT PEAT</b> 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 COMPRESSION STRENGTH, QP <sup>4</sup>	SPT <sup>5</sup> (BPF)	CONSISTENCY <sup>7</sup> (COHESIVE)
<0.25	<2	Very Soft
0.25 - <0.50	2 - 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

RELATIVE AMOUNT <sup>7</sup>	COARSE GRAINED (%) <sup>8</sup>	FINE GRAINED (%) <sup>8</sup>
Trace	≤5	≤5
With	10 - 20	10 - 25
Adjective (ex: "Silty")	25 - 45	30 - 45

GRAVELS, SANDS & NON-COHESIVE SILTS	
SPT <sup>5</sup>	DENSITY
<5	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
>50	Very Dense

WATER LEVELS <sup>6</sup>	
	WL (First Encountered)
	WL (Completion)
	WL (Seasonal High Water)
	WL (Stabilized)

FILL AND ROCK			
<b>FILL</b>	<b>POSSIBLE FILL</b>	<b>PROBABLE FILL</b>	<b>ROCK</b>

<sup>1</sup>Classifications and symbols per ASTM D 2488-17 (Visual-Manual Procedure) unless noted otherwise.

<sup>2</sup>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.

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

<sup>4</sup>Typically estimated via pocket penetrometer or Torvane shear test and expressed in tons per square foot (tsf).

<sup>5</sup>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.

<sup>6</sup>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.

<sup>7</sup>Minor deviation from ASTM D 2488-17 Note 14.

<sup>8</sup>Percentages are estimated to the nearest 5% per ASTM D 2488-17.
















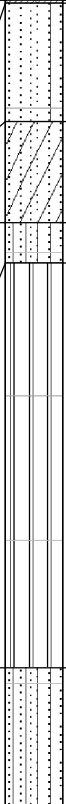












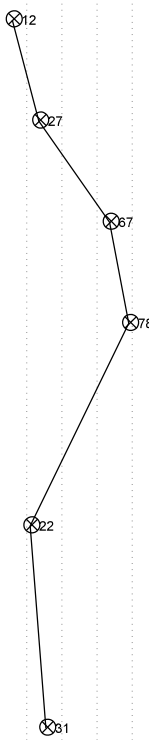













CLIENT: <b>Pedcor Investments, LLC</b>				PROJECT NO.: <b>38:2874</b>		BORING NO.: <b>B-11</b>		SHEET: <b>1 of 1</b>							
PROJECT NAME: <b>Blythewood Site - Geo</b>				DRILLER/CONTRACTOR: <b>Elite Techniques, Inc.</b>											
SITE LOCATION: <b>10424 Wilson Boulevard, Blythewood, South Carolina, 29016</b>								LOSS OF CIRCULATION 							
LATITUDE:		LONGITUDE:		STATION:		SURFACE ELEVATION: <b>445.0</b>		BOTTOM OF CASING 							
DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (N - Value)	STANDARD PENETRATION BLOWS/FT		ROCK QUALITY DESIGNATION & RECOVERY		WATER CONTENT % [FINES CONTENT] %		
									20 40 60 80 100		RQD REC		10 20 30 40 50		
5	S-1	SS	18	18	Topsoil Thickness[1.00"] (SP-SM) FINE TO MEDIUM SAND WITH SILT, contains roots, gray, moist, medium dense		440	6-10-10 (20)							
	S-2	SS	18	18	(SC) CLAYEY SAND, mottled gray and orange, moist, medium dense								12-9-8 (17)		
	S-3	SS	18	18	(SM) SILTY SAND, white and red, moist, medium dense								8-10-14 (24)		
	10	S-4	SS	18	18								(MH) ELASTIC SILT WITH SAND, white and light orange, moist, very stiff to hard	9-16-23 (39)	
		15	S-5	SS	18								18	(SM) SILTY SAND, white and tan, wet, medium dense	8-13-17 (30)
	S-6		SS	18	18								12-12-12 (24)		
20					END OF BORING AT 20.0 FT		425								
25							420								
30							415								
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL															
 WL (First Encountered) 16.50				BORING STARTED: Nov 15 2023				CAVE IN DEPTH: 3.00							
 WL (Completion)				BORING COMPLETED: Nov 15 2023				HAMMER TYPE: Auto							
 WL (Seasonal High Water)				EQUIPMENT: Geoprobe 7822		LOGGED BY:		DRILLING METHOD: HSA							
 WL (Stabilized)															
GEOTECHNICAL BOREHOLE LOG															

