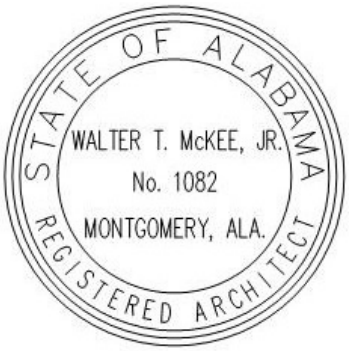
LATHAN · McKEE
ARCHITECTS



Addendum No. 2
Date: February 9, 2026

Project:
Addition to
Andalusia Elementary School for the
Andalusia City Schools
Andalusia, Alabama

MCKEE PROJECT NO. 24-304
ALABAMA DIVISION OF CONSTRUCTION MANAGEMENT NO. 2025681

The following changes and/or substitutions to the plans and specifications are hereby made a part of same and are incorporated in full force as part of the contract.

Bidders shall acknowledge receipt of this Addendum in writing on his Proposal Form.

A2.1 GENERAL MODIFICATIONS:

A. Refer to Advertisement to Bid and Change the Bid Date from Thursday February 12, 2026 to **Thursday February 19, 2026.**
B. Refer to List of General Contractors who have been pre-qualified to bid this project, herein.
C. Refer to Table of Contents, herein.
D. Refer to Proposal Form, herein.

A2.2 SPECIFICATION MODIFICATIONS:

A. Refer to Section 02201 Earthwork, herein.

B. The following specifications are not approved per substitution requirements and do not meet specifications design

1. **DELETE** Section 13125 Telescopic Bleachers/ Telescopic Bleachers with ESM 10" Excel Seat Module/ Interkal/5981 E Cork Kalamazoo, MI. 49048/ Tel:269-349-1521/ W: www.interkal.com

C. Refer to Section 15900 HVAC Instrumentation and Controls (**Revised 2.5.26**), herein.

D. Refer to revisions to Electrical Specification Sections 16010,16610, and 16800 and clarifications to Sheets E0.1, E0.3 and E0.8, herein.

A2.3 DRAWING MODIFICATIONS:

A. See the attached Revised Drawings as follows:

1. G1.2 (**Revised 2.6.26**), herein.
2. A4.1 and A4.2 (**Revised 2.6.26**), herein.

A2.4 CLARIFICATIONS & RESPONSES

A. The following clarifications are provided for responses regarding the project:

1. Section 13125 Telescopic Bleachers do not meet design requirements per design specifications' intentions.
2. Refer to Section 13120 PEMB for metal panels and roof panels for this project.

END OF ADDENDUM

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Addition
to
Andalusia Elementary School
for the
Andalusia City Schools
Andalusia, Alabama
MCKEE PROJECT NO. 24-304
Volume 1 of 2

BIDDING REQUIREMENTS

CONTRACT FORMS

- Alabama Department of Finance Real Property Division of Construction Management Permit Fee & Re-Inspection Fee Calculation Worksheet

GENERAL CONDITIONS

- Pre-Construction Conference Checklist (DCM Form B-8)
- Detail Of Project Sign (DCM Form C-15)
- Application and Certificate for Payment (DCM Form C-10)
- Statement of Field Observations (DCM Form B-10_
- Schedule Of Values, (DCM Form C-10SOV, Attachment to DCM Form C-10
- Inventory Of Stored Materials, (DCM Form C-10SM, Attachment to DCM Form C-10
- Progress Schedule and Report (DCM Form C-11,)
- Change Order Checklist, (DCM Form B-12, For Use With DCM Form C-12
- Contract Change Order (DCM Form C-12 (fully locally-funded K-12 Schools)
- Change Order Justification (DCM Form B-11) Attachment to DCM Form C-12
- Change Order Proposal Recap Sheet (Lathan Mckee Form, LM 0825)
- Certificate of Substantial Completion (DCM Form C-13 & 13A)
- Certificate of Structural Observation (DCM Form B-14)
- Final Payment Checklist (DCM Form B-13)
- Contractor's Affidavit of Payment of Debts and Claims (DCM Form C-18)
- Contractor's Affidavit of Release of Liens (DCM Form C-19)
- Consent of Surety to Final Payment (DCM Form C-20)
- Form of Advertisement for Completion (DCM Form C-14)
- Owner Statement of Responsibility Storm Shelter (DCM Form C-14)
- Contractor's Statement of Responsibility Storm Shelter (DCM Form B-15)
- General Contractor's Roofing Guarantee (DCM Form C-9)
- Certificate for Application State Fire Marshal's Certified Fire Alarm Contractor Permit
- Certificate of Asbestos Free Building Materials (McKee Form)

TECHNICAL SPECIFICATIONS

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PROPOSAL FORM

To: _____ Date: _____
(Awarding Authority)

In compliance with the Advertisement for Bids and subject to all the conditions thereof, the undersigned

_____
(Legal Name of Bidder)

hereby proposes to furnish all labor and materials and perform all work required for the construction of

WORK _____

_____

in accordance with Drawings and Specifications, dated _____, prepared by

_____, Architect/Engineer.

The Bidder, which is organized and existing under the laws of the State of _____,

having its principal offices in the City of _____,

is: ☐ a Corporation ☐ a Partnership ☐ an Individual ☐ (other) _____.

LISTING OF PARTNERS OR OFFICERS: If Bidder is a Partnership, list all partners and their addresses; if Bidder is a Corporation, list the names, titles, and business addresses of its officers:

_____

_____

_____

BIDDER'S REPRESENTATION: The Bidder declares that it has examined the site of the Work, having become fully informed regarding all pertinent conditions, and that it has examined the Drawings and Specifications (including all Addenda received) for the Work and the other Bid and Contract Documents relative thereto, and that it has satisfied itself relative to the Work to be performed.

ADDENDA: The Bidder acknowledges receipt of Addenda Nos._____ through _____ inclusively.

BASE BID: For construction complete as shown and specified, the sum of _____

_____ Dollars ($ _____)

ALTERNATES: If alternates as set forth in the Bid Documents are accepted, the following adjustments are to be made to the Base Bid:

For Alternate No. 1 (. . . . .) ☐ (add) ☐ (deduct) $ _____
(Insert key word for Alternate)

For Alternate No. 2 (. . . . .) ☐ (add) ☐ (deduct) $ _____

For Alternate No. 3 (. . . . .) ☐ (add) ☐ (deduct) $ _____

For Alternate No. 4 (. . . . .) ☐ (add) ☐ (deduct) $ _____

For Alternate No. 5 (. . . . .) ☐ (add) ☐ (deduct) $ _____

For Alternate No. 6 (. . . . .) ☐ (add) ☐ (deduct) $ _____

UNIT PRICES - (Attach to this Proposal Form the unit prices, if any, on a separate sheet.)

BID SECURITY: The undersigned agrees to enter into a Construction Contract and furnish the prescribed Performance and Payment Bonds and evidence of insurance within fifteen calendar days, or such other period stated in the Bid Documents, after the contract forms have been presented for signature, provided such presentation is made within 30 calendar days after the opening of bids, or such other period stated in the Bid Documents. As security for this condition, the undersigned further agrees that the funds represented by the Bid Bond (or cashier's check) attached hereto may be called and paid into the account of the Awarding Authority as liquidated damages for failure to so comply.

Attached hereto is a: (*Mark the appropriate box and provide the applicable information.*)

☐ Bid Bond, executed by _____ as Surety,

☐ a cashier's check on the _____ Bank of _____,

for the sum of _____

Dollars ($ _____) made payable to the Awarding Authority.

BIDDER'S ALABAMA LICENSE:

State License for General Contracting: _____
License Number Bid Limit Type(s) of Work

CERTIFICATIONS: The undersigned certifies that he or she is authorized to execute contracts on behalf of the Bidder as legally named, that this proposal is submitted in good faith without fraud or collusion with any other bidder, that the information indicated in this document is true and complete, and that the bid is made in full accord with State law. Notice of acceptance may be sent to the undersigned at the address set forth below.

The Bidder also declares that a list of all proposed major subcontractors and suppliers will be submitted at a time subsequent to the receipt of bids as established by the Architect in the Bid Documents but in no event shall this time exceed twenty-four (24) hours after receipt of bids.

Legal Name of Bidder _____

Mailing Address _____

* **By (Legal Signature)** _____

* Name & Title (print) _____ (*Seal*)

Telephone Number _____

Email Address _____

* If other than the individual proprietor, or an above named member of the Partnership, or the above named president, vice-president, or secretary of the Corporation, attach written authority to bind the Bidder. Any modification to a bid shall be over the initials of the person signing the bid, or of an authorized representative.

Note: A completed DCM Form C-3A: Accounting of Sales Tax must be submitted with DCM Form C-3: Proposal Form. Submission of DCM Form C-3A is required, it is not optional. A proposal shall be rendered non-responsive if an Accounting of Sales Tax is not provided.

Report of Geotechnical Subsurface Investigation

Andalusia Elementary School Building & Pavement Additions

1501 Western Bypass

Andalusia, Alabama

Our Job No. A25114.00571.000

Report of Geotechnical Subsurface Investigation

Andalusia Elementary School Building & Pavement Additions
1501 Western Bypass
Andalusia, Alabama
Our Job No. A25114.00571.000

Prepared For:

Mr. Richard Jackson
Southern Engineering Solutions
201 East Troy Street
Andalusia, Alabama 36420

Prepared By:

UES Professional Solutions 18, LLC (UES)
P.O. Box 241702
Montgomery, Alabama 36124

334-213-5647
www.teamues.com

December 24, 2025

Table of Contents

Attachments :

- Vicinity Map
- Boring Plans
- Test Boring Logs
- Laboratory Test Data
- Notes and References
- Investigative Procedures
- Unified Soil Classification Chart
- General Terms and Conditions

1.0 Introduction

UES Professional Solutions 18, LLC (UES) is pleased to provide this report of our subsurface investigation for the proposed Andalusia Elementary School Building and Pavement Additions in Andalusia, Alabama. The scope of this investigation included 12 soil test bores in the proposed building structure and pavement addition areas. The quantity and location of the test bores were taken in accordance with the authorized scope of work. The intent of this investigation was to evaluate the subsurface conditions with respect to the development of the site for support of the proposed new structure and pavement.

This report has been prepared in accordance with generally accepted current standards of geotechnical engineering practices and no other warranties are expressed or implied. The recommendations of this report are based on our professional judgment considering the proposed construction as described by this report and the data available to us. The construction should include follow up geotechnical monitoring and construction materials testing by our firm. It is important that we confirm the expected subsurface conditions based on the soil boring data during the construction phase. This report is presented on the basis that all of our recommendations will be followed.

2.0 Summary

Generally, the subsurface investigation indicated conditions which should be compatible with the planned structure and pavements provided the site preparation and construction are completed in accordance with the recommendations which follow in this report. Please note that our recommendations are site specific and may not be suitable for other types of structures or other locations.

