

# TBA

## ADDENDUM No. 1

Date February 12<sup>th</sup>, 2026

Project: **School of Construction Practice Lab Building**  
**University of Louisiana Monroe**  
**Monroe, LA**  
**Project No. 19-629-23-01, F.19002614**

### NOTICE TO CONTRACTORS

The following does hereby become a part of the Contract Documents and all provisions of the Documents shall apply to the changes. Include related changes throughout the various drawings and all sections of the specifications, which would result from these changes.

GENERAL CONTRACTORS ARE ADVISED TO NOTIFY ALL AFFECTED SUBCONTRACTORS OF CHANGES INVOLVED IN THE FOLLOWING ADDENDUM INASMUCH AS THIS OFFICE DOES NOT HAVE A COMPLETE RECORD OF ALL SUBCONTRACTORS, FIGURING THIS WORK.

### GENERAL NOTES:

1. The pre-bid sign-in sheet is included in this addendum.
2. Glulam structural members used are to be architectural grade with stain. Wood beam and column sizes shown on drawings are minimum. Alternative selections that are deeper and narrower or are equivalent in strength may be used based on structural approval.
3. The geotechnical report is included in this addendum for reference only. The design documents will govern.
4. Specification section 072130 – High Performance Insulation & Finish System is to be removed from the project.
5. Metal soffit referenced in 1/A4.01 shall be a plaster soffit as indicated in detail 2/A4.03.
6. Specification section 083600 for sectional door is to be removed from this project. Specification section 083323 included in this addendum is to be added to this project.
7. Window N is located in women's restroom 105. Window O is located in men's restroom 106. Windows N and O are non-rated ½" glass storefront systems.



8. Specification section 230800 – Commissioning of Mechanical Systems is to be removed from the project. The general contractor is no longer responsible for commissioning as stated on sheet M1.01 in the Mechanical General Notes. The mechanical contractor shall still be responsible for all testing, adjusting, and balancing of all project HVAC systems as specified in the contract documents.
9. Sod shall be provided as shown on the Architectural site plan SP1.01 in lieu of seeding as stated on C4.01. All disturbed earth shall be soded.
10. Bid opening location shall be as advertised.

#### STRUCTURAL:

1. Sheets S1.01, S1.02, S2.01, S3.01, S3.02, S3.03 are attached with revisions clouded.
2. Specification Section 05400 – Cold-Form Metal Framing shall be modified as follows:
  - 1.4 Submittals
  - C. Provide shop drawings sealed by a professional engineer licensed in the state of Louisiana.

#### MEP:

1. See prior approvals included in this addendum.

#### APPROVED EQUALS:

**The products listed below are approved bidding but must comply with the project specifications. It is the suppliers/manufactures responsibility to submit products for approval that are equal to or better than shown in the specifications. No verbal approvals will be allowed. Note that prior approvals are based on limited, cursory review of information sent by multiple manufacturers. The contractor is cautioned that the prior approval for bidding does not guarantee final acceptance during construction. A more thorough review will be conducted during shop drawing review:**

<u>Section</u>	<u>Manufacturer</u>
072100	Kingspan Insulation – Green Guard
072726	Henry Company
102113	Scranton Products
107326	East Texas Canopy, Inc.
107326	Eastern Metal Supply
079500	Erie Metal Specialties, Inc.

# TBA

Job: \_\_\_\_\_

Date of Conference: \_\_\_\_\_ Time of Conference: \_\_\_\_\_

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# TBA

Job: ULM Construction Practice Lab

Date of Conference: 02-10-2014 Time of Conference: 2:00 pm

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## SECTION 083323 - OVERHEAD COILING DOORS

## PART 1 - GENERAL

## 1.1 SUMMARY

## A. Section Includes:

1. Overhead coiling doors.

## B. Related Requirements:

1. Section 055000 "Metal Fabrications" for miscellaneous steel supports.

## 1.2 ACTION SUBMITTALS

## A. Product Data: For each type and size of overhead coiling door and accessory.

## B. Shop Drawings: For each installation and for special components not dimensioned or detailed in manufacturer's product data.

1. Include points of attachment and their corresponding static and dynamic loads imposed on structure.
2. Show locations of controls, locking devices, detectors and other accessories.
3. Include diagrams for power, signal, and control wiring.

## C. Samples: For each exposed product and for each color and texture specified.

## 1.3 CLOSEOUT SUBMITTALS

## A. Maintenance data.

## 1.4 QUALITY ASSURANCE

## A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer for both installation and maintenance of units required for this Project.

## PART 2 - PRODUCTS

## 2.1 PERFORMANCE REQUIREMENTS

## A. Structural Performance, Exterior Doors: Capable of withstanding the design wind loads.

1. Design Wind Load: Uniform pressure (velocity pressure) of 20 lbf/sq. ft., acting inward and outward.
2. Testing: According to ASTM E 330.

## 2.2 DOOR ASSEMBLY

- A. Overhead Coiling Door: Overhead coiling door formed with curtain of interlocking metal slats.
  1. Basis-of-Design Product: Subject to compliance with requirements, provide Overhead Door Corporation; Stormtite Model 610 or comparable product by one of the following:
    - a. Cookson Company.
    - b. Overhead Door Corporation.
    - c. Raynor.
    - d. Wayne-Dalton Corp.
- B. Operation Cycles: Door components and operators capable of operating for not less than 20,000.
- C. Door Curtain Material: 24 gauge Galvanized steel.
- D. Door Curtain Slats: 24 gauge flat profile slats of 2-5/8-inch center-to-center height.
- E. Bottom Bar: Two angles, each not less than 1-1/2 by 1-1/2 by 1/8 inch; fabricated from hot-dip galvanized steel and finished to match door.
- F. Curtain Jamb Guides: Galvanized steel with exposed finish matching curtain slats.
- G. Hood: Galvanized steel.
  1. Mounting: Face of wall.
- H. Locking Devices: Equip door with locking device assembly and chain lock keeper.
  1. Locking Device Assembly: Cremone type, both jamb sides locking bars, operable from inside and outside with cylinders.
- I. Curtain Accessories: Equip door with weatherseals, push/pull handles and pull-down strap.
- J. Door Finish:
  1. Baked-Enamel or Powder-Coated Finish: Color as selected by Architect from manufacturer's full range.
  2. Factory Prime Finish: Manufacturer's standard color.
  3. Interior Curtain-Slat Facing: Finish as selected by Architect from manufacturer's full range.

## 2.3 DOOR CURTAIN MATERIALS AND CONSTRUCTION

- A. Door Curtains: Fabricate overhead coiling-door curtain of interlocking metal slats, designed to withstand wind loading indicated, in a continuous length for width of door without splices. Unless otherwise indicated, provide slats of thickness and mechanical properties recommended by door manufacturer for performance, size, and type of door indicated.
- B. Curtain Jamb Guides: Manufacturer's standard angles or channels and angles of same material and finish as curtain slats unless otherwise indicated, with sufficient depth and strength to retain curtain, to allow curtain to operate smoothly, and to withstand loading. Slot bolt holes for guide adjustment. Provide removable stops on guides to prevent overtravel of curtain.