CLIENT: <b>Pedcor Investments, LLC</b>					PROJECT NO.: <b>38:2874</b>		BORING NO.: <b>B-12</b>		SHEET: <b>1 of 1</b>						
PROJECT NAME: <b>Blythewood Site - Geo</b>					DRILLER/CONTRACTOR: <b>Elite Techniques, Inc.</b>										
SITE LOCATION: <b>10424 Wilson Boulevard, Blythewood, South Carolina, 29016</b>										LOSS OF CIRCULATION 					
LATITUDE:		LONGITUDE:		STATION:		SURFACE ELEVATION: <b>447.0</b>		BOTTOM OF CASING 							
DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (N - Value)	STANDARD PENETRATION BLOWS/FT		ROCK QUALITY DESIGNATION & RECOVERY		WATER CONTENT % [FINES CONTENT] %		
									20 40 60 80 100		RQD REC		10 20 30 40 50		
5	S-1	SS	18	18	Topsoil Thickness[1.00"] (SM) SILTY SAND, tan, moist, medium dense		442	3-5-7 (12)							
	S-2	SS	18	18	(SM) SILTY SAND, mottled gray and red, moist, medium dense										10-12-15 (27)
	S-3	SS	18	18	(SM) SILTY SAND, mottled white and red and orange, moist, very dense										15-25-42 (67)
	S-4	SS	18	18	(SM) SILTY SAND, white and pink, moist, very dense										24-39-39 (78)
	S-5	SS	18	18	(SM) SILTY SAND, white, moist, medium dense										11-11-11 (22)
	S-6	SS	18	18	(SP-SM) MEDIUM TO COARSE SAND WITH SILT, tan and white, moist, medium dense										10-14-17 (31)
10					(SM) SILTY SAND, white, moist, medium dense		437								
					(SP-SM) MEDIUM TO COARSE SAND WITH SILT, tan and white, wet, dense		432								
15															
20															
25															
30															
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL															
WL (First Encountered) 16.50					BORING STARTED: Nov 15 2023			CAVE IN DEPTH:							
WL (Completion)					BORING COMPLETED: Nov 15 2023			HAMMER TYPE: Auto							
WL (Seasonal High Water)					EQUIPMENT: Geoprobe 7822			LOGGED BY: TE01			DRILLING METHOD: HSA				
WL (Stabilized)															
GEOTECHNICAL BOREHOLE LOG															