A total of 12 test bores were completed to evaluate the subsurface stratigraphy. Beneath 7 to 10” of organic topsoil or 2.5” of asphalt over 4” of sand with crushed stone base, the test bores penetrated in-situ earth described as cohesive clayey sand, silty clayey sand, sandy clay, and non-cohesive silty sand. The predominate sand earth is of a marginal to good drainage classification. The predominate clay earth is of a poor drainage classification. Below localized weak surface soil conditions, the test bores encountered low to moderate soil strengths and consolidation characteristics which are expected to be compatible with the planned type of construction.

The test bores did not indicate any groundwater during or one hour following drilling. The test bores had caved at depths ranging from 5.1 to 20.4’ bgs. The groundwater condition at this site is subject to seasonal variation and is expected to fluctuate. We do not anticipate that the groundwater condition will affect the construction or long-term performance of this project. Shallow groundwater (if any) encountered during construction can be controlled using shallow drainage ditches, sump pits and pumps, and/or permanent underdrains.

Following proper site preparation, the project can use conventional design and construction techniques to develop a shallow spread foundation system for support of the planned structure. The spread foundations can be designed to bear transitional between the in-situ earth (compacted as required) and new “engineered fill” earth using net allowable soil bearing pressures of up to 1,500 pounds per square foot for continuous foundations and 2,000 pounds per square foot for isolated square foundations.

The pavement sections may be developed using locally available materials and conventional construction techniques. The pavement sections may be constructed using a crushed aggregate base and high stability bituminous pavement section, a granular soil base and high stability bituminous pavement, or a concrete pavement section placed directly over an improved layer of the subgrade earth.

3.0 Evaluation

3.1 Site Location

The site subject to this report is located at 1501 Western Bypass in the City of Andalusia, Covington County, Alabama. Our field personnel utilized the provided instructions, site plan and a survey grade GPS to locate the site and test bores. The ground elevation at each bore location was determined with the GPS. These elevations are shown on the test bore records. The horizontal and vertical accuracy of the GPS can be variable due to atmospheric influences, tree canopies, and other obstructions. The bore locations should be considered approximate. The GPS data is provided for information only and has not been field verified.

3.2 Site Conditions

The investigation site consisted of an approximately 5-acre northern portion within the approximately 35-acre Andalusia Elementary School Complex containing paved drives, grassed parking areas, fences, mature trees, and adjacent buildings. Generally, the site is open and clear (see photos below).

The local terrain is described as gently sloping. There was approximately 7’ of relief between the test bore locations. Surface drainage was described as good. Surface water is expected to flow over the site and discharge beyond the area planned for development. There were no significant areas of ponded surface water on the site at the time of drilling. Site access was described as good. There was no difficulty mobilizing our ATV-mounted drilling equipment to the test bore locations.

3.3 Site Geology and Subsurface Stratigraphy
Geologically, the site is located in the Coastal Plain Provence and is underlain by residuum formed in the Eocene Epoch of the Tertiary Period. Typically, this formation yields sandy clay and clay with layers of gravelly medium to coarse sand, fossiliferous chert and limestone boulders.

Beneath 7 to 10” of organic topsoil or 2.5” of asphalt over 4” of sand with crushed stone base, the test bores penetrated in-situ earth described as cohesive clayey sand, silty clayey sand, sandy clay, and non-cohesive silty sand. Laboratory analyses confirmed “SC-SM” and “SC” Unified Soil Classifications of the predominate silty clayey sand and clayey sand earth with plasticity indices of 6, 10, 13, and 15. The penetration resistance values, “N”, ranged from 5 to 41 blows per foot indicating relative densities of loose to dense in the predominate sand earth and consistencies of very stiff in the predominate clay earth. Moisture tests indicated soil water contents ranging from 5.2 to 21.3%. Test bores were terminated at depths of 10 to 25’ bgs.

The test bores did not indicate any groundwater during or one hour following drilling. The test bores had caved at depths ranging from 5.1 to 20.4’ bgs. The groundwater condition at this site is subject to seasonal variation and is expected to fluctuate.

The enclosed test boring records further describe the subsurface stratigraphy, Unified Soil Classifications, penetration resistance values, moisture contents, caved depths, and boring termination depths.

3.4 General Construction Information

The following data was extrapolated from the provided construction information. The construction data described in this section was considered in the formulation of our recommendations; therefore, any significant changes, additions, or modifications to the planned development may have a significant impact on our recommendations. We ask that we be advised of any significant errors, omissions, or revisions in the construction data to permit further comment as needed.

We understand the proposed development will include school classroom and multi-purpose type building construction along with related grading, drainage, and pavement improvements. The building will include single to two-story height, shallow foundations, concrete floor slab on grade and PEMB, CMU, steel frame or wood frame type construction with brick or metal veneer siding. Specific structural loading information was not provided. We anticipate that maximum concentrated loads will be less than 100 kips and that wall loads will be less than 6 kips per linear foot.

Specific pavement design criteria were not available. The pavements are expected to be subjected to a medium duty traffic classification including a moderate volume of automobiles and occasional medium to heavy weight service trucks and school buses.

Based on a finish floor elevation similar to the adjacent buildings (~361.7') and the existing grades, we expect less than 7' of earth cutting/filling will be required to establish finish grades in the building and pavement areas. Fill earth required to establish subgrade elevation is expected to originate from on-site cuts and/or local off-site borrow sources.

One of the enclosed boring plans further describes the planned development.

4.0 Recommendations - Site Preparation

4.1 "Controlled Areas"

Define those areas throughout and 10’ beyond the building addition and pavement area, and throughout significant slopes as "controlled areas".

4.2 Stripping

Remove all topsoil, vegetation, pavement, fences, abandoned utilities, and otherwise unsuitable materials from the "controlled areas". All unsuitable materials should be wasted off-site or in non-structural areas.

4.3 Drainage

Maintain the "controlled areas" in a drained condition that will ensure the continual removal of surface water that may flow over the construction areas. Temporary site drainage, which is critical for the project, can be enhanced by the installation of the final site drainage structures during the early phases of the site development.

4.4 Site Examination

Prior to the placement of fill earth and following removal of cut earth, the "controlled areas" should be examined by UES representatives. The examination should include proof rolling with construction equipment, test pits, supplemental test bores, visual examinations, etc., as needed to determine the presence, location, and extent of any localized organic, weak, and/or otherwise unsuitable soil conditions which may exist at the site. Areas which exhibit weak soil or otherwise unsuitable conditions should be corrected in accordance with our recommendations. Typically, areas which yield excessively under proof rolling should be under-cut to expose a firm level of soil followed by backfilling with "engineered fill".

4.5 Subgrade Improvements

Following stripping and removal of any cut earth, the exposed subgrade should be processed and thoroughly compacted to at least 98% of the materials ASTM-D698 standard density. Caution should be used when removing or relocating underground utilities. The soil exposed in the trenches extending through the "controlled areas" should be compacted to 98% standard density with “jumping jack” type compactors and backfilled with "engineered fill". At the time of densification, the moisture content of the existing subgrade should be adjusted to within ± 3% of the materials optimum water content. Following compaction, the subgrade should be proof rolled. Any areas which fail to properly compact or fail the proof roll should be undercut to expose firm earth followed by backfilling with “engineered fill”. Consecutive 8” lifts of fill earth or “select fill” should be placed and compacted as “engineered fill” until final subgrade elevation is achieved. The rubble-free, non-organic, non-saturated sections of on-site material exhibiting plasticity indices of less than 20 may be used to construct “engineered fill”. The site work contractor should be prepared to moisture condition the stockpiled material (wetting or

drying) to achieve proper compaction. Site preparation can be best accomplished during the normally drier summer and fall seasons.

4.6 Proof Rolling

Proof rolling should be completed using rubber-tired construction equipment or a partially loaded dump truck weighing 40 tons. Proof-rolling should include a minimum of 2 passes in perpendicular directions over the "controlled areas". Areas which yield excessively should be corrected in accordance with our recommendations. Do not proof roll when the subgrade soil is saturated.

4.7 Fill Earth

Fill earth required to establish subgrade elevation in the "controlled areas" can consist of the rubble-free, non-saturated, and non-organic sections of the native earth exhibiting plasticity indices of less than 20, typical of the majority of that penetrated by the test bores. Processing and moisture conditioning will be required to properly compact the on-site soils.

4.8 "Select Fill"

All fill earth originating from an off-site borrow source should be designated as "select fill". The "select fill" should consist of a rubble-free, non-saturated, and non-organic clayey sand or silty clayey sand that meets the following criteria.

"Select Fill" Composition

Sieve Requirements	% Passing
3"	100
No. 4	75 - 100
No. 200	20 - 45
Liquid Limit	45 max
Plasticity Index	6 to 12
Maximum Dry Unit Weight Based on ASTM-698 Standard Density Test	$\geq$ 100 pcf

4.9 "Engineered Fill"

Unless otherwise specified, all fill earth and "select fill" earth placed in the "controlled areas" should be designated as "engineered fill". Place fill earth in thin lifts not to exceed 8" loose measure and thoroughly compact each lift of fill to at least 98% of the materials ASTM D-698 standard density. At the time of densification, the moisture content of the "engineered fill"

should be within 3% of the materials optimum water content. Following acceptance for moisture and density, any "engineered fill" areas which are disturbed should be retested prior to the placement of additional fill earth or structures.

4.10 Weather Considerations

The native soils contain varying amounts of clay and silt fines. During the normally wetter winter and spring seasons, the upper sections of soil can become wet or saturated and the soil will pump and yield under heavy construction traffic. Excessive moisture contents in the on-site soils may require that the on-site soils be replaced with an offsite borrowed “select fill” material if the materials cannot be reasonably processed and dried for compaction in a timely manner. The site preparation, to the extent possible, should be completed during the normally drier summer and fall seasons. Expect site preparation delays and an increase in the volume of soil requiring remediation during the winter and spring seasons.

5.0 Recommendations - Shallow Spread Foundations and Ground Supported Floor Slabs

5.1 Maximum Net Allowable Soil Bearing Pressures

2,000 pounds per square foot for isolated square foundations.
1,500 pounds per square foot for continuous foundations.

Note: Foundations should bear transitional in the in-situ earth (compacted as required) and/or new “engineered fill” exhibiting "N" values of 7 or greater.

5.2 Minimum Foundation Dimensions

Depth - The bottom of perimeter building wall and column foundations below outside finish grades should be at least 18". Increase depth as required to extend foundations through weak soil conditions. Any weak soil may be replaced with non-reinforced lean concrete (mud sill).

- The bottom of interior building foundations below the top of ground supported floor slabs should be at least 18". Increase depth as required to extend foundations through weak soil conditions. Any weak soil may be replaced with non-reinforced lean concrete (mud sill).