## 2.4 HOODS

- A. General: Form sheet metal hood to entirely enclose coiled curtain and operating mechanism at opening head. Contour to fit end brackets to which hood is attached. Roll and reinforce top and bottom edges for stiffness. Form closed ends for surface-mounted hoods and fascia for any portion of between-jamb mounting that projects beyond wall face. Equip hood with intermediate support brackets as required to prevent sagging.
  - 1. Include automatic drop baffle on fire-rated doors to guard against passage of smoke or flame.
  - 2. Exterior-Mounted Doors: Fabricate hood to act as weather protection and with a perimeter sealant-joint-bead profile for applying joint sealant.

## 2.5 LOCKING DEVICES

- A. Locking Device Assembly: Fabricate with cylinder lock, spring-loaded dead bolt, operating handle, cam plate, and adjustable locking bars to engage through slots in tracks.
  - 1. Lock Cylinders: Cylinders standard with manufacturer and keyed to building keying system.
  - 2. Keys: Three for each cylinder.
- B. Chain Lock Keeper: Suitable for padlock.

## 2.6 CURTAIN ACCESSORIES

- A. Weatherseals for Exterior Doors: Equip each exterior door with weather-stripping gaskets fitted to entire exterior perimeter of door for a weather-resistant installation unless otherwise indicated.
- B. Push/Pull Handles: Equip each push-up-operated or emergency-operated door with lifting handles on each side of door, finished to match door.
- C. Pull-Down Strap: Provide pull-down straps for doors more than 84 inches high.



## 2.7 COUNTERBALANCING MECHANISM

- A. General: Counterbalance doors by means of manufacturer's standard mechanism with an adjustable-tension, steel helical torsion spring mounted around a steel shaft and contained in a spring barrel connected to top of curtain with barrel rings. Use grease-sealed bearings or self-lubricating graphite bearings for rotating members.
- B. Brackets: Manufacturer's standard mounting brackets of either cast iron or cold-rolled steel plate.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Install overhead coiling doors and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports; according to manufacturer's written instructions and as specified.
- B. Adjust hardware and moving parts to function smoothly so that doors operate easily, free of warp, twist, or distortion. Lubricate bearings and sliding parts as recommended by manufacturer. Adjust seals to provide tight fit around entire perimeter.

### 3.2 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain overhead coiling doors.

END OF SECTION 083323

## **GEOTECHNICAL ENGINEERING REPORT**

**Proposed Building Addition  
ULM School of Construction  
507 Filhiol Avenue  
Monroe, LA 71203  
PSI Project No. 02752367-1**

**PREPARED FOR:**

**TBA Studio  
103 Cypress Street  
West Monroe, LA 71291**

**March 25, 2025**

**BY:**

**PROFESSIONAL SERVICE INDUSTRIES, INC.  
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March 25, 2025

**TBA Studio**

103 Cypress Street  
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Attn: Molly Spencer  
Project Coordinator  
Phone: (318) 340-1550  
Email: [mspencer@tbastudio.com](mailto:mspencer@tbastudio.com)

**RE: GEOTECHNICAL ENGINEERING REPORT  
PROPOSED BUILDING ADDITION  
ULM SCHOOL OF CONSTRUCTION  
507 FILHIOL AVENUE  
MONROE, LA 71203  
PSI Project No. 02752367-1**

Dear Ms. Spencer:

Professional Service Industries, Inc. (PSI), an Intertek company, is pleased to submit this Geotechnical Engineering Report for the referenced project. This report includes the results from the field and laboratory investigation along with recommendations for use in preparation of the appropriate design and construction documents for this project.

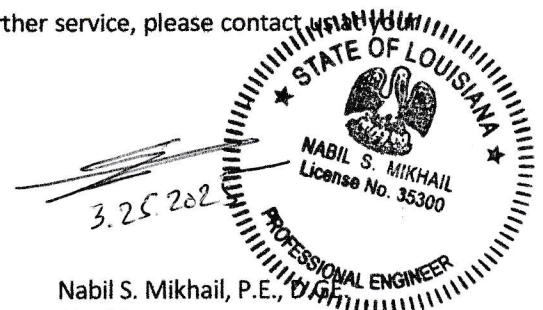
PSI appreciates the opportunity to provide this Geotechnical Engineering Report and looks forward to continuing participation during the design and construction phases of this project. PSI also has great interest in providing materials testing and inspection services during the construction of this project and will be glad to meet with you to further discuss how we can be of assistance as the project advances.

If there are questions pertaining to this report, or if PSI may be of further service, please contact us at your convenience.

Respectfully submitted,  
**PROFESSIONAL SERVICE INDUSTRIES, INC.**

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## 1.0 PROJECT INFORMATION

### 1.1 PROJECT AUTHORIZATION

Professional Service Industries, Inc. (PSI), an Intertek company, has completed a field exploration and geotechnical evaluation for the proposed Building Addition to be constructed at the school of construction management lab building located at 513 Filhiol Avenue in Monroe, Louisiana. This investigation was accomplished in general accordance with PSI proposal No. 275-442122, dated January 8, 2025. Our services were authorized by Ms. Molly Spencer of TBA Studio by signing our proposal on February 17, 2025.

### 1.2 PROJECT DESCRIPTION

Project information was provided by Ms. Molly Spencer, Project Coordinator with TBA Studio, in an email dated January 3, 2025. Based on information provided by the Client and PSI's review of the site layout including boring locations and RFP, a summary of our understanding of the proposed project is provided in Table 1.1.

**TABLE 1.1: GENERAL PROJECT DESCRIPTION**

<b>Project Items</b>	The proposed project consists of a new building addition to be constructed at the School of Construction Management lab building.
<b>Construction Types</b>	Anticipated to be one story building
<b>Existing Grade Change within Project Site Area</b>	Based on Google Earth elevation information, the proposed site is relatively level, i.e., El. +78 feet to El. +79 feet
<b>Finished Floor Elevation (FFE)</b>	Not provided. PSI assumes that the finished grades of the new structures will be at or near the grades of existing structures. Less than two (2) feet of fill is anticipated.
<b>Requested Foundation Type</b>	Shallow foundation. PSI to recommend based on site conditions.
<b>Design Maximum Loading</b>	Not provided.

A detailed structural loading and site grading plan was not provided at the time this report was prepared.

The geotechnical recommendations presented in this report are based on the available project information, structure locations, and the subsurface materials encountered during the field investigation. If the noted information or assumptions are incorrect, please inform PSI so that the recommendations presented in this report can be amended as necessary. PSI will not be responsible for the implementation of provided recommendations if not notified of changes in the project.