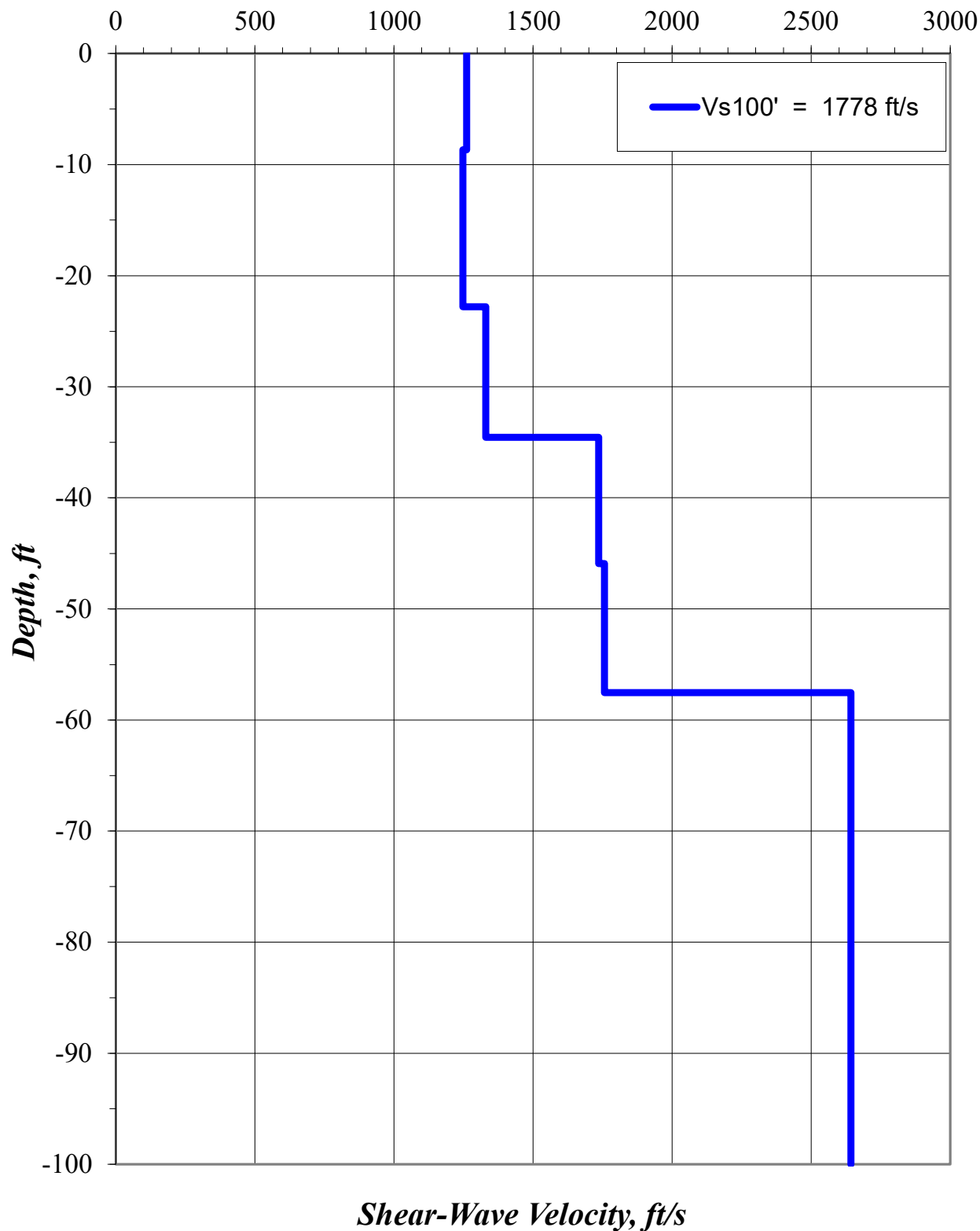




CLIENT: <b>Pedcor Investments, LLC</b>	PROJECT NO.: <b>38:2874</b>	SHEET: <b>1 of 1</b>	
PROJECT NAME: <b>Blythewood Site - Geo</b>	HAND AUGER NO.: <b>I-01</b>	SURFACE ELEVATION:	
SITE LOCATION: <b>10424 Wilson Boulevard, Blythewood, South Carolina, 29016</b>		STATION:	
NORTHING:		EASTING:	

DEPTH (FT)	WATER LEVELS	ELEVATION (FT)	DESCRIPTION OF MATERIAL	EXCAVATION EFFORT	DCP	SAMPLE NUMBER	FINES CONTENT (%)	MOISTURE CONTENT (%)
5			Topsoil Thickness[3.00"]					
			(SP-SM) FINE TO MEDIUM SAND WITH SILT, gray, moist	E		S-1		
			(SC) CLAYEY SAND, gray, moist	M		S-2		
			(SC) CLAYEY SAND, mottled tan and gray, moist	D		S-3		
						S-4		
						S-5		
						S-6		
			END OF HAND AUGER AT 7.0 FT			S-7		
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)	NE	☒ WL (Seasonal High)	3.5	ECS REP:	DATE COMPLETED:	UNITS:	CAVE-IN-DEPTH:
☑ WL (Completion)				TE	Oct 27 2023	English	
HAND AUGER LOG							