Width - Isolated square foundations - 30".
- Continuous wall foundations - 18".
- Turned down slab edges - 12"

Note: All foundations should be sized for total load but should not be less than the minimums described preceding in this report. The use of the recommended minimum foundation depths considers that adequate surface drainage is provided at finish subgrade elevation.

5.3 Settlement

The planned building structure will be subjected to total long term settlements of less than 1" with differential settlements of less than 1/2". The building foundations should be designed to tolerate these estimated settlements.

5.4 Subgrade Modulus

The floor slab can be designed using a subgrade modulus of 125 pci for the firm to stronger compacted in-situ earth (compacted as required) or properly constructed "engineered fill" with “N” values of 7 or greater.

5.5 Seismic Design Parameters

The seismic design parameters from the ASCE/SEI 7-22 are as follows for the Andalusia Elementary School addition site in Alabama:

S_S = 0.13 S_{MS} = 0.18 S_{DS} = 0.12
S_1 = 0.071 S_{M1} = 0.15 S_{D1} = 0.10
Site Class D

Seismic Design Category B for Use Group I, II or III and Seismic Design Category C for Use Group IV.

5.6 Foundation Construction

Do not permit foundation bearing soil to become saturated or dry excessively. Caution should be used not to disturb the foundation bearing level of soil. The bearing level of soil exposed in foundation trenches should be compacted to 98% standard density with “jumping jack” type compactors. Areas which fail to compact should be undercut to a firm level of soil prior to the placement of the foundation concrete. Any weak soil may be replaced with non-reinforced lean concrete (mud sill). All loose soil material or other debris should be removed from the top of the mud sill before placing the foundation concrete. The construction documents should establish unit prices for the use of mud sills.

5.7 Acceptance of Foundation Bearing Levels

All foundation excavations should be examined by the project geotechnical consultant prior to the installation of the foundation reinforcement and concrete. All unacceptable conditions should be corrected in accordance with the geotechnical consultant's recommendations.

5.8 Floor Slab Bearing Conditions

The floor slab should bear on the properly compacted in-situ earth or new “engineered fill”. Provide a minimum 4" layer of compacted ALDOT 825 crushed stone base, no. 8910 crushed stone, ALDOT 821 granular soil, or other suitable compactable granular fill between the subgrade layer and the slab. Provide a minimum 10 mil vapor barrier beneath the floor slab. Care should be taken not to damage the vapor barrier during placement of the floor slab concrete.

5.9 Acceptance of Floor Slab Bearing Levels

All floor slab bearing levels should be examined by the projects geotechnical consultant prior to the placement of the vapor barrier. All unacceptable conditions should be corrected in accordance with the geotechnical consultant's recommendations.

5.10 Control/Expansion Joints

A liberal amount of control/expansion joints should be used in the concrete floor slabs, masonry walls and brick veneer walls to reduce the effects of the normal amounts of differential settlement and concrete shrinkage expected. The design and location of the control and construction joints should be in accordance with the recommendations of the Portland Cement Association.

6.0 Recommendations - Pavements

6.1 Reference

Alabama Department of Transportation (ALDOT), Standard Specifications For Highway Construction - 2022 Edition.

6.2 Subgrade Support Values

Based on estimated California Bearing Ratios (CBR) for the native and/or "select fill" earth at subgrade elevation, a design CBR value of 6 is recommended.

6.3 Traffic Data

Specific design pavement traffic data was not available. The pavements are expected to be subjected to a medium duty traffic classification including a moderate volume of automobiles and occasional medium to heavy weight service trucks and school buses. Please contact our office if specific pavement design data is available so that we may modify our pavement recommendations (if required).

6.4 Subgrade Improvements

Thoroughly mix and compact the top 6" of subgrade to 100% standard density.

Slope subgrade to provide positive drainage to side drainage ditches, underdrains, and/or storm drains to prevent the entrapment of water in the subgrade layer.

6.5 Medium Duty Pavement Sections

Based on an estimated CBR value of 6 and a 20-year design life, the medium duty pavement sections may be developed using a crushed aggregate base and high stability bituminous pavement section, a granular soil base and high stability bituminous pavement section, or a concrete pavement section placed over the improved subgrade layer as described below.

6.5.1 Crushed Aggregate Base and High Stability Bituminous Pavement Section

1.5" - ALDOT Section 424-A 340 bituminous wearing surface.
1 - ALDOT Section 405 bituminous tack coat.
1.5" - ALDOT Section 424-B 634 bituminous binder.
1 - ALDOT Section 401-A bituminous prime coat.
6" - ALDOT Section 825 crushed aggregate soil base (100% modified density).
6" - ALDOT Section 230 modified roadbed (100% standard density).

6.5.2 Granular Soil Base and High Stability Bituminous Pavement Section

1.5" - ALDOT Section 424-A 340 bituminous wearing surface.
1 - ALDOT Section 405 bituminous tack coat.
2.5" - ALDOT Section 424-B 636 bituminous binder.
1 - ALDOT Section 401-A bituminous prime coat.
6" - ALDOT Section 821 granular soil base (98% modified density).
6" - ALDOT Section 230 modified roadbed (100% standard density).

Note: All bituminous pavements should be designed on the fine side of the restricted zone to reduce the permeability of the asphalt pavement.

6.5.3 Concrete Pavement Section

5" - 3500 psi compressive strength (550 psi flexural strength) concrete, maximum 4" slump.
6" - ALDOT Section 230 modified roadbed (100% standard density).

6.6 Trash Dumpster Loading Areas

A minimum 6" thick concrete pad should be developed in front and beneath trash dumpster areas to provide support for the sanitation vehicles during handling of the dumpsters.

6.7 Concrete Pavement Construction Joints

The design and location of construction joints should be in accordance with the recommendations of the Portland Cement Association. We recommend a maximum control joint spacing of 12'. All joints should be filled with a suitable flexible joint compound to prevent water intrusion at the joints.

6.8 Material Thicknesses

All material thicknesses referred to in this section are completed thicknesses.

7.0 Recommendations – General

7.1 Utility Trenches
All utility trenches (new and existing) extending through the "controlled areas" should be back-filled with "engineered fill".

7.2 Grading and Drainage Improvements
Incorporate finish grades, side drainage ditches, underdrains, etc., to reduce the possibility of ponding surface water within 5' of foundations and significant slopes.

7.3 Vertical Cuts
Vertical cuts greater than 4' or cuts required to remain open for extended periods of time should be sloped or braced as required for the protection of workmen entering deep excavations. Heavy construction traffic and stockpiling of excavated earth or other materials should not be permitted near the top of open unsupported excavations. Current OSHA regulations should be adhered to with respect to excavations for this project.

7.4 Excavation Adjacent to Existing Foundations
If excavating adjacent to existing buildings when relocating or removing underground utilities (or for any other reason), the depth of undercut should be limited to the bearing level of the existing building foundations. If deeper excavations are required adjacent to the existing building foundations, they should be completed in short (maximum 6’ length) sections in a manner such that the existing foundations are not undermined. If necessary, the existing foundations can be appropriately underpinned to allow for excavation adjacent to the existing foundations.

7.5 Cut and Fill Slopes
Cut and fill slopes should perform satisfactorily as steep as 2.5(H):1(V) in the earth typical of that penetrated in the upper strata at the site. All slopes should be protected from erosion using suitable vegetation or pavements.

7.6 Quality Control
UES should provide the following services during construction:

7.6.1 Verify the results of stripping, proof-rolling, and correction of weak soil conditions, quality and density of "engineered fill", and conditions of the foundation, floor slab, and pavement subgrade bearing levels.

7.6.2 Complete soil particle size, atterberg limits, and laboratory compaction tests on each different type of fill earth used in the "controlled areas".

7.6.3 Complete a minimum of 1 field density test per each 3,000 square feet per each 1' of vertical thickness of fill placed in the building and pavement "controlled areas". Also, a minimum of 1 field density test should be taken for each 50 linear feet per each 2' of vertical thickness of fill placed at utility trenches extending through "controlled areas".

7.6.4 Test all structural concrete in accordance with the guidelines established by the American Concrete Institute.

7.6.5 Quality assurance testing on the improved subgrade and base materials should be in accordance with the State of Alabama Department of Transportation.

8.0 General Comments

The scope of this study did not include sampling or testing for an environmental analysis or assessment for this site. If an environmental assessment of this site is desired, we should be contacted for further comment.

The comments of this report do not consider local flood conditions. The local flood condition/elevation (if any) should be determined and considered in the design of this project.

The frost penetration depth in the area of this project is generally taken to be less than 10". Provided our recommendations for the development of foundations and floor slabs are followed, we do not expect that the frost penetration will have any detrimental effects on the performance of the structure.

The comments of this report are based upon our interpretation of the construction information supplied by others, the data collected at the 12 soil test bores and our visual examination of the site. The evaluation of subsurface conditions based on the 12 soil test bores taken with this study requires a certain amount of interpolation. Improper site preparation, extremes in climatic conditions, significant changes in locations, grades, time, etc., can each affect groundwater, surface, and subsurface conditions. If conditions are encountered as the construction advances which vary significantly from those described by this report, we should be contacted for supplemental comment.

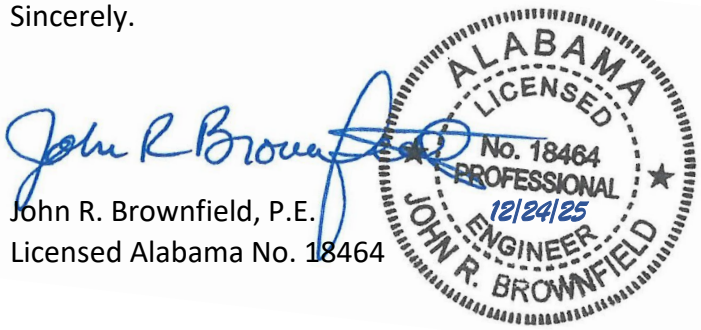
The scope of this investigation is not intended to establish volumetric estimates of the various subsurface materials at the site. Volumetric estimates may require a larger number of test bores placed on a close grid to establish reliable cross sections. If volume estimates are required of us for the design/development of this project to advance, please contact us for further comment.

We are available to provide a review of the final plans and project specifications with respect to their compatibility with the contents of this report. Furthermore, our firm would appreciate the opportunity to continue to serve as the geotechnical consultant and to provide the construction materials testing and monitoring for this project.

9.0 Signature

Thank you for selecting UES Professional Solution, LLC to provide the geotechnical services for this project. We are available to answer any questions concerning our findings and recommendations. If we can be of any further assistance, please contact our office.