### 1.3 PURPOSE AND SCOPE OF SERVICES

The purpose of this study is to evaluate the subsurface conditions at the site and develop geotechnical engineering recommendations and guidelines for use in preparing the design and other related construction documents for the proposed project. The scope of services included drilling soil borings, performing laboratory testing, and preparing this geotechnical engineering report.





This report briefly outlines the available project information, describes the site and subsurface conditions, and presents the recommendations regarding the following:

- Description of subsurface conditions and groundwater information encountered at boring locations.
- Boring logs showing laboratory test results.
- Seismic site classification.
- Discussion about soil swell/shrink potential.
- Site preparation recommendations and general guidelines.
- Geotechnical foundation design recommendations.
- Discussions of factors which may impact construction and performance of the proposed construction.

The scope of services for this geotechnical study did not include any environmental assessment for determining the presence or absence of wetlands, or hazardous or toxic materials in the soil, bedrock, surface water, groundwater, or air on or below, or around this site. Any statements in this report or on the boring logs regarding odors, colors, and unusual or suspicious items or conditions are strictly for informational purposes. An Environmental Site Assessment (ESA) is advisable prior to construction.

A geologic fault study to evaluate the possibility of surface faulting at this site was beyond the scope of this project. Should you desire a detailed fault study, please contact PSI.



## 2.0 SITE AND SUBSURFACE CONDITIONS

### 2.1 SITE DESCRIPTION

Table 2.1 provides a generalized description of the existing site conditions based on visual observations during the field activities, as well as other available information.

**TABLE 2.1: SITE DESCRIPTION**

<b>Site Location</b>	The project site is located on the campus of School of Construction Management at 507 Filhiol Avenue in Monroe, Louisiana. A site Vicinity Map is provided in the Appendix, based on Google Earth imagery dated June 2023.
<b>Site History</b>	Based on Google Earth oldest imagery, the proposed site has been developed with aggregate surface in between 1998 to 2005 and has been utilized as parking lot for the school. It is also understood that the proposed site is currently developed with container-like structures and other minor structures. The proposed new development will be constructed to the southern portion of the existing school building.
<b>Existing Site Ground Cover</b>	Based on Google Earth imagery (June 2023) and provided site plan, the proposed development area is currently covered with aggregate surface and containers.
<b>Existing Grade/Elevation Changes</b>	Based on Google Earth elevation information, the proposed site is relatively level, i.e., El. +78 feet to El. +79 feet.
<b>Description of Adjacent Property</b>	North: Desoto Street South: Claiborne Street East: Filhiol Avenue West: N McGuire Avenue
<b>Ground Surface Soil Support Capability</b>	The site was firm enough for field equipment during field explorations, but contractor should anticipate soft ground during periods of wet weather.

### 2.2 FIELD EXPLORATION

Field exploration for the project consisted of drilling a total of two (2) borings. The boring design element, boring labels, approximate depths, and drilling footage are provided in Table 2.2.

**TABLE 2.2: FIELD EXPLORATION SUMMARY**

<b>Design Element</b>	<b>Boring Designation</b>	<b>Number of Borings</b>	<b>Boring Depth (ft)</b>	<b>Drilling Footage (ft)</b>
Building area	B-1 & B-2	2	25	50
<b>TOTAL:</b>		<b>2</b>	<b>---</b>	<b>50</b>

The boring locations were selected by the Client and were located in the field by PSI personnel using a recreational-grade GPS system. Elevations of the ground surface at the boring locations were not provided. The references to elevations of various subsurface strata are based on depths below existing grade at the time of drilling. The approximate boring locations are depicted on the Boring Location Plan provided in the Appendix. The field exploration methods are described in Table 2.3.



**TABLE 2.3: FIELD EXPLORATION DESCRIPTION**

<b>Drilling Equipment</b>	Truck-mounted drill rig
<b>Drilling Method</b>	Solid Stem Auger
<b>Drilling Procedure</b>	Applicable ASTM standards and PSI Safety Manual
<b>Field Testing</b>	Standard Penetration Test (SPT)
<b>Sampling Procedure</b>	Soils: ASTM D1586
<b>Sampling Frequency</b>	Continuously to a depth of 10 feet and at 5-foot intervals thereafter
<b>Frequency of Groundwater Level Measurements</b>	During and immediately after drilling
<b>Boring Backfill Procedures</b>	Soil cuttings

During field activities, the encountered subsurface conditions were observed, logged, and visually classified (in general accordance with ASTM D2487). Field notes were maintained to summarize soil types and descriptions, water levels, changes in subsurface conditions, and drilling conditions.

## 2.3 LABORATORY TESTING PROGRAM

PSI supplemented the field exploration with a geotechnical laboratory testing program to determine additional engineering characteristics of the subsurface soils encountered at the boring locations. Table 2.4 represents the laboratory testing program for this project.

**TABLE 2.4: LABORATORY TESTING PROGRAM**

<b>Laboratory Test</b>	<b>Procedure Specification</b>
Visual Classification	ASTM D2488
Moisture Content	ASTM D2216
Atterberg Limits	ASTM D4318
Material Finer than No. 200 Sieve	ASTM D1140

The geotechnical laboratory testing program was conducted in general accordance with applicable ASTM Test Methods and Standards. The results of the laboratory tests are provided on the Boring Logs in the Appendix. Portions of samples not altered or consumed by laboratory testing will be discarded 60 days from the date shown in this report.

## 2.4 SUBSURFACE CONDITIONS

The results of the field and laboratory investigation have been used to generalize a subsurface profile at the project site. The subsurface descriptions mentioned in Table 2.5 provide a generalization of the major subsurface stratification features and material characteristics.



**TABLE 2.5: GENERALIZED SOIL PROFILE**

Stratum	Top (ft)*	Bot. (ft)*	Consistency/ Relative Density	Material Description
I <sup>1</sup>	0	25	Soft	Silt (ML), Fat Clay (CH), Lean Clay (CL)

\*Referenced from existing ground surface at the boring locations at the time of drilling activities

\*10 inches of gravel surface was encountered below the existing ground surface at boring locations

The boring logs included in the Appendix should be reviewed for specific information at the individual exploration locations. The boring logs display the soil description, stratification, location of the sample, and field and laboratory test data. The stratification shown on the logs represents the conditions only at the actual exploration location. Therefore, variation may occur, and should be expected across the site considering its age and developmental history. This is particularly important at the site in view of the number of designated boreholes made at random and readily accessible locations. This includes the possible presence of localized areas containing undocumented fill materials of variable character, thickness, and lateral extent in parts of the site and away from the boring location. The stratification represents the approximate boundaries between subsurface materials. The actual transition between strata may be more gradual and less distinct.

#### 2.4.1 GROUNDWATER INFORMATION

Water level measurements were performed during drilling and after completion of drilling. Specific information concerning groundwater is noted on each boring log presented in the Appendix of this report. The groundwater measurements are summarized in Table 2.6.