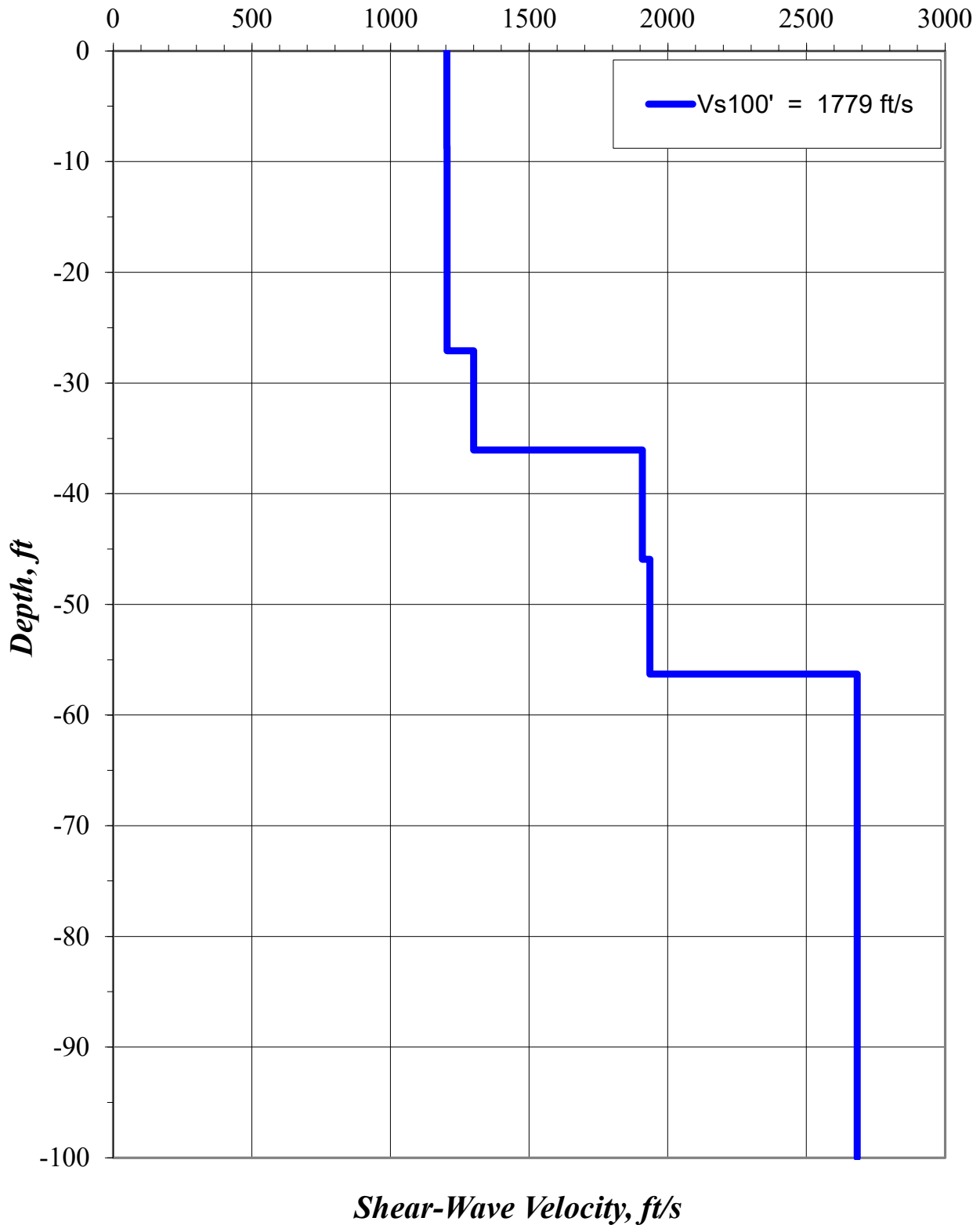


Shear Wave Velocity Model – ReMi Survey

Seismic Testing Results  
Array A-01  
Site Class ‘C’



Blythewood Site - Geo  
10424 Wilson Boulevard  
Blythewood, South Carolina  
ECS Project: 38:2874



### Shear Wave Velocity Model – ReMi Survey

Seismic Testing Results  
Array A-02  
Site Class 'C'



Blythewood Site - Geo  
10424 Wilson Boulevard  
Blythewood, South Carolina  
ECS Project: 38:2874

## **APPENDIX C – Laboratory Testing**

Laboratory Testing Summary  
Laboratory Testing Data Sheets



## Laboratory Testing Summary

Sample Location	Sample Number	Depth (ft)	^MC (%)	Soil Type	Atterberg Limits			**Percent Passing No. 200 Sieve	Moisture - Density		CBR (%)		#Organic Content (%)
					LL	PL	PI		<Maximum Density (pcf)	<Optimum Moisture (%)	0.1 in.	0.2 in.	
B-01	S-2	3.5-5.0	7.0	SC	27	17	10	24.6					
B-03	S-2	3.5-5.0	6.9	SC	24	17	7	24.4					
B-06	S-1	1.0-2.5	5.6	SP-SM									
B-08	S-2	3.5-5.0	7.9	SC	32	18	14	27.1					
B-09	S-1	1.0-2.5	6.8	SP-SM									
B-12	S-1	1.0-2.5	4.0	SM	16	13	3	24.5					
B-12	D3S-1	1.0-2.0	9.1	SM	NP	NP	NP	18.4	119.6	9.5	50.0	64.5	
B-04	S-2	3.5-5.0	5.7	SC				20.8					
B-11	S-4	8.5-10.0	10.1	MH				60.5					

**Notes:** See test reports for test method, ^ASTM D2216-19, \*ASTM D2488, \*\*ASTM D1140-17, #ASTM D2974-20e1 < See test report for D4718 corrected values

**Definitions:** MC: Moisture Content, Soil Type: USCS (Unified Soil Classification System), LL: Liquid Limit, PL: Plastic Limit, PI: Plasticity Index, CBR: California Bearing Ratio, OC: Organic Content