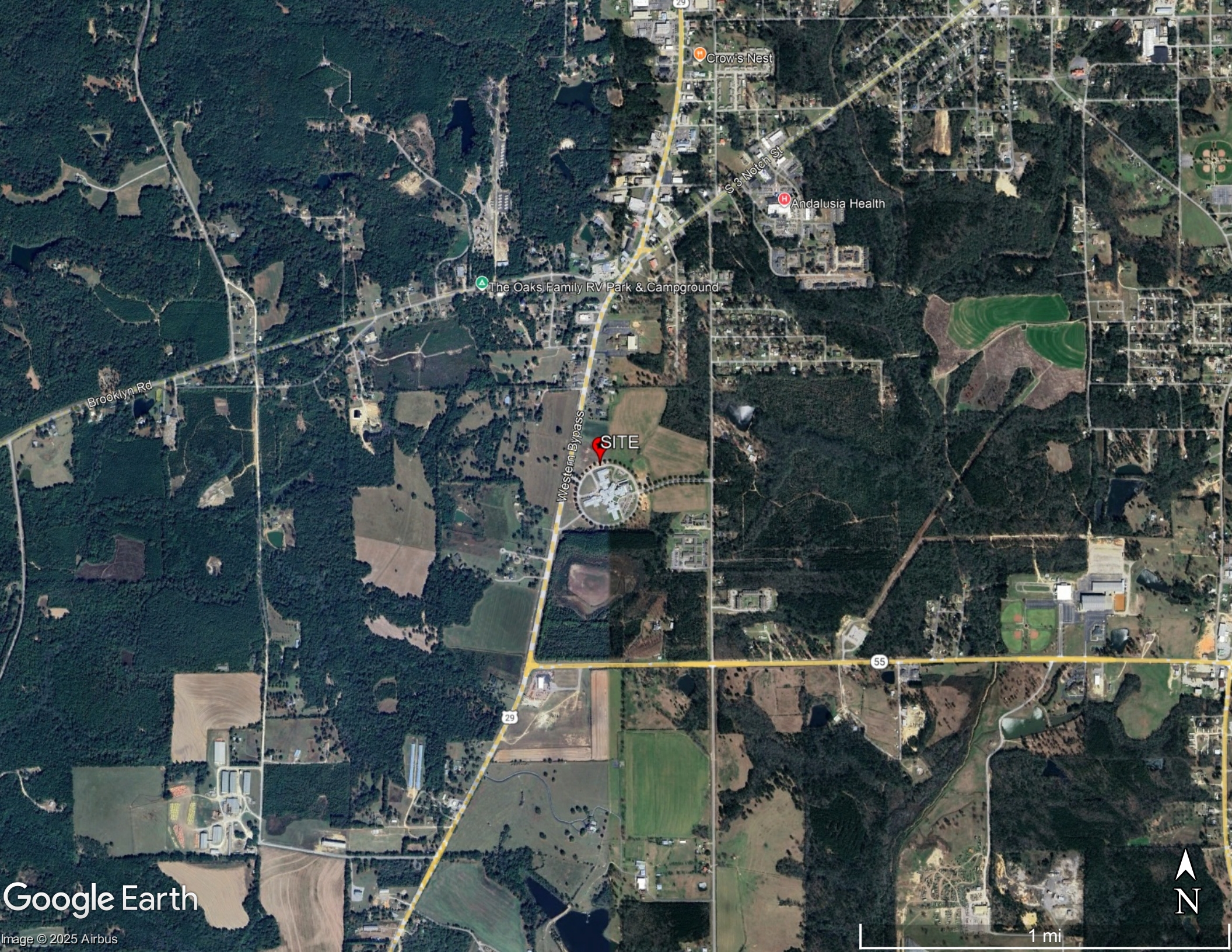
Sincerely.



John R. Brownfield, P.E.
Licensed Alabama No. 18464

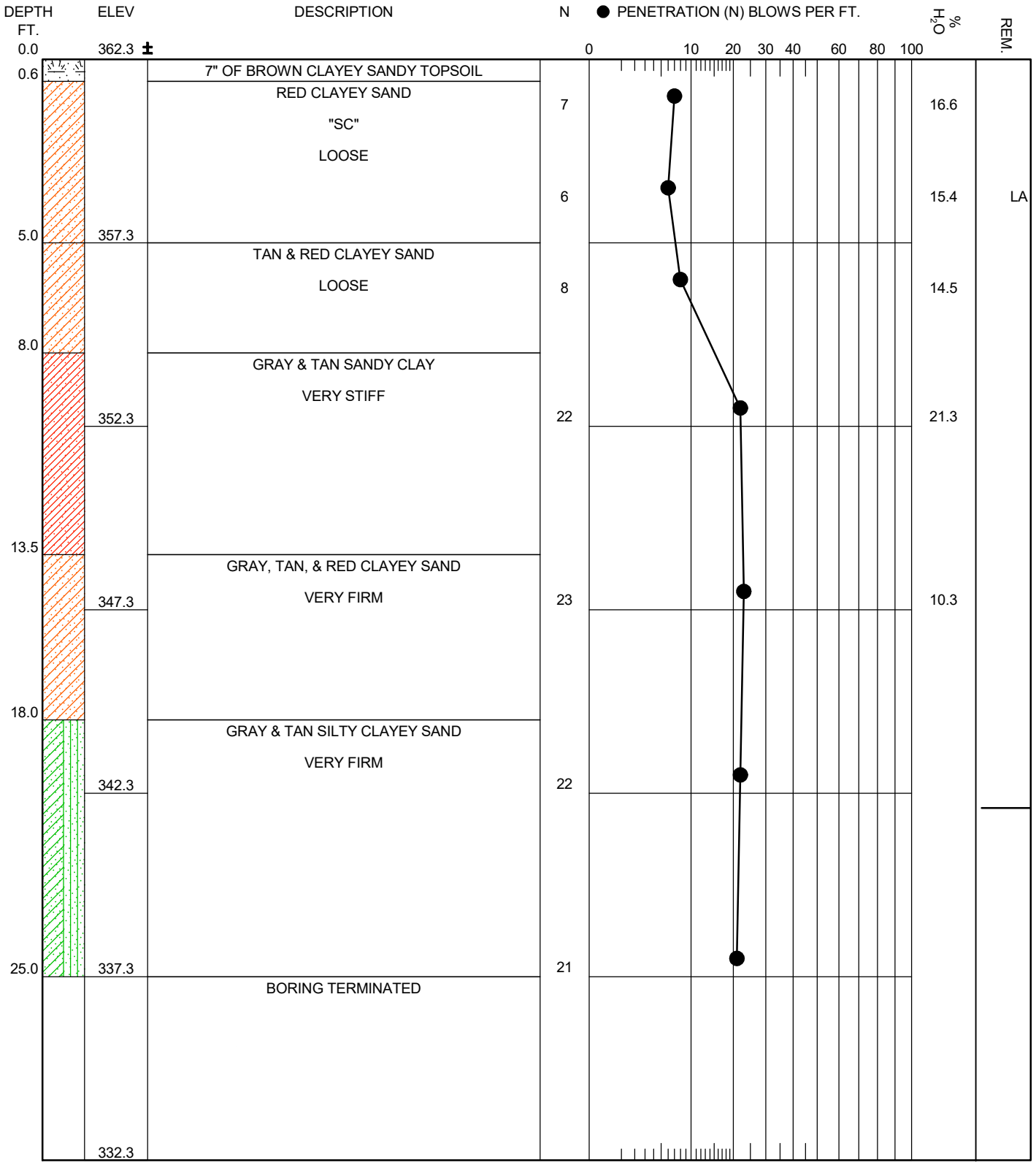
Report Distribution:
1 – Mr. Richard Jackson (email)

JRB/as


Crow's Nest
S 3 Notch St
Andalusia Health
The Oaks Family RV Park & Campground
Brooklyn Rd
Western Bypass
SITE
29
55
29
Google Earth
Image © 2025 Airbus
N
1 mi


B-11
B-4
B-3
B-2
B-9
B-12
B-1
B-7
B-8
B-10
B-6
B-5
Western Bypass
Google Earth
Image © 2025 Airbus
N
300 ft


UNIVERSITY OF SOUTH ALABAMA MESONET
PHONE NO.=251-460-7031
NOTE: SURVEYOR WAS UNABLE TO ACCESS THIS AREA
GATE
WEATHER TOWER
METAL POLE
METAL POLE
B-1
B-2
B-3
B-4
B-5
B-6
B-7
B-8
B-9
B-10
B-11
B-12
REQ'D MEDIUM DUTY ASPHALT
REQ'D CONC SIDEWALK
REQ'D 24" CURB & GUTTER
REQ'D VAN ACCESS, HC SIGNAGE & STRIPING
REQ'D 30' RAMP
YELLOW PAINT???
3" TREE
R90.0'
R13.0'
R5.0'
R15.0'
R35.0'
R10.0'
R53.0'
R27.5'
R25.0'
R66.2'
24.0'
9.0'
16.5'
SOCCER GOAL
VOLLEYBALL NET
WATER STANDING
INV 36" PLASTIC= 348.89
W.I.#4
TOP=357.51
W.I.#5
TOP=355.63
NORTH THRT. ELEV=354.48
INV 24" PLASTIC IN S=351.33
INV 24" PLASTIC IN W=351.33
INV 36" PLASTIC OUT NE=351.33
CI.#3
TOP=359.59
INV 15"X26" CONC OUT NE=356.39
CI.#6
TOP=356.89
CI.#7
TOP=356.66
INV 15" CONC IN SW=3
INV 24" PLASTIC OUT N
TRANSFORMER
42" OAK
24" OAK
21" OAK
ASPHALT
CUTOFF METAL POST IN CONCRETE
STORM PAINT MARKINGS
BRICK CLASSROOMS
FFE.=361.68
FFE.=361.70
FFE.=361.75
FFE.=361.67
FFE.=361.73
PLAYGROUND EQUIPMENT
SWING SET
SEESAW
WOOD WALL
WOOD BORDER
BRICK COLUMN
PLASTIC BORDER
RUBBER MATS
UMBRELLA POLE
GATE
SLOW SIGN
CREPE MYRTLE
NO RIGHT TURN SIGN
DUMPSTER AREA
1/2" PLASTIC CONDUIT
1" PLASTIC CONDUIT
POWER METER
TRANSFORMER
TURN OFF CELL PHONE SIGN
TOP OF DRAIN=361.04
UNABLE TO ACCESS
BRICK WALL
METAL RAMP
FREEZER
WATER BOX
F.D.C.
CAFETERIA
4" PLASTIC POWER
OVER-GR



UES™

Boring and Sampling Meets ASTM D-1586

Penetration (N) is the Number of Blows of 140 lb. Hammer Falling 30 in. Required to Drive 1.4 in I.D. Sampler 1 Ft.