**TABLE 2.6: MEASURED GROUNDWATER LEVELS (DEPTHS)**

Boring Designation	Boring Depth (feet)	During Drilling (feet)	After Drilling (feet)
B-1	25	8	2
B-2	25	8	3

It is possible that seasonal variations (temperature, rainfall, etc.) will cause fluctuations in the groundwater level. Additionally, perched water may be encountered in discontinuous zones within the overburden soil. It is recommended that the contractor determine the actual groundwater levels at the site at the time of the construction activities to determine the impact, if any, on the construction procedures.

## 2.5 SEISMIC CONDITIONS AND SITE CLASSIFICATION

The International Building Code (IBC), 2015 Edition requires a site class for the calculation of earthquake design forces. This class is a function of soil type (i.e., depth of soil and stratum types). As part of the procedure to evaluate seismic forces, the code requires the evaluation of the Seismic Site Class, which categorizes the site based upon the characteristics of the subsurface profile within the upper 100 feet of the ground surface. The maximum boring depth for this project is 25 feet. Based on site subsurface conditions, Site Class "E" is recommended.



## 3.0 GEOTECHNICAL EVALUATION AND RECOMMENDATIONS

### 3.1 GEOTECHNICAL DISCUSSION

It is our opinion that the methods, means, and sequence of the proposed construction, including site preparation, should be the responsibility of the Contractor, who should be specialized in this type of work. However, general geotechnical related discussions are offered herein in this regard for guidance and possible consideration. Prior to commencing with site preparation, positive collection, drainage and discharge of surface water runoff and rainwater away from the construction area should be established and be maintained throughout the construction area and period.

The types and bearing depth of foundations suitable for a given structure depend primarily on several factors including the subsurface conditions, the function of the structure, the loads it may carry, the cost of the foundation, and the criteria set by the Design Engineer with respect to vertical and differential movements which the structure can withstand without damage.

Based on the provided site plan, PSI understands that the proposed building addition overlies with the footprint of the existing aggregate surface parking lot. We also understand that the current structures (containers) will be removed and any foundation observed should be removed prior to the construction of the new development. Therefore, there is a possibility that the near surface soils within the footprint of the existing structures will be disturbed during the demolition process of the structures and/or the removal of any underground utilities, or that the subsurface conditions differ from those encountered at the location of our soil borings. Excavation planned next to existing structures/ foundations shall be avoided as much as possible. Otherwise, Contractor shall provide adequate shoring to the existing foundations to mitigate any distress to the existing structures.

It should be recognized that the existing buildings have experienced some, or all, of the anticipated long-term consolidation settlement considering its age and use. However, the new structure is expected to experience some long-term settlement. This will result in some differential settlements between the new and old structures regardless of their type of foundation support. For the purpose of analyses, it was assumed that the proposed building will not be structurally adjoined to the existing structure.

PSI anticipate presence of undocumented fill materials within the existing structure footprints. Also, it is likely that fill soils may be present in other areas not explored by soil borings. The age, placement methods, and any testing information of the fill are unknown. As such, the degree of compaction is unknown or varied. Also, the possibility exists that the fill may contain concentrated amounts of deleterious material and soft compressible zones not disclosed by our borings. Accordingly, there are certain risks associated with structures supported on such materials.

Based on the subsurface profile, soft silt layers with SPT N values ranging between 2 to 7 were encountered at 2 feet to 8 feet deep below the existing grades and overlying on the soft to firm lean clay and fat clays. These silt materials are below groundwater observed at 2 to 3 feet deep below the existing ground. These materials are prone to liquefaction if exposed to dynamic loadings like earthquakes. The owner should be aware of the inherent risk associated with developing land with these materials present at the site.

The results of the exploration indicate that the near surface naturally occurring soils encountered in the soil borings include mostly soft silt (ML) and clay (CL & CH) from 0 to 25 feet below the existing grade level, which



are weak in bearing support, highly compressible and susceptible to losing strength when disturbed or vibrated. Therefore, a soil supported foundation system is expected to experience significant long-term settlement with time. The near surface soft silt soil is generally poor in quality and bearing support, and the resulting long-term settlement of the foundation and floor slab would be more than what is generally considered tolerable for this type of facility.

Based on the field data and laboratory test results, the proposed building could be supported on a deep foundation system. Details related to site preparation, foundation design, and construction considerations are included in subsequent sections of this report.

### **3.2 DEMOLITION OF EXISTING ELEMENTS**

PSI anticipates that the existing structures (aggregate surface layer and containers and other minor structures) which are located within the proposed building footprint will be removed from the proposed site.

As previously discussed, disturbance of the near-surface soils could occur during demolition of the existing concrete and/or the removal of any underground utilities. PSI recommends that all existing concrete slabs (if any), foundations, underground utilities, demolition debris, and soft or highly disturbed soils within the construction area be fully removed. As previously discussed, some variation in the near-surface soils could exist away from the boring locations considering the present and former development of the site. It should be noted that some of the near-surface soils within the construction area could be fill that was placed during previous construction or will be disturbed during the demolition activities.

It is common practice to use different subcontractors for demolition and grading activities. Thus, it will be necessary to closely monitor the preparation, grubbing, backfill, and compaction of areas to be disturbed by demolition. Excavations should not be “covered up” without proper compaction-controlled backfilling, as this may result in unsatisfactory performance of the new construction. All backfilling of excavations made during demolition activities should be performed in a manner consistent with the placement of structural fill as described in the Site Preparation section of this report.

### **3.3 SOIL SHRINK-SWELL POTENTIAL**

The results of laboratory plasticity tests indicate that the near surface soils at this site have low potential for shrink or swell. A PVR value of less than one inch was estimated for this site using the Texas Department of Transportation (TxDOT) TEX-124-E method.

Poor drainage and water infiltration to the foundation soils for an extended period can be detrimental to the floor slab and foundation. We recommend that the moisture-related problems be corrected immediately as they can be detrimental to the foundation and floor slab.

Swelling or shrinkage occurs in soils due to changes in moisture content. Ponding water around the foundation may result in a reduction of soil strength, thereby causing adverse and damaging movements. It is important to control the possibility of moisture changes by following the precautions shown below:

- Direct surface runoff away from structures by sloping the subgrade away from the slabs.
- Extend paving or other impervious coverings, such as sidewalks, to the slab edge.
- Extend roof drain downspouts so that the discharge is at least 5 feet from the slab.





- Avoid placing trees or shrubs adjacent to slab.
- Avoid excessive drying of soil around the slab.
- Repair any leaking underground utility or irrigation lines as soon as identified.

### 3.4 SITE PREPARATION

Any existing conventional shallow footings of the structure encountered during site preparation should be excavated and removed in their entirety. Voids left by removal of below grade foundations/structures/utilities should be backfilled with properly compacted structural fill soils. Please also note that any portions of old foundations left in place may have foundation design impacts for the new construction.

On developed sites, other buried debris may exist which is not detected by the soil borings. Any buried debris waste debris or trash which is found during the construction operations should be thoroughly excavated and removed from the site.