Project: Blythewood Site - Geo  
Client: Pedcor Investments, LLC

Project No.: 38:2874  
Date Reported: 12/7/2023



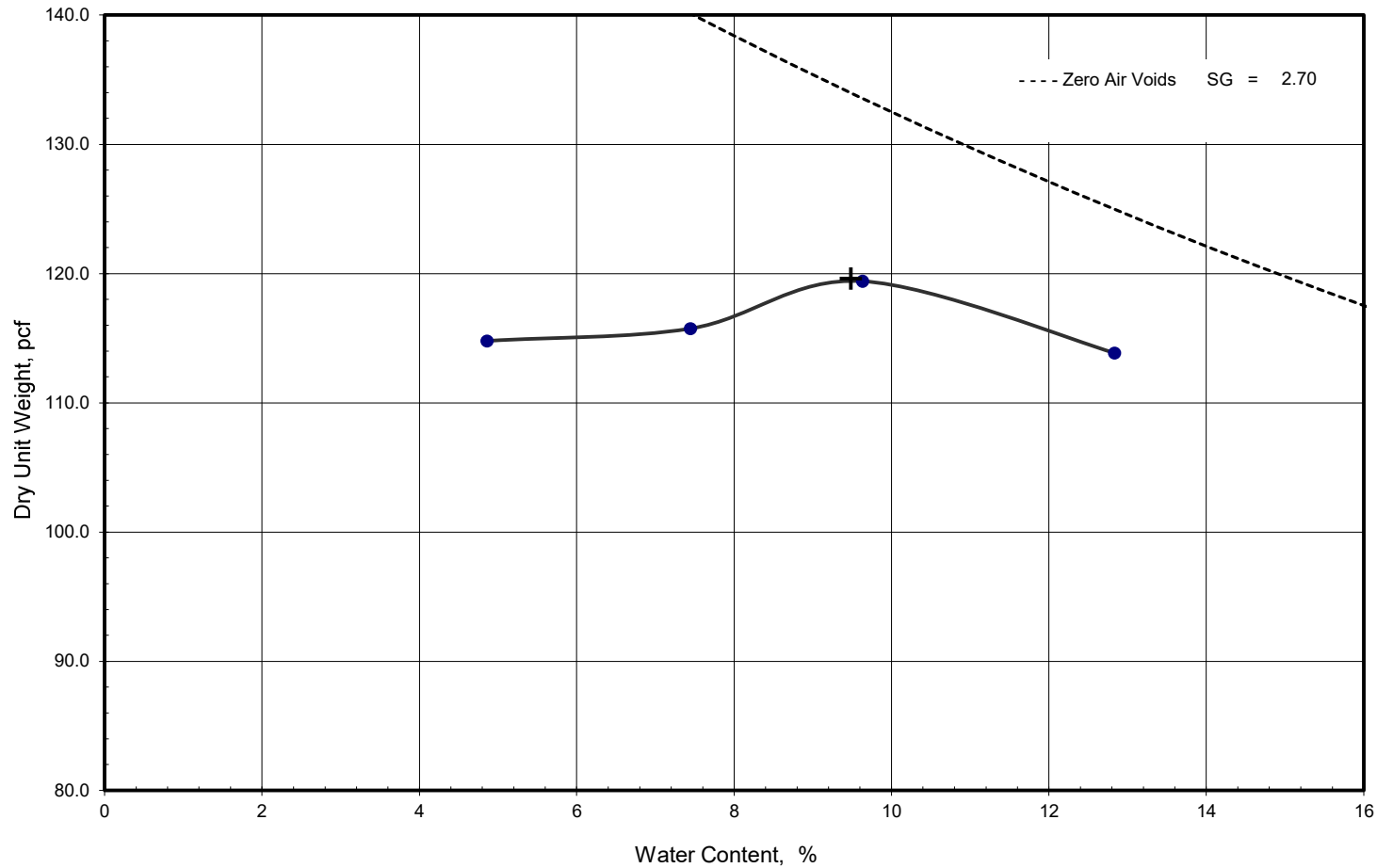
Office / Lab  
ECS Southeast LLC - Columbia

Address  
2031 Industrial Blvd.  
Lexington, SC 29072

Office Number / Fax  
(803)250-3377  
(803)750-3174

Tested by	Checked by	Approved by	Date Received
BCook1	BCook1	TElder	


Laboratory Compaction Characteristics of Soil  
Using Standard Effort



Optimum Moisture Content		9.5	%	Preparation		ASTM dry preparation method	
Maximum Dry Unit Weight		119.6	pcf	Type of rammer		Manual - 5.5lbf (24.5N)	
				Test Specification / Method		ASTM D698-12e2-method A	
				Specific gravity - D854 water pycnometer		2.70	Historical
Cumulative material retained on:				Coarse Aggregate Specific Gravity -			
	3/4 in. sieve	0.0	%				
	3/8 in. sieve		%				
	#4 sieve		%				