☒ Undisturbed Sample

LA Lab Analysis

Water Level

Water Level

Boring Caved 20.4' AFTER 1 HOUR

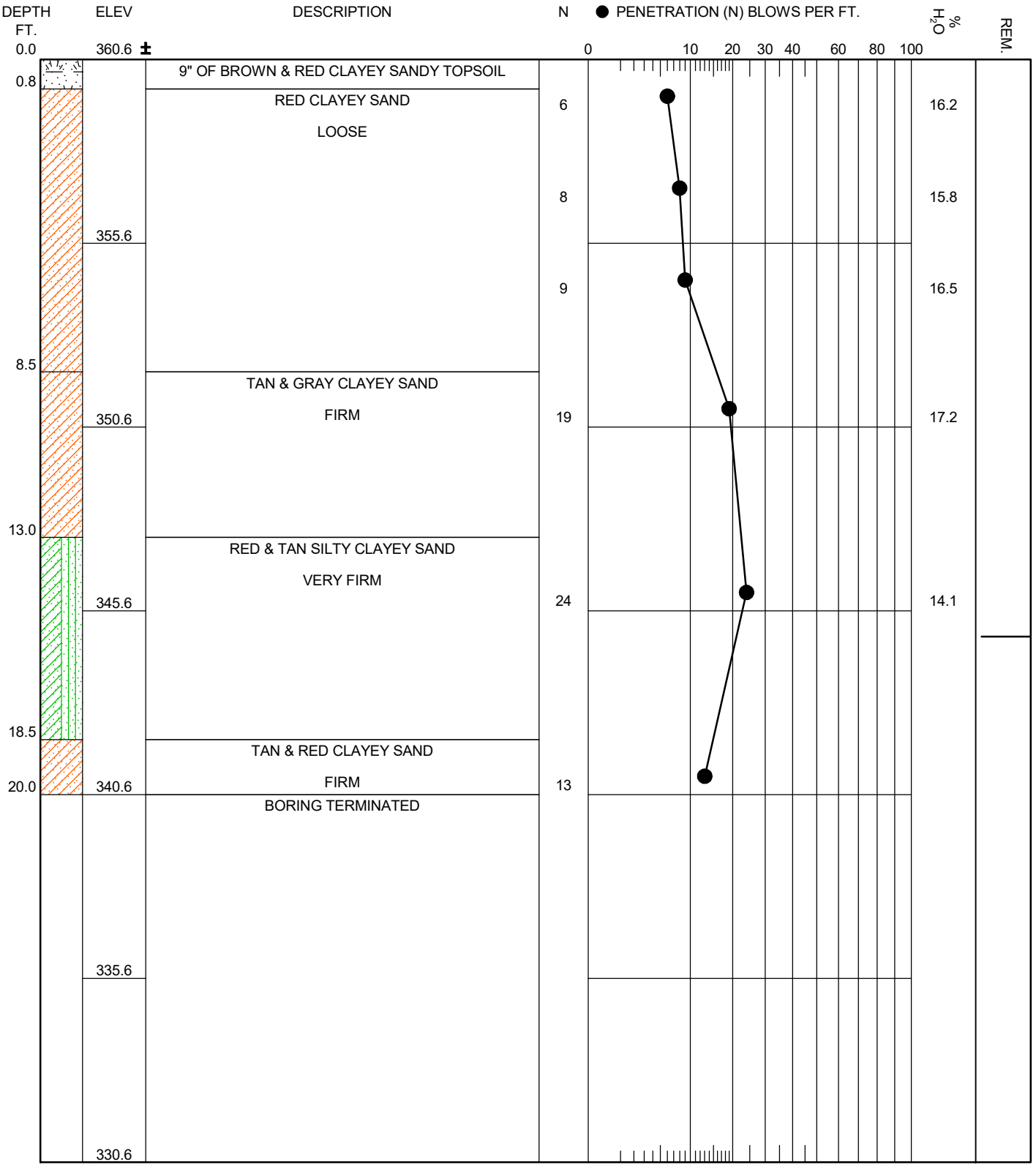
TEST BORING LOG

JOB NO. A25114.00571.000

BORING NO. B- 1

DATE DRILLED 12/9/25

TYPE BORING SB



UES™

Boring and Sampling Meets ASTM D-1586

Penetration (N) is the Number of Blows of 140 lb. Hammer Falling 30 in. Required to Drive 1.4 in I.D. Sampler 1 Ft.

☒ Undisturbed Sample

LA Lab Analysis

Water Level

Water Level

Boring Caved 15.7' AFTER 1 HOUR

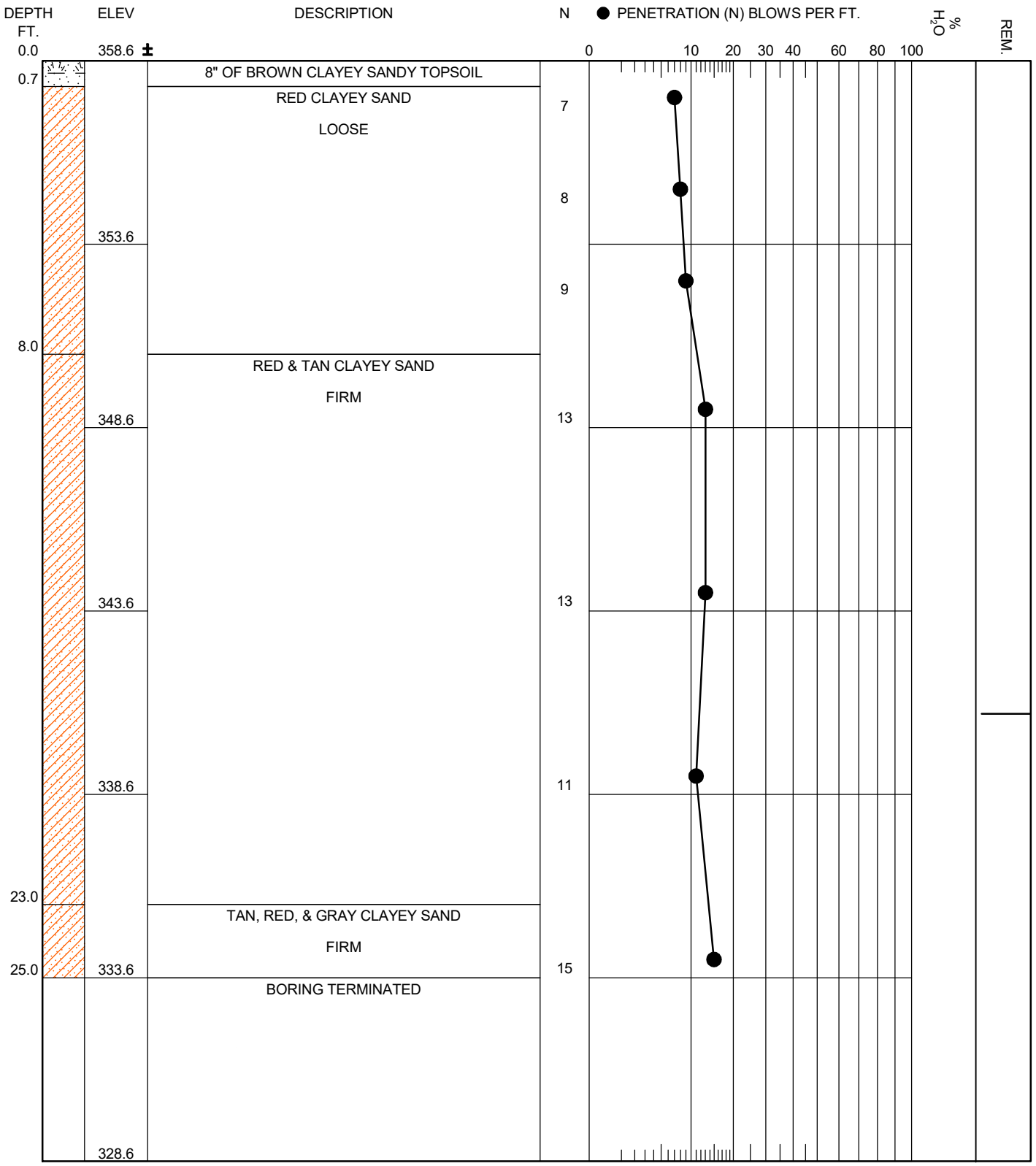
TEST BORING LOG

JOB NO. A25114.00571.000

BORING NO. B- 2

DATE DRILLED 12/9/25

TYPE BORING SB



UES™

Boring and Sampling Meets ASTM D-1586

Penetration (N) is the Number of Blows of 140 lb. Hammer Falling 30 in. Required to Drive 1.4 in I.D. Sampler 1 Ft.