The near surface soils that were encountered in the borings indicate the presence of silt below the present grades. These silty soils are susceptible to developing a perched water condition and loss of strength. Wet or saturated near surface soils could pose significant difficulties during earthwork operations. Therefore, good and positive collection and drainage of surface water must be established within the construction site and be maintained through its durations.

To prepare the site for construction, abandoned utility lines, all structures and foundations, existing concrete, demolition debris, undocumented fill (if any), potentially unstable silty layers, organic matter, vegetation, topsoil, roots, extremely loose or soft near-surface soils, highly disturbed soils, and any other deleterious materials within the construction area shall be stripped from the site and wasted. Any voids resulting from the removal of any unsuitable materials should be backfilled in accordance with the recommendations for structural fill placement provided herein as soon as practical. PSI recommends that the existing aggregate surfacing within the proposed site can be removed and stockpiled for future use.

As previously discussed, a deep foundation system is recommended for support of all structural loads that cannot tolerate settlement including its columns, bearing walls, floor slab and any abutting sensitive pavements. Therefore, the fill material placed within the footprint of a pile-supported structure should be selected and placed so that it does not present high resistance to pile driving. Consequently, a lower degree of compaction should be considered within the structure footprint. The fill within the footprint of a pile-supported structure and within unpaved areas could consist of good-quality cohesive material or excavated material, free of organic matter, debris, wood, roots, deleterious materials, etc. Alternatively, the backfill could consist of structural fill material as will be discussed. In either case, the backfill should be compacted to a density of about that of the surrounding naturally occurring soils to minimize long-term areal settlements and the effect of down drag (negative skin friction) on the piles. However, control-compaction of this portion of fill material is believed unwarranted.

Once subgrade preparation and observation have been completed, structural fill may be placed as required to reach design grades. Structural fill should be free of organic or other deleterious materials and have a Liquid Limit of less than 40 and a Plasticity Index between 10 and 20. On-site soils which meet these criteria could be considered for reuse as structural fill. The structural fill should be placed in maximum lifts of eight inches



of loose material and should be compacted to at least 95 percent of the Standard Proctor (ASTM D698) maximum dry density within the range of 0 to +2 percent of the optimum moisture content. If the fill is too dry, water should be uniformly applied and thoroughly mixed into the soil by disking or scarifying. The edges of any compacted fill above the surrounding surface grade should extend at least five (5) feet beyond the edges of the structure area prior to sloping. All fill and bedding materials should conform to the requirements of the local municipality and any other governing agencies as applicable.

Each lift of compacted structural fill should be tested and documented by a PSI representative prior to placement of subsequent lifts. As a guideline, it is recommended that field density tests be performed at a frequency of not less than one test per lift for every 2,500 square feet of fill placed in the building area, or a minimum of four tests per lift, whichever is greater. Tested fill materials not meeting either the required dry density or moisture content range should be recorded, the location noted and reported to the Contractor and Owner. A retest of that area should be performed after the Contractor performs remedial measures.

In addition, the Contractor shall be made aware that silt materials were encountered in the borings. As mentioned earlier, the silt will lose its strength with access to water and subsequently will turn to muck. It is extremely important to establish and maintain good and positive drainage in the construction area as soon as practical. Wet or saturated near surface soils could pose significant difficulties during earthwork operations. This good and positive collection and drainage of surface water should be maintained throughout the construction period.

### **3.5 FOUNDATION DESIGN RECOMMENDATIONS**

The following sections outline geotechnical design requirements for the recommended foundation options.

#### **3.5.1 HELICAL PILE FOUNDATION OPTION**

The subsurface soils encountered at the boring locations are soft and alternatively a deep foundation system is recommended for support of all structural loads that cannot tolerate settlement. Based on the subsurface conditions identified and the project information provided, Helical Piers can be an option to support lightly and heavily loaded structures.

There are many possibilities for helical pier design. Helical piers typically consist of a steel shaft with one helical plate located near the bearing tip. If multiple helix plates are required, the plates should be spaced no closer than 3 times the diameter of the upper helical plate. The vertical capacity of helical piers is based on torque achieved during installation, helical plate size, and shaft type. The helical piers should be designed to terminate in material that is hard enough to achieve the minimum torque.

The pile capacity should be determined through the results of the load tests correlated to helical pile installation torque. Helical piers should be designed and installed in accordance with the manufacturer's recommended procedures by a licensed contractor with experience in pier installation. A test pier should be considered to verify proper torque refusal will be achieved prior to full scale production.

The use of screw-in helical piers is a popular foundation alternative due to the ease of their installation, minimal site preparation requirements and the increasing cost of concrete and labor. The helical pier vendor is responsible for determining the suitability of the soil conditions for using their product and furnishing design details, and for the means and methods of the installation. PSI can provide contact information for local vendors upon request, as well as guidance in the installation of the system relative to the building.



### **3.5.2 RAMMED AGGREGATE PIERS/ GEOPIERS OPTION**

An optional system to support the structure may be to use compacted stone columns through the installation of either vibro compacted stone columns (VSC) or rammed aggregate piers (RAP). This method improves the foundation soils such that typical shallow foundation elements and slab-on-grade construction may be used with elevated bearing capacities. Conventional shallow spread footings pose a settlement risk due to the existing soft soils. The RAP or VSC design is sensitive to the means and methods used to install the elements and are usually designed by a specialty contractor. Both methods involve installing an aggregate material into the subsurface materials to improve the matrix of the existing subsurface material. These methods improve the foundation soils such that typical shallow foundation elements may be used. Stone columns/aggregate piers should be installed from the bottom of footing and extend to the design depth required by the intermediate foundation vendor. Using this general profile, PSI anticipates design bearing pressure to be on the order of 5,000 psf. The ultimate capacity will likely be a function of the allowable settlement criteria for the structure. Final bearing capacities, settlement estimates, and VSC or RAP design will be determined in coordination with the structural engineer and the VSC or RAP contractor.

A ground improvement design is outside the scope of this report and should be provided by the selected ground improvement contractor. PSI can review the ground improvement design for an additional charge. The specialty contractor should consult with the environmental report in development of their work to provide proper protection and decontamination. In general, PSI recommends that the stone elements fully extend through the undocumented fill materials; however, based on experience VSC element installation depths are limited to 25 to 30 feet below the ground surface. Since the fill will remain in place, the owner should be aware there is still an increased risk of settlement. PSI should be retained to provide observation and testing of construction activities involved in the foundation, earthwork, and related activities of this project. PSI cannot accept responsibility for conditions that deviate from those described in this report, nor for the performance of the foundation system if not engaged to also provide construction observation and testing for this project

### **3.5.3 STRUCTURAL SUSPENDED SLAB SYSTEM**

In order to mitigate the movements, it is recommended that the slab system be structurally suspended above grade on appropriate deep foundation system with a minimum of 12-inches of void space between the structure (floor-slab) and the soil. For structurally suspended slab system, no significant site preparation is anticipated other than general site grading.