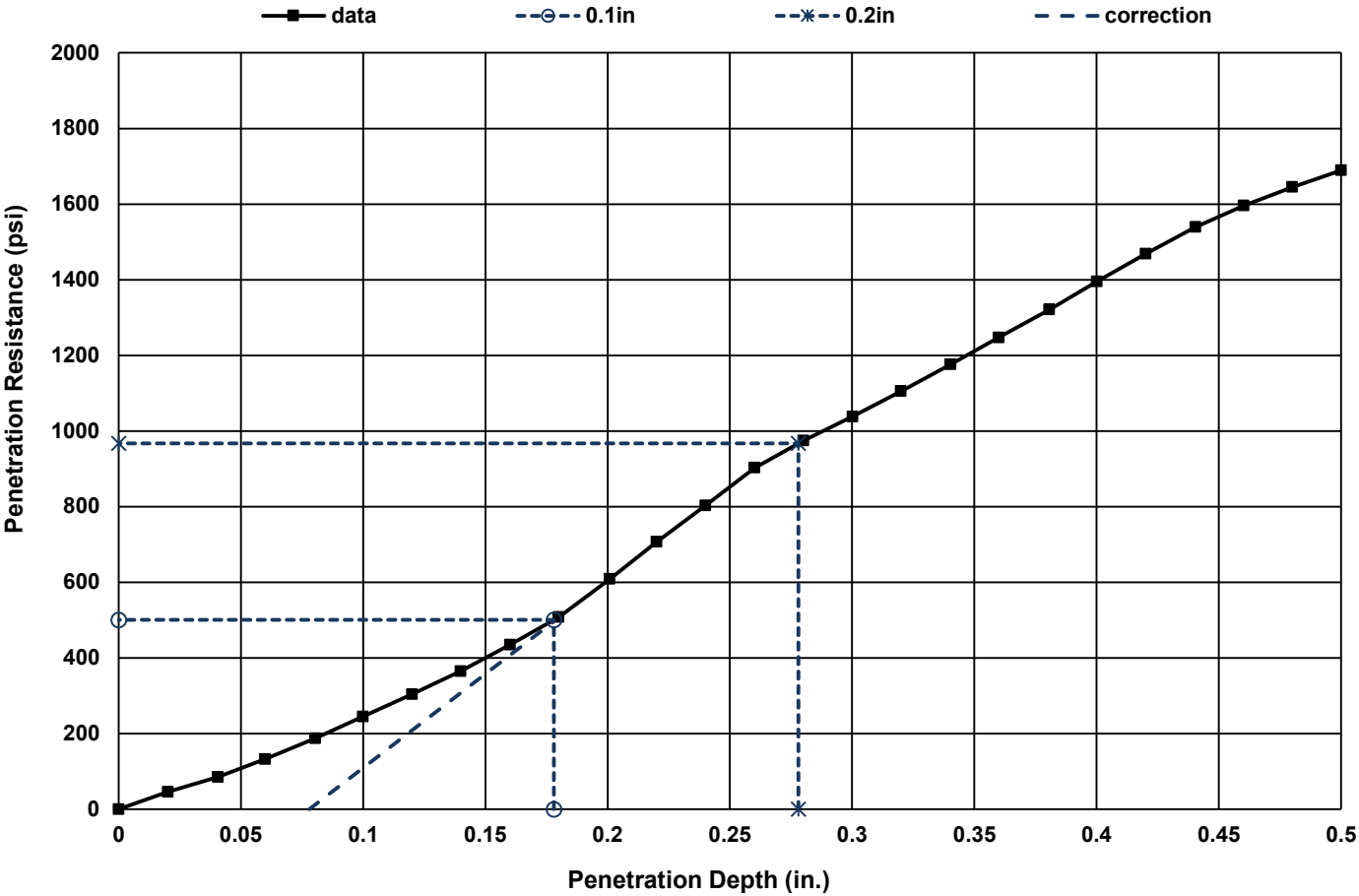
Soil Description	Nat. Moist. %	Liquid Limit	Plasticity Index	% < #200	USCS	AASHTO
Gray Silty SAND	9.1	NP	NP	18.4	SM	

Project: Blythewood Site - Geo	Project No.: 382874
Client: Pedcor Investments, LLC	Depth (ft.): 1 - 2
Sample / Source B-12 Offset	Sample No.: D3S-1
Test Reference/No.:	Date Reported: 12/1/2023

	Office / Lab	Address	Office Number / Fax
	ECS Southeast LLP - Columbia	2031 Industrial Blvd. Lexington, SC 29072	(803)250-3377 (803)750-3174

Tested by	Checked by	Approved by	Date Received	Remarks
BCook1	BCook1	TElder		

California Bearing Ratios (CBR) of Laboratory-Compacted Soils



TEST RESULTS (ASTM D1883-16)

Molded			Soaked			CBR (%)		Linearity Correction (in.)	Surcharge (lbs.)		Swell (%)	
Density (pcf)	Percent of Max. Dens.	Moisture (%)	Density (pcf)	Percent of Max. Dens.	Moisture (%)	0.1 in.	0.2 in.					
117.1	97.9	10.8	113.2	94.6	14.6	50.1	64.5	0.08	10		0.02	
Material Description					AASHTO	USCS	MAX. Dens. (pcf)	Optimum Moisture (%)	LL	PI	% Fines	% Gravel
Gray Silty SAND						SM	119.6	9.5	NP	NP	18.4	

Project: Blythewood Site - Geo  
Client: Pedcor Investments, LLC  
Sample / Source B-12 Offset  
Test Reference/No.: 1