☒ Undisturbed Sample

LA Lab Analysis

Water Level

Water Level

Boring Caved 17.8' AFTER 1 HOUR

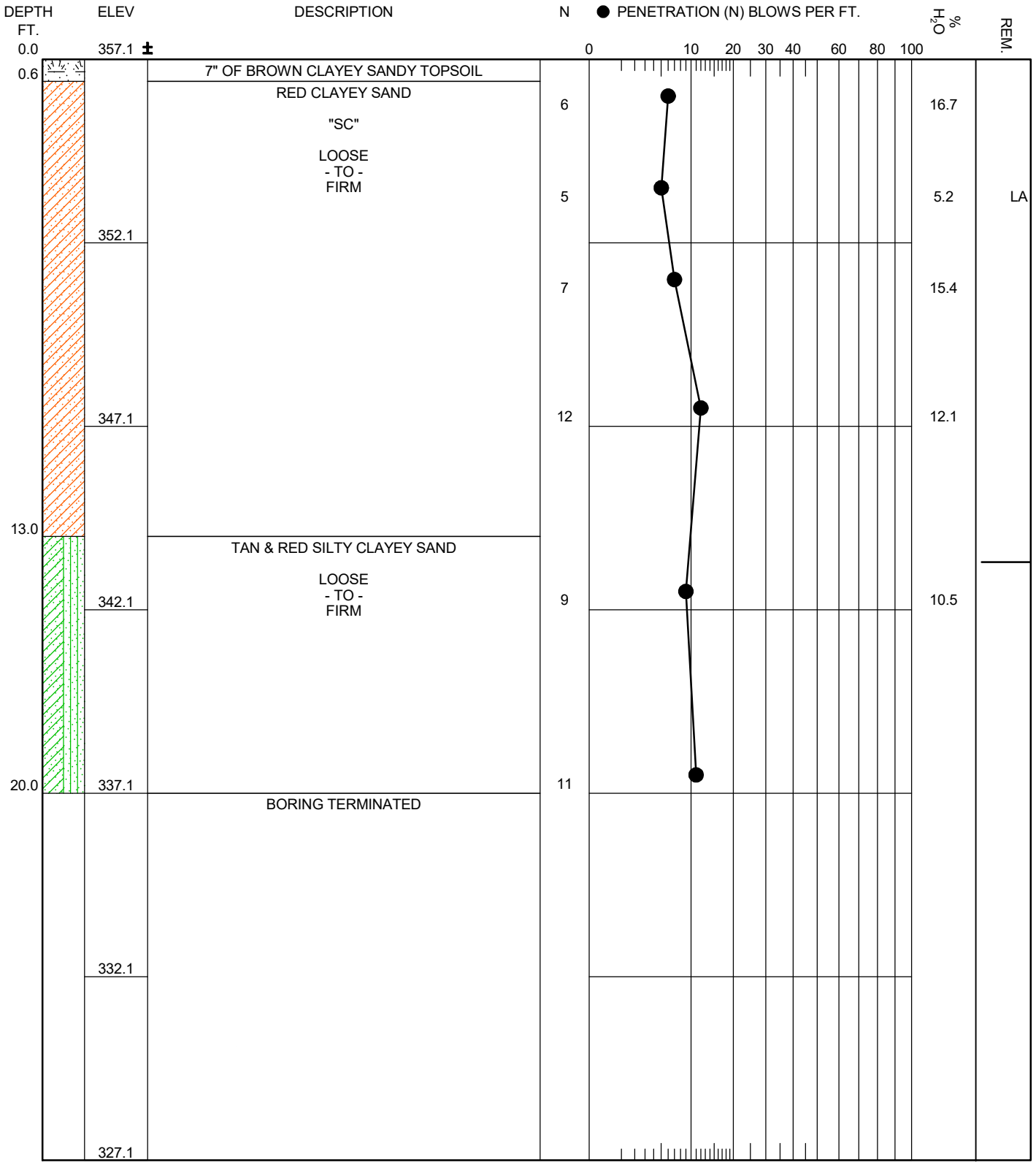
TEST BORING LOG

JOB NO. A25114.00571.000

BORING NO. B- 3

DATE DRILLED 12/9/25

TYPE BORING SB



UES™

Boring and Sampling Meets ASTM D-1586

Penetration (N) is the Number of Blows of 140 lb. Hammer Falling 30 in. Required to Drive 1.4 in I.D. Sampler 1 Ft.

☒ Undisturbed Sample

LA Lab Analysis

Water Level

Water Level

Boring Caved 13.7' AFTER 1 HOUR

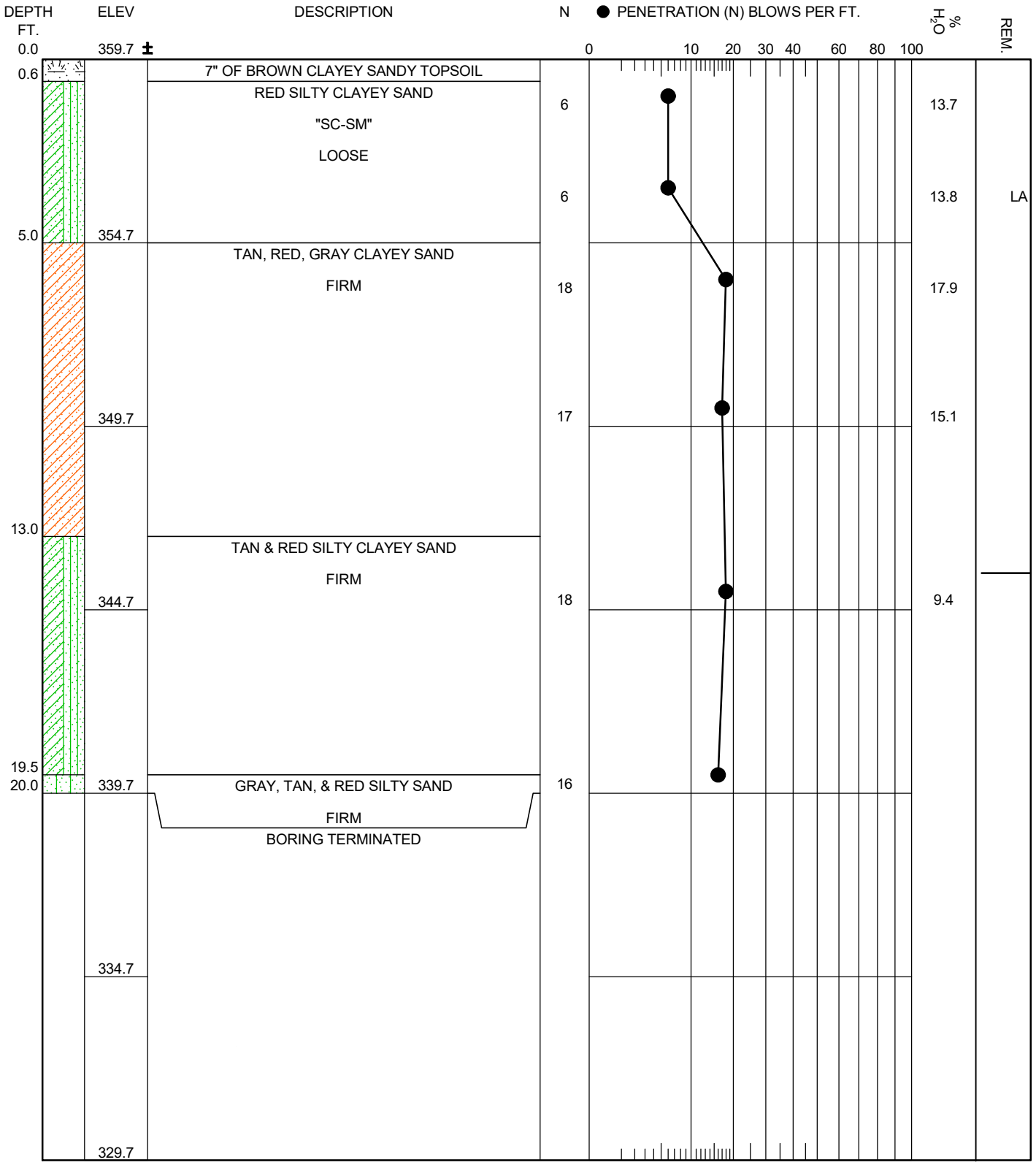
TEST BORING LOG

JOB NO. A25114.00571.000

BORING NO. B- 4

DATE DRILLED 12/9/25

TYPE BORING SB



UES™

Boring and Sampling Meets ASTM D-1586

Penetration (N) is the Number of Blows of 140 lb. Hammer Falling 30 in. Required to Drive 1.4 in I.D. Sampler 1 Ft.

☒ Undisturbed Sample

LA Lab Analysis

Water Level

Water Level

Boring Caved 14' AFTER 1 HOUR

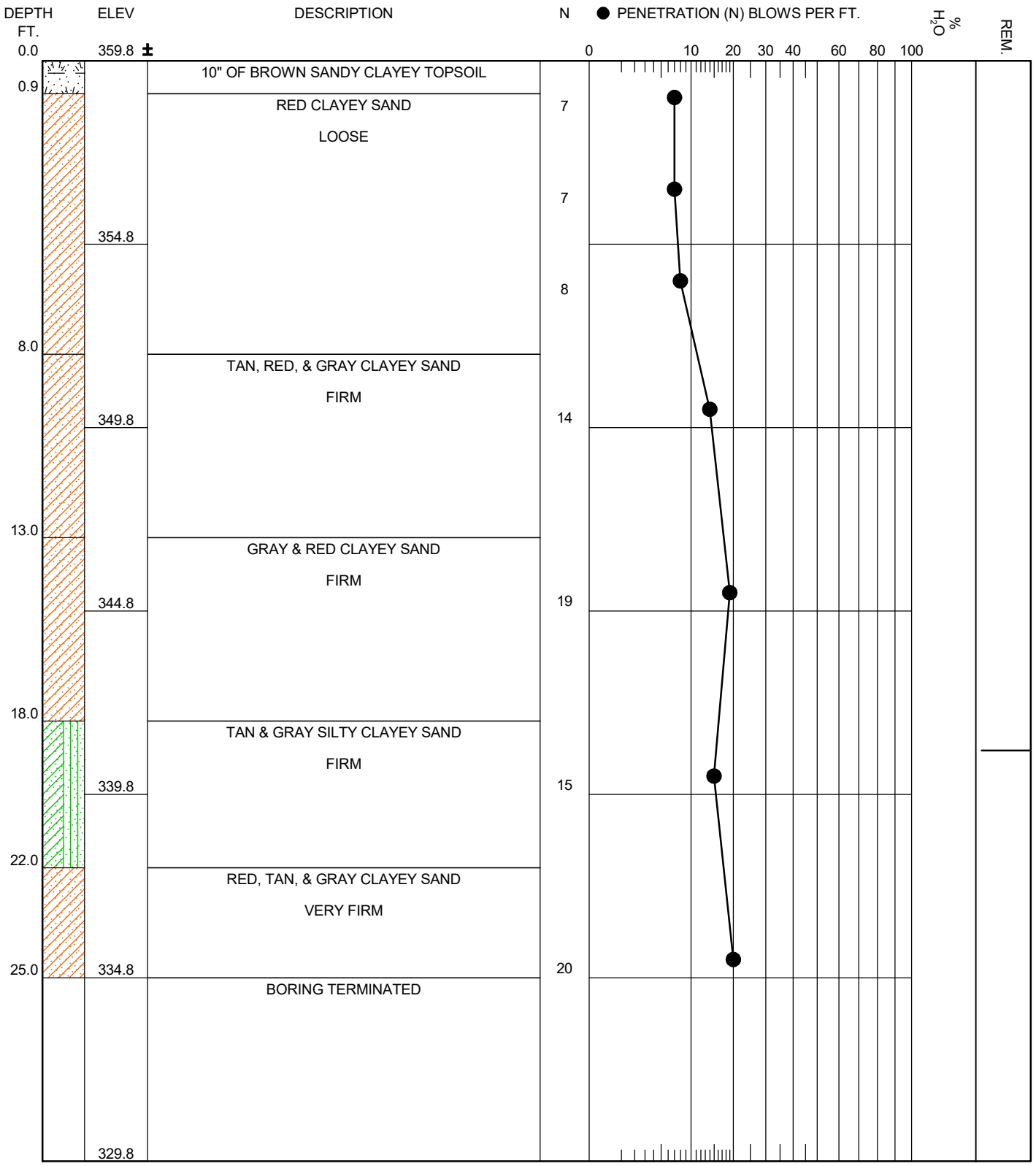
TEST BORING LOG

JOB NO. A25114.00571.000

BORING NO. B- 5

DATE DRILLED 12/9/25

TYPE BORING SB



UES™

Boring and Sampling Meets ASTM D-1586

Penetration (N) is the Number of Blows of 140 lb. Hammer Falling 30 in. Required to Drive 1.4 in I.D. Sampler 1 Ft.