## **4.0 CONSTRUCTION CONSIDERATIONS**

PSI should be retained to provide observation and testing of construction activities involved in the foundations, earthwork, and related activities of this project. PSI cannot accept any responsibility for any conditions that deviate from those described in this report, nor for the performance of the foundations if not engaged to also provide construction observation and testing for this project.

### **4.1 MOISTURE SENSITIVE SOILS/WEATHER RELATED**

During wet weather periods and/or poor site drainage, an increase in the moisture content of the soil can cause significant reduction in the soil strength and support capabilities. Soils that become wet might be slow to dry and thus significantly retard the progress of grading and compaction activities. It will, therefore, be advantageous to perform earthwork and foundation construction activities during dry weather.

### **4.2 DRAINAGE CONCERNS**

Water should not be allowed to collect in foundation excavations or on prepared subgrade of the construction area either during or after construction. Undercut or excavated areas should be sloped toward one corner to facilitate removal of any collected rainwater, groundwater, or surface runoff. Positive site surface drainage should be provided to reduce infiltration of surface water around the perimeter of the foundation. The grades should be sloped away from the foundation and surface drainage and roof drainage should be collected and discharged such that water is not permitted to infiltrate and/or accumulate within the foundation or any backfill areas.

### **4.3 EXCAVATIONS**

In Federal Register, Volume 54, No. 209 (October 1989), the United States Department of Labor, Occupational Safety and Health Administration (OSHA) amended its "Construction Standards for Excavations, 29 CFR, part 1926, Subpart P". This document was issued to better ensure the safety of workmen entering trenches or excavations. It is mandated by this federal regulation that excavations, whether they be utility trenches, basement excavation or footing excavations etc. be constructed in accordance with the new OSHA guidelines. It is our understanding that these regulations are being strictly enforced and if they are not closely followed, the owner and the contractor could be liable for substantial penalties.

The contractor is solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom. The contractor's "competent person", as defined in 29 CFR Part 1926.650 to 652 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.

### **4.4 CONSTRUCTION MONITORING**

Consideration should be given to the impact of the proposed construction activities on the integrity and stability of any other existing structures and their foundation systems located within the immediate vicinity of the proposed project. A detailed QA/QC program should be developed and strictly followed throughout the project. This may include performing a thorough preconstruction inspection of the site and the



surrounding structure conditions including any existing distress, cracks, movements, etc. The QA/QC program should include close monitoring of construction vibrations and movements, stability of excavations, dewatering activities, etc. and their possible impact on any adjacent existing structures. This could include the use of videotaping, photographs, instrumentation, sensors, geodetic surveys, etc. Vibrations due to new construction activities should be expected and they should be monitored. In general, vibrations should be limited to about 0.25 inch/sec. (peak particle velocity) at all existing nearby sensitive structures. If this value is exceeded, further consideration should be given to the effects of vibrations and the methods, means and sequence of construction operations. In addition, the selected Contractor should be specialized in this type of construction and capable of assuring the integrity of the surrounding structures including the use of any necessary shoring, underpinning, bracing, etc. as needed.

We are providing this information solely as a service to our client. PSI does not assume responsibility for construction site safety or the contractor's or other party's compliance with local, state, and federal safety or other regulations.



## 5.0 REPORT LIMITATIONS

The recommendations submitted in this report are based on the available subsurface information obtained by PSI and design details furnished by the client for the proposed project. If there are revisions to the plans for this project, or if deviations from the subsurface conditions noted in this report are encountered during construction, PSI should be notified immediately to determine if changes in the foundation recommendations are required. If PSI is not notified of such changes, PSI will not be responsible for the impact of those changes on the project.

The Geotechnical Engineer warrants that the findings, recommendations, specifications, or professional advice contained herein have been made in accordance with generally accepted professional Geotechnical Engineering practices in the local area. No other warranties are implied or expressed. This report may not be copied without the expressed written permission of PSI.

After the plans and specifications are more complete, the Geotechnical Engineer should be retained and provided the opportunity to review the final design plans and specifications to check that the engineering recommendations have been properly incorporated in the design documents. At this time, it may be necessary to submit supplementary recommendations. If PSI is not retained to perform these functions, PSI will not be responsible for the impact of those conditions on the project.

This report has been prepared for the exclusive use of TBA Studio for specific application to the proposed Building addition to be constructed at the school of construction management Lab building located at 513 Filhiol Avenue in Monroe, Louisiana.