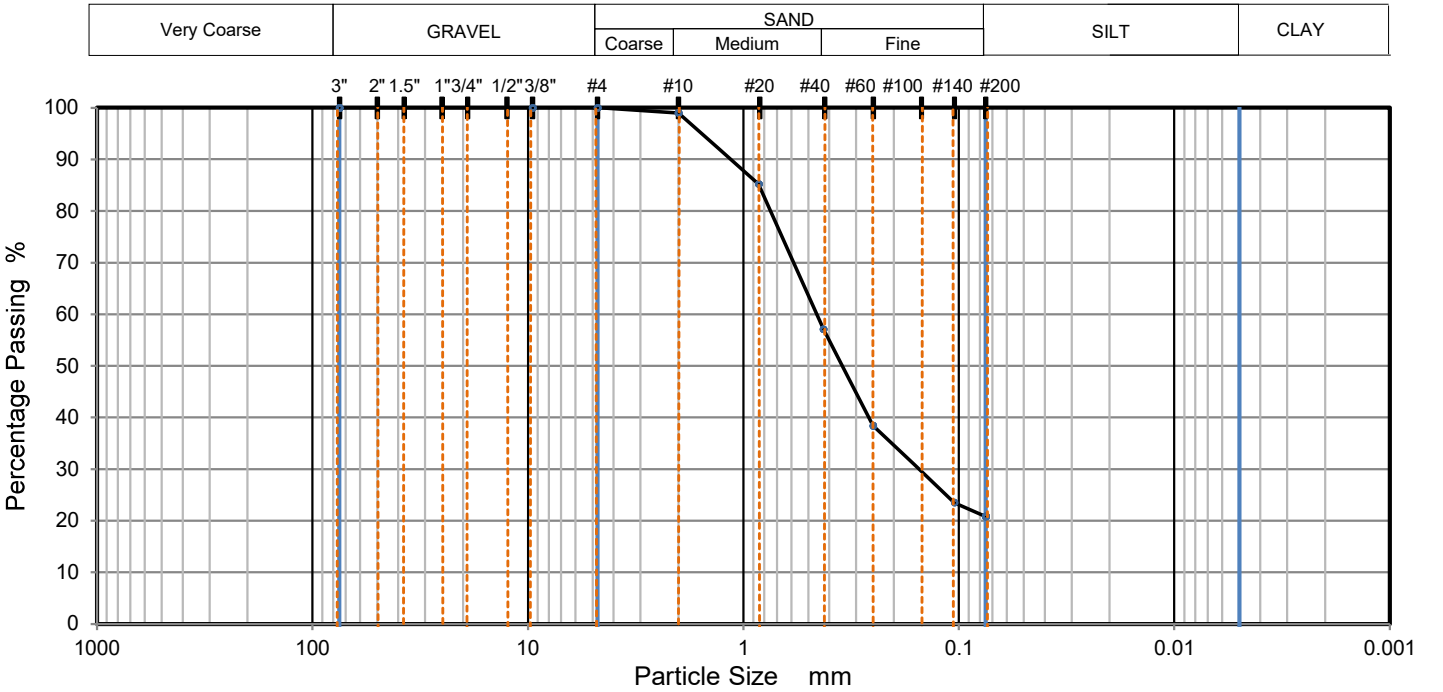
Project No.: 38:2874  
Depth (ft.): 1 - 2  
Sample No.: D3S-1  
Date Reported: 12/8/2023



Office / Lab	Address	Office Number / Fax
ECS Southeast LLC - Columbia	2031 Industrial Blvd. Lexington, SC 29072	(803)250-3377 (803)750-3174

Tested by	Checked by	Approved by	Date Received	Remarks
BCook1	BCook1	CMcDaniel		

PARTICLE SIZE DISTRIBUTION



TEST RESULTS (ASTM C136M - 19)

Sieving		Hydrometer Sedimentation	
Particle Size	% Passing	Particle Size mm	% Passing
3/8"	100.0		
#4	100.0		
#10	99.0		
#20	85.2		
#40	57.1		
#60	38.4		
#140	23.5		
#200	20.8		

Dry Mass of sample, g		286.5
Sample Proportions		% dry mass
Very coarse, >3" sieve		
Gravel, 3" to # 4 sieve		
Coarse Sand, #4 to #10 sieve		1.0
Medium Sand, #10 to #40		41.9
Fine Sand, #40 to #200		36.3
Fines <#200		20.8

USCS		Liquid Limit		D90	1.145	D50	0.347	D10	
AASHTO		Plastic Limit		D85	0.846	D30	0.153	Cu	
USCS Group Name		Plasticity Index		D60	0.457	D15		Cc	

Project: Blythewood Site - Geo  
Client: Pedcor Investments, LLC  
Sample Description:  
Sample Source: B-04