☒ Undisturbed Sample

LA Lab Analysis

Water Level

Water Level

Boring Caved 18.8' AFTER 1 HOUR

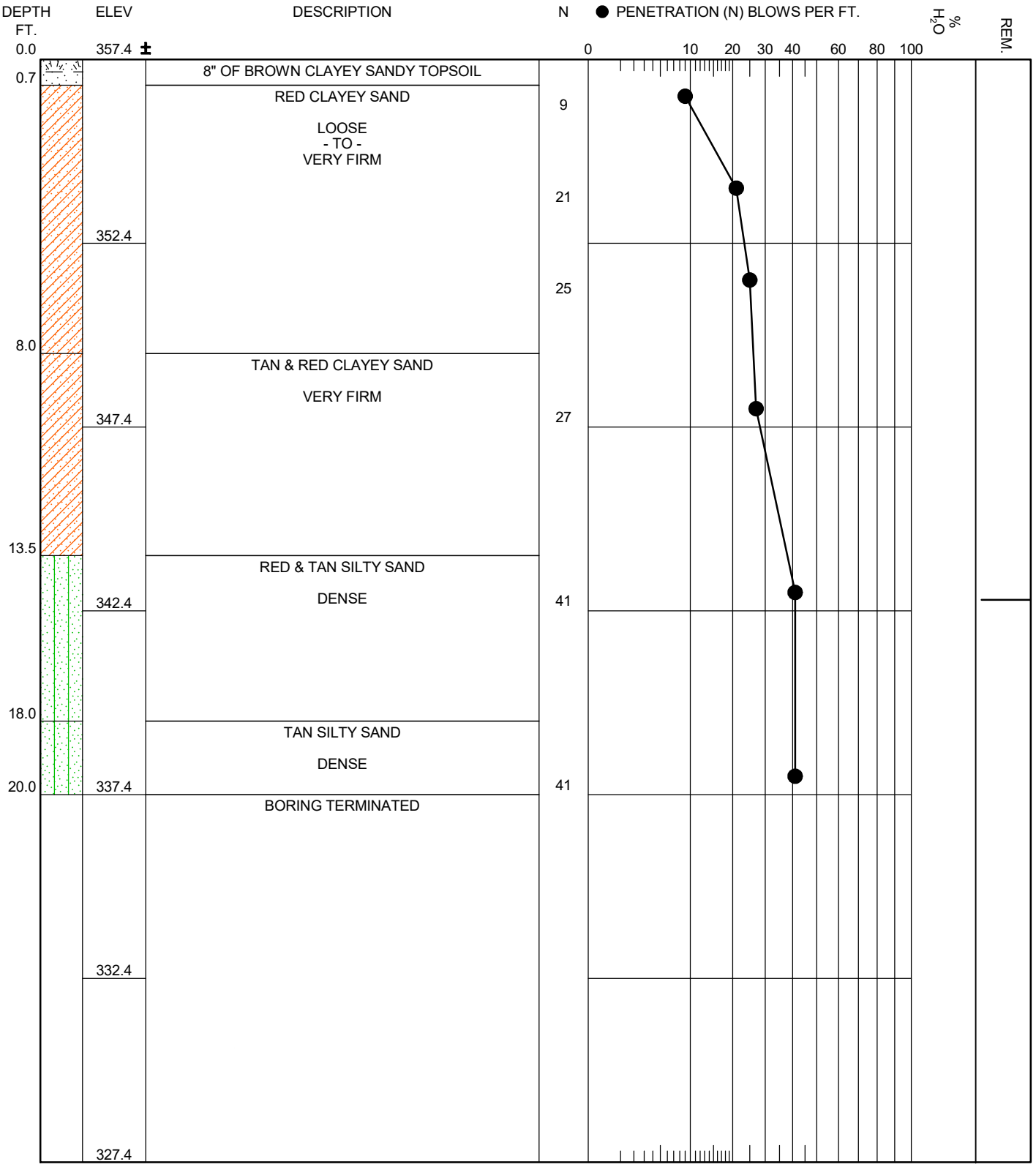
TEST BORING LOG

JOB NO. A25114.00571.000

BORING NO. B- 6

DATE DRILLED 12/9/25

TYPE BORING SB



UES™

Boring and Sampling Meets ASTM D-1586

Penetration (N) is the Number of Blows of 140 lb. Hammer Falling 30 in. Required to Drive 1.4 in I.D. Sampler 1 Ft.

☒ Undisturbed Sample

LA Lab Analysis

Water Level

Water Level

Boring Caved 14.7' AFTER 1 HOUR

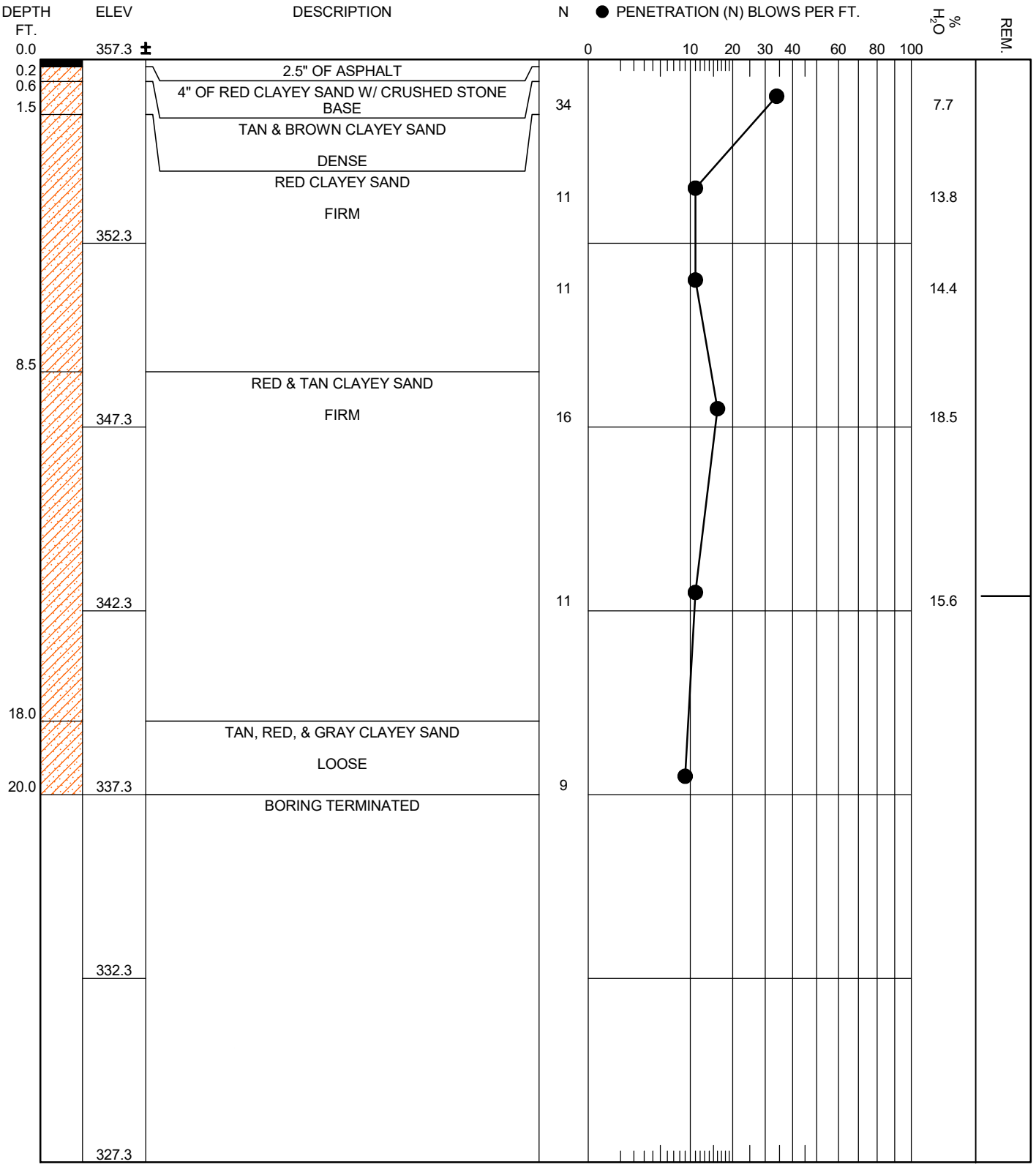
TEST BORING LOG

JOB NO. A25114.00571.000

BORING NO. B- 7

DATE DRILLED 12/9/25

TYPE BORING SB



UES™

Boring and Sampling Meets ASTM D-1586

Penetration (N) is the Number of Blows of 140 lb. Hammer Falling 30 in. Required to Drive 1.4 in I.D. Sampler 1 Ft.

☒ Undisturbed Sample

LA Lab Analysis

Water Level

Water Level

Boring Caved 14.6' AFTER 1 HOUR

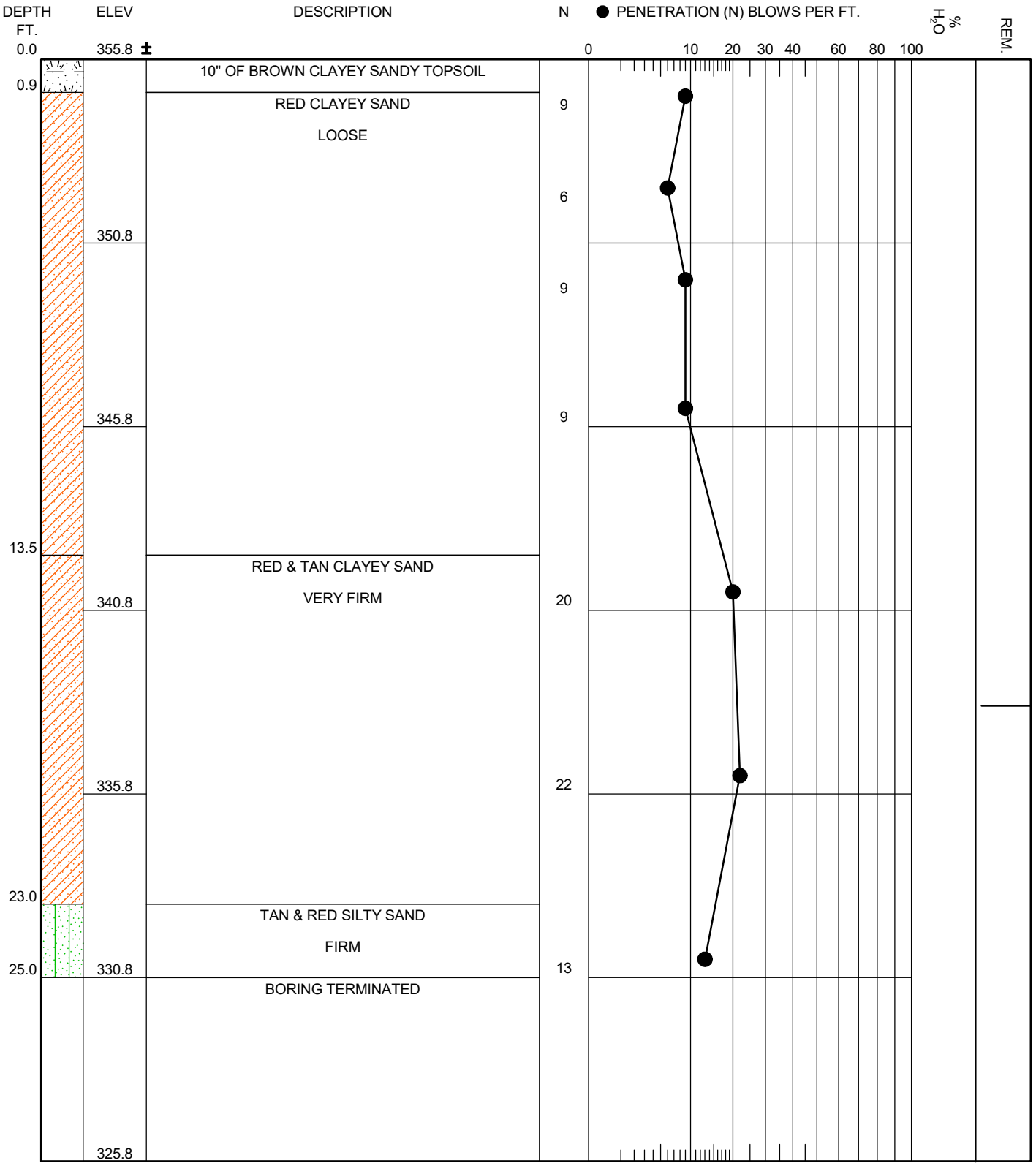
TEST BORING LOG

JOB NO. A25114.00571.000

BORING NO. B- 8

DATE DRILLED 12/9/25

TYPE BORING SB



UES™

Boring and Sampling Meets ASTM D-1586

Penetration (N) is the Number of Blows of 140 lb. Hammer Falling 30 in. Required to Drive 1.4 in I.D. Sampler 1 Ft.

Undisturbed Sample

LA Lab Analysis

Water Level

Water Level

Boring Caved 17.6' AFTER 1 HOUR

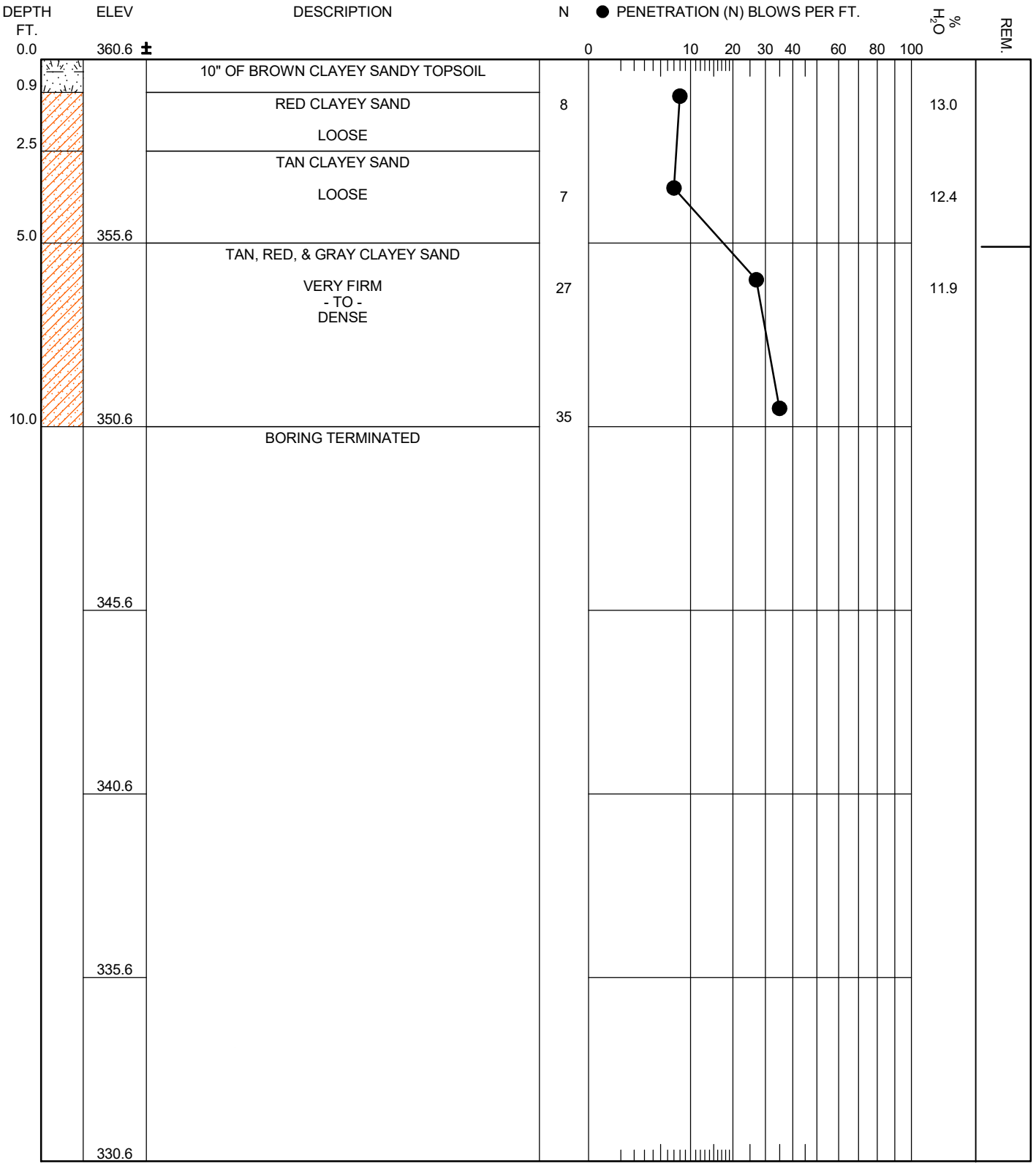
TEST BORING LOG

JOB NO. A25114.00571.000

BORING NO. B- 9

DATE DRILLED 12/9/25

TYPE BORING SB



UES™

Boring and Sampling Meets ASTM D-1586

Penetration (N) is the Number of Blows of 140 lb. Hammer Falling 30 in. Required to Drive 1.4 in I.D. Sampler 1 Ft.

☒ Undisturbed Sample

LA Lab Analysis

Water Level

Water Level

Boring Caved 5.1' AFTER 1 HOUR

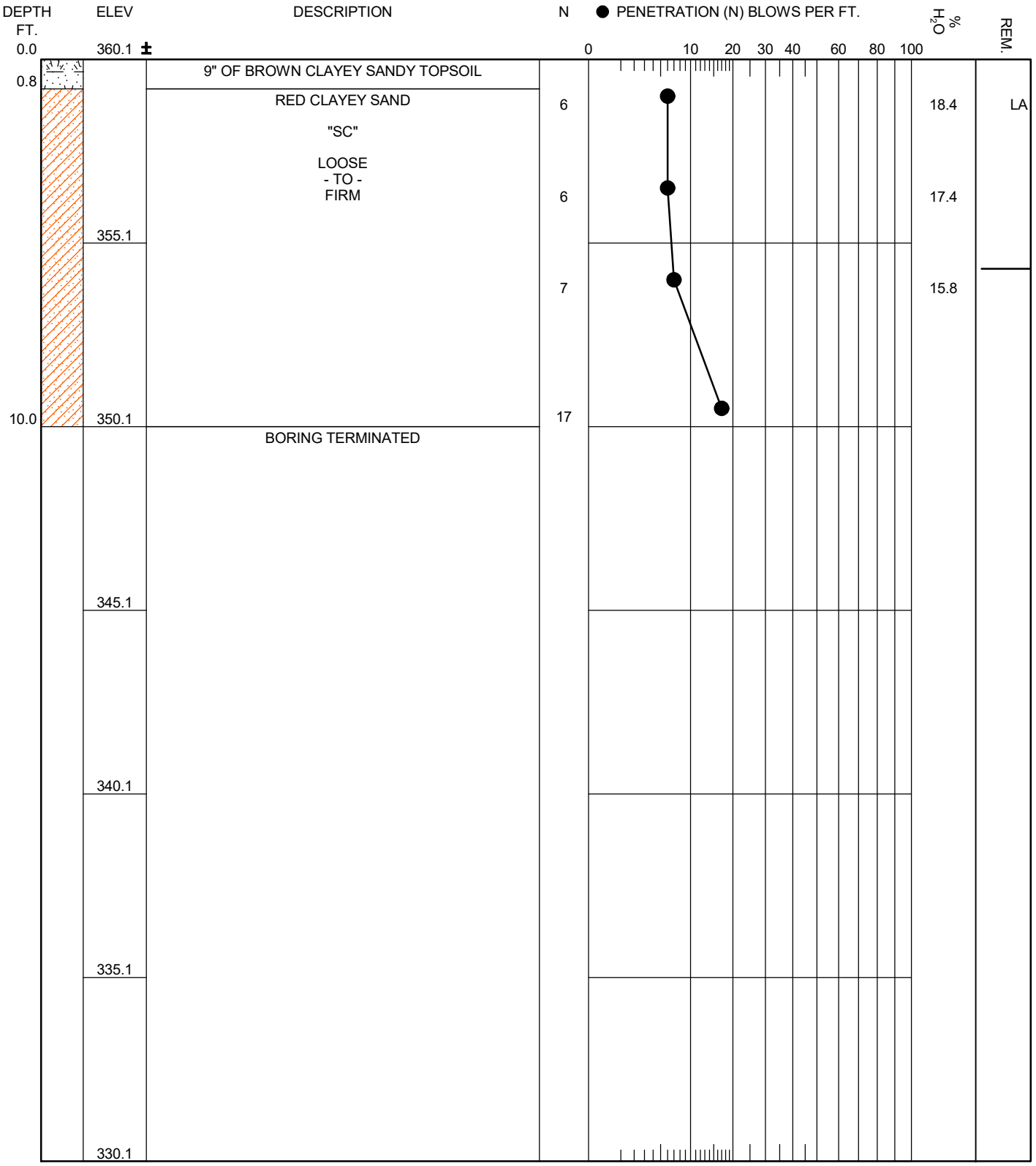
TEST BORING LOG

JOB NO. A25114.00571.000

BORING NO. B-10

DATE DRILLED 12/9/25

TYPE BORING SB



Boring and Sampling Meets ASTM D-1586

Penetration (N) is the Number of Blows of 140 lb. Hammer Falling 30 in. Required to Drive 1.4 in I.D. Sampler 1 Ft.

☒ Undisturbed Sample

LA Lab Analysis

Water Level

Water Level

Boring Caved 5.7' AFTER 1 HOUR