## APPENDIX

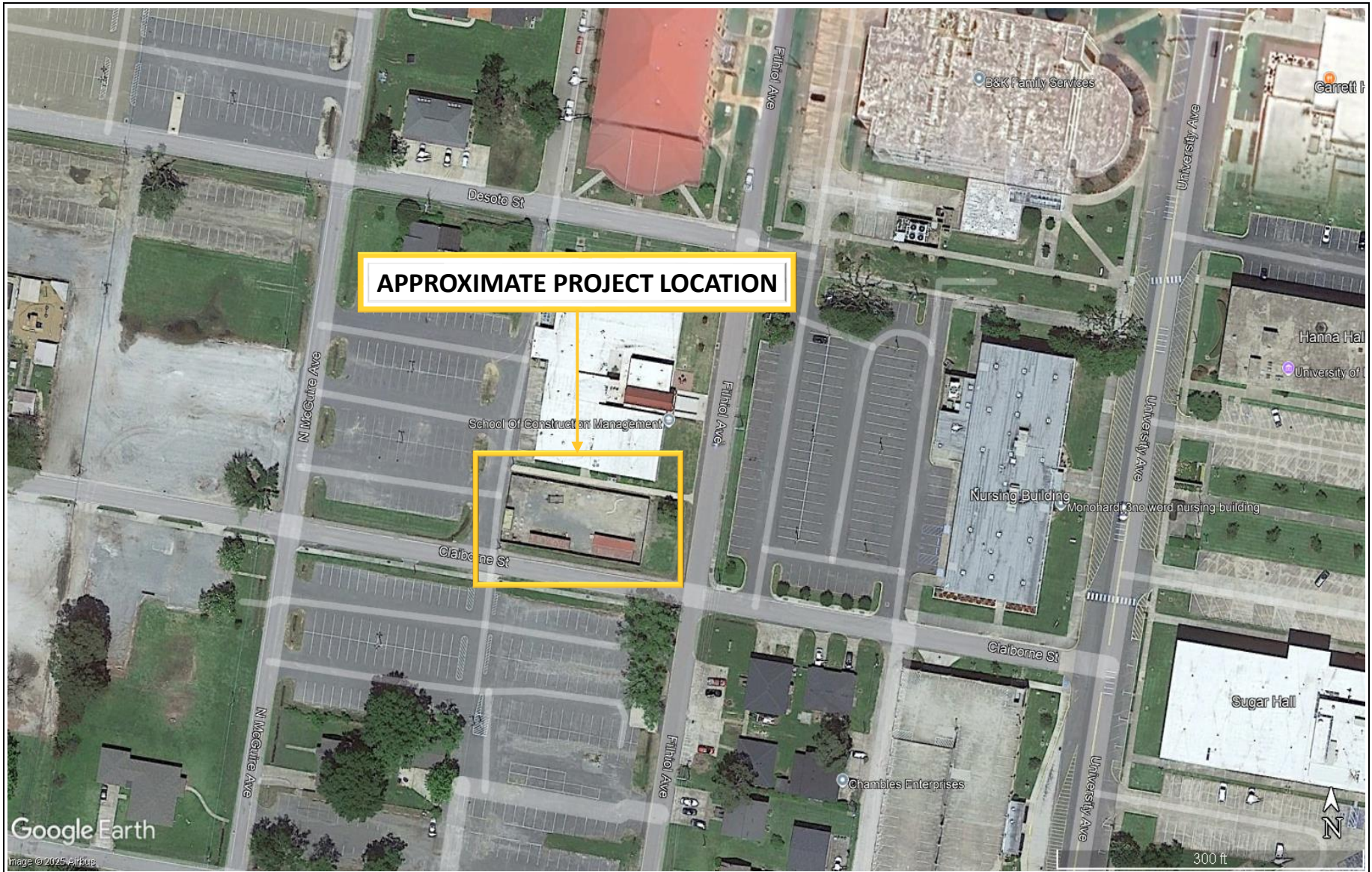


GEOTECHNICAL ENGINEERING SERVICES  
**PROPOSED BUILDING ADDITION –**  
**ULM SCHOOL OF CONSTRUCTION**  
 MONROE, LOUISIANA

**SITE VICINITY MAP (GENERAL)**  
 GOOGLE EARTH IMAGERY DATE: 06/2023  
 PSI PROJECT NO.: 02752367-1





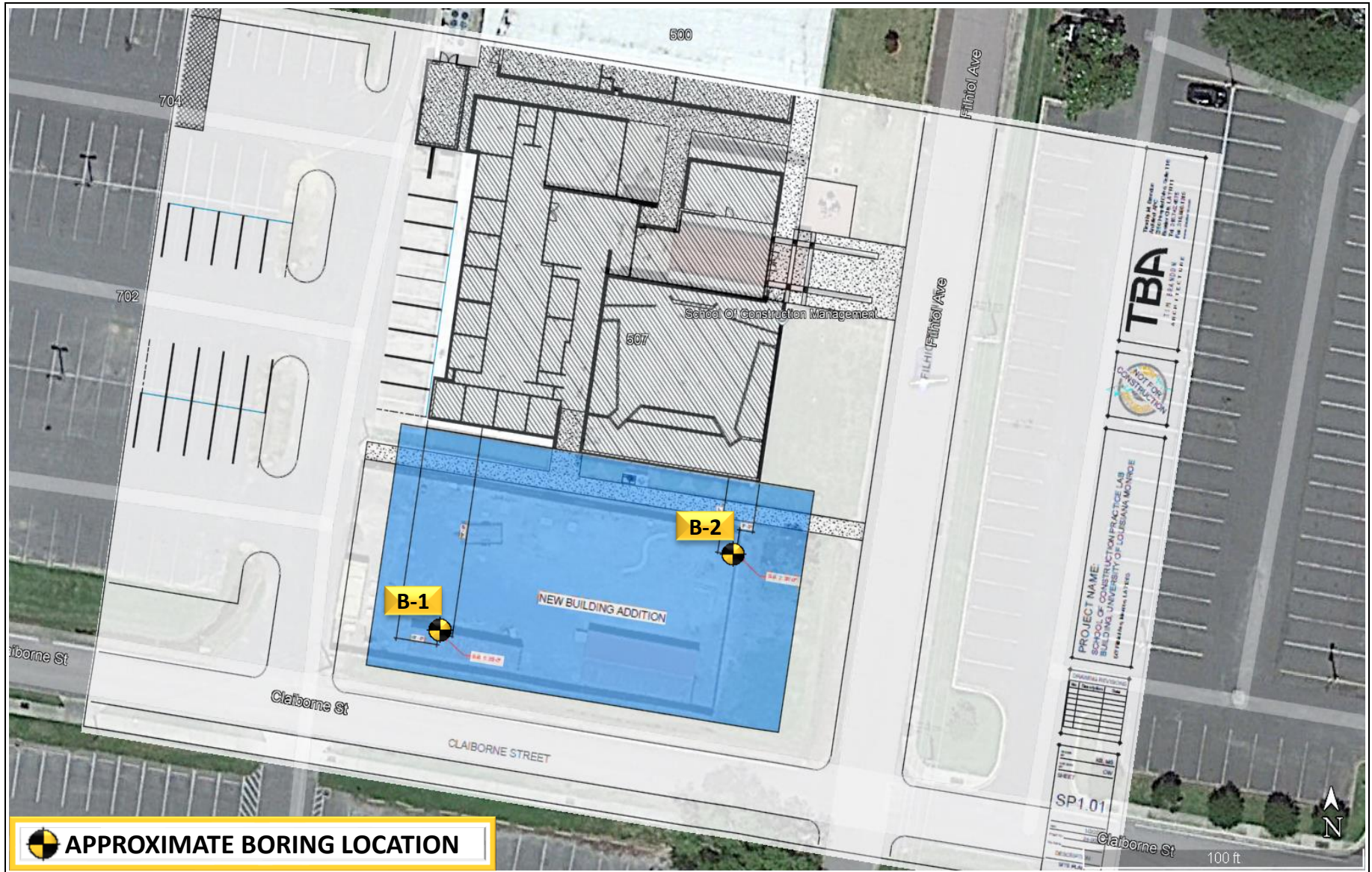


GEOTECHNICAL ENGINEERING SERVICES  
**PROPOSED BUILDING ADDITION –**  
**ULM SCHOOL OF CONSTRUCTION**  
 MONROE, LOUISIANA

**SITE VICINITY MAP (CLOSE UP)**  
 GOOGLE EARTH IMAGERY DATE: 06/2023  
 PSI PROJECT NO.: 02752367-1

**intertek**  
**psi**





**APPROXIMATE BORING LOCATION**

GEOTECHNICAL ENGINEERING SERVICES  
PROPOSED BUILDING ADDITION –  
ULM SCHOOL OF CONSTRUCTION  
MONROE, LOUISIANA

**BORING LOCATION PLAN**  
GOOGLE EARTH IMAGERY DATE: 06/2023  
PSI PROJECT NO.: 02752367-1

intertek  
psi

# LOG OF BORING B-1

Proposed Building Addition - ULM School of Construction  
507 Filhiol Avenue  
Monroe, Louisiana

TYPE OF BORING: Solid Stem Auger

LOCATION: (32.527806, -92.077619)

PSI Project No.: 02752367-1

DEPTH, FT.	SOIL TYPE	USCS SYMBOL	SAMPLES	SOIL DESCRIPTION	N-BLOWS/FT.	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	% PASSING No. 200 SIEVE	SHEAR STRENGTH (tsf)				SHEAR STRENGTH (tsf)				UNIT DRY WEIGHT (pcf)
							LL	PL	PI		○ HP   ● UC △ TV   ▲ UU				HAND PEN (tsf)	UC (tsf)	TORVANE (tsf)	UU (tsf)	
				10 inches of Gravel															
-2.0		ML		Soft to Firm Brown Silt (ML)	1-1-2 3	25				99									
-4.0					2-3-4 7	26													
-6.0					2-3-4 7	41	24	22	2										
-8.0					2-1-1 2	38	25	22	3	98									
-10.0		CH		Soft to Firm Brown Fat Clay (CH)	1-1-1 2	36													
-12.0																			
-14.0					1-1-2 3	45	59	26	33										
-16.0																			
-18.0				Brown and Gray, 18 to 25 feet															
-20.0					2-2-2 4	35				91									
-22.0																			
-24.0					2-2-2 4	15													

DEPTH OF BORING: 25 FEET

DATE DRILLED: 2/27/25

NOTE:

▽ GROUNDWATER DURING DRILLING: 8 feet

▼ GROUNDWATER UPON COMPLETION: 2 feet

▽ DELAYED GROUNDWATER:

SHREVEPORT BORING LOG - PSIHOUSTON.GDT - 3/24/25 16:29 - 0275

# LOG OF BORING B-2

Proposed Building Addition - ULM School of Construction  
507 Filhiol Avenue  
Monroe, Louisiana

TYPE OF BORING: Solid Stem Auger

LOCATION: (32.527881, -92.077286)

PSI Project No.: 02752367-1

DEPTH, FT.	SOIL TYPE	USCS SYMBOL	SAMPLES	SOIL DESCRIPTION	N-BLOWS/FT.	MOISTURE CONTENT (%)	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	% PASSING No. 200 SIEVE	SHEAR STRENGTH (tsf)				SHEAR STRENGTH (tsf)				UNIT DRY WEIGHT (pcf)
							LL	PL	PI		<div> <div>○ HP    ● UC</div> <div>△ TV    ▲ UU</div> </div>				HAND PEN (tsf)	UC (tsf)	TORVANE (tsf)	UU (tsf)	
				10 inches of Gravel															
-2.0		ML		Stiff Brown Silt (ML)	7-7-7 14	25	22	21	1										
-4.0		ML		Soft to Firm Brown Silt (ML)	3-3-3 6	22				91									
-6.0					2-1-1 2	28													
-8.0					2-1-2 3	39													
-10.0		CL		Firm Brown Lean Clay (CL)	2-2-2 4	35	41	19	22										
-12.0																			
-14.0					2-2-2 4	37													
-16.0																			
-18.0				Brown and Gray, 18 to 25 feet															
-20.0					2-2-2 4	33				88									
-22.0																			
-24.0					2-2-2 4	33	39	17	22										

DEPTH OF BORING: 25 FEET

DATE DRILLED: 2/27/25

NOTE:

▽ GROUNDWATER DURING DRILLING: 8 feet

▼ GROUNDWATER UPON COMPLETION: 3 feet

▽ DELAYED GROUNDWATER:

SHREVEPORT BORING LOG - PSIHOUSTON.GDT - 3/24/25 16:29 - 0275



## KEY TO TERMS AND SYMBOLS USED ON LOGS

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

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

### UNIFIED SOIL CLASSIFICATION SYSTEM - ASTM D 2487 (1980)

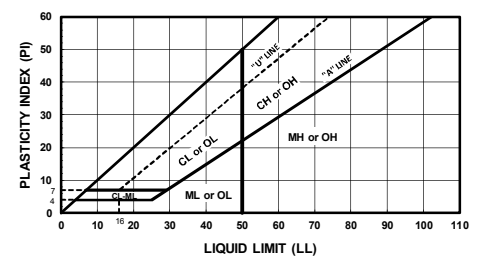
MAJOR DIVISIONS			LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE-GRAINED SOILS LESS THAN 50% PASSING NO. 200 SIEVE	GRAVEL & GRAVELLY SOILS LESS THAN 50% PASSING NO. 4 SIEVE	CLEAN GRAVEL (LITTLE OR NO FINES)	GW	WELL-GRADED GRAVEL, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
			GP	POORLY GRADED GRAVEL, GRAVEL-SAND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

### CONSISTENCY - COHESIVE SOILS

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

### RELATIVE DENSITY - GRANULAR SOILS

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



### ABBREVIATIONS

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

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

### CLASSIFICATION OF GRANULAR SOILS

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

ULM School of Construction

Addendum Items

Electrical:

1. The following fixtures are approved as equals:

Mark:	Manufacturer:	Model#:
A1	Day-Brite	2FPZ43L840-4-A12-UNV-DIM
A1	HE Williams	BP-24-LS/8CS-DIM-QS-UNV
A2	Day-Brite	2FPZ30L840-2-A12-UNV-DIM
A2	HE Williams	BP-22-LS/8CS-DIM-QS-UNV
B1	Finelite	HP-4-P-D-4'-TL1200LM/FT-835-TG-F-96LG- 277-SC-FC-10%-FA50-* -FE-** Ceiling type and Finish by Architect
B2	Finelite	HP-4-P-D-4'-TL1500LM/FT-835-TG-F-96LG- 277-SC-FC-10%-FA50-* -FE-** Ceiling type and Finish by Architect
D1	Finelite	HP-4-SM-D-4'-TL1200LM/FT-835-F-96LG-277- SC-FC-10%-C4-FE-* Finish by Architect.
F1	Finelite	HP-4-P-D-6'-V-835-F-96LG-277- SC-FC-10%- FA50-* -FE-* Ceiling Type and Finish by Architect.
F2	Finelite	HP-4-P-D-6'-TL1200LM/FT-835-F-96LG-277-SC- FC-10%-FA50-* -FE-* Ceiling Type and Finish by Architect.
G1	Lumascap	LS9030-12D-840-AL-2-A-09-**
M1	Day-Brite	FCY0815L8CST-UNV-DIM/FCY-SBK24

M1	HE Williams	GH-2-L120/835-FA-(L90)-GHSMK/PWU-DIM-UNV
M2	Day-Brite	FCY1524L8CST-UNV-DIM/FCY-SBK24
M2	HE Williams	GH-2-L180/835-FA-GHSMK/PWU-DIM-UNV
R1	Lightolier	M4RDL259CSWCLZ10U/4RNSR
R1	HE Williams	4DR-TL-L20/835-DIM-UNV-OW-OF-CS-N-F-1
W1	Gardco	GWS-A03-840-T4M-UNV-EM-BZ
W1	HE Williams	VWPV-L30-8-40-TFT-CBZ-CGL-EM/4W-DIM-UNV
X	Chloride	CLXNRW
X	Current	CERSD