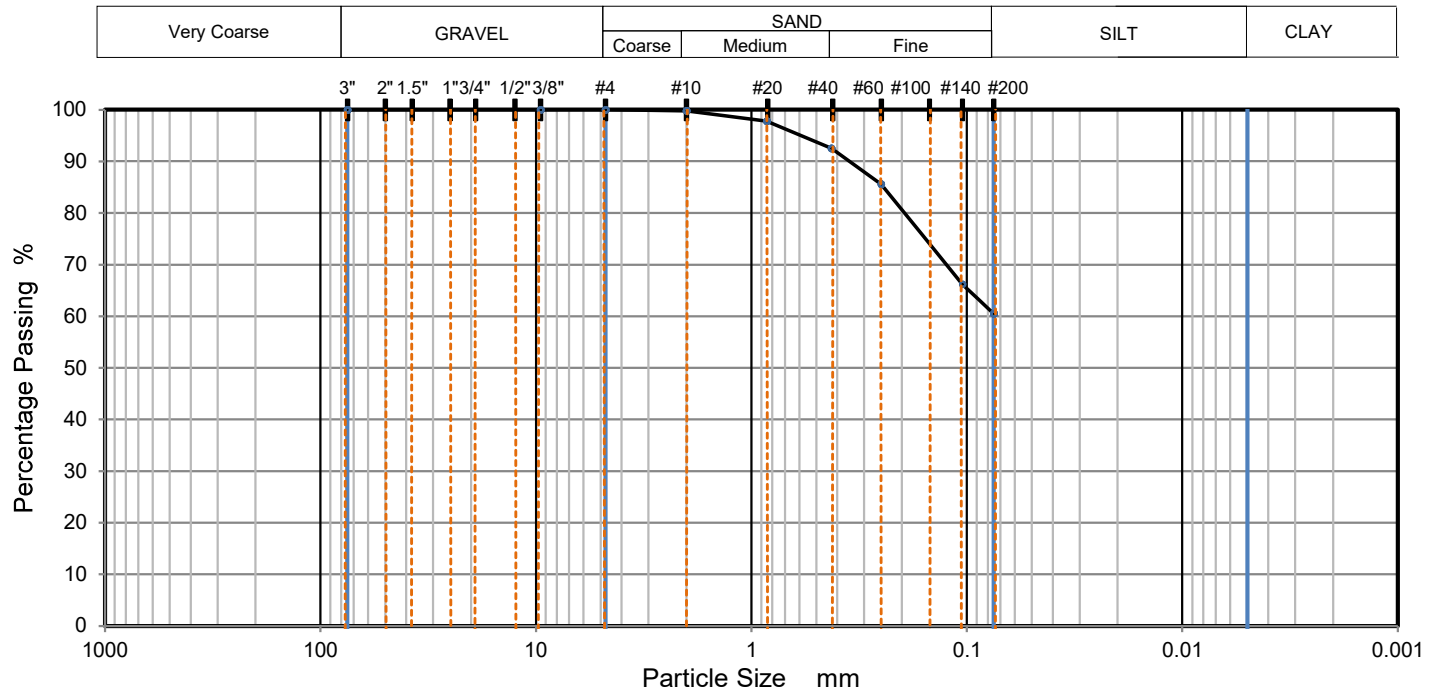
Project No.: 38:2874  
Depth (ft): 3.5 - 5.0  
Sample No.: S-2  
Date Reported: 12/8/2023



Office / Lab	Address	Office Number / Fax
ECS Southeast LLC - Columbia	2031 Industrial Blvd. Lexington, SC 29072	(803)250-3377 (803)750-3174

Tested by	Checked by	Approved by	Date Received	Remarks
BCook1	BCook1	CMcDaniel		

PARTICLE SIZE DISTRIBUTION



TEST RESULTS (ASTM C136M - 19)

Sieving		Hydrometer Sedimentation	
Particle Size	% Passing	Particle Size mm	% Passing
3/8"	100.0		
#4	100.0		
#10	99.8		
#20	97.8		
#40	92.5		
#60	85.6		
#140	66.2		
#200	60.5		

Dry Mass of sample, g		292.5
Sample Proportions		% dry mass
Very coarse, >3" sieve		
Gravel, 3" to # 4 sieve		
Coarse Sand, #4 to #10 sieve		0.2
Medium Sand, #10 to #40		7.3
Fine Sand, #40 to #200		32.0
Fines <#200		60.5

USCS		Liquid Limit		D90	0.351	D50		D10	
AASHTO		Plastic Limit		D85	0.243	D30		Cu	
USCS Group Name		Plasticity Index		D60		D15		Cc	

Project: Blythewood Site - Geo  
Client: Pedcor Investments, LLC  
Sample Description:  
Sample Source: B-11

Project No.: 38:2874  
Depth (ft): 8.5 - 10.0  
Sample No.: S-4  
Date Reported: 12/8/2023



Office / Lab	Address	Office Number / Fax
ECS Southeast LLC - Columbia	2031 Industrial Blvd. Lexington, SC 29072	(803)250-3377 (803)750-3174

Tested by	Checked by	Approved by	Date Received	Remarks
BCook1	BCook1	CMcDaniel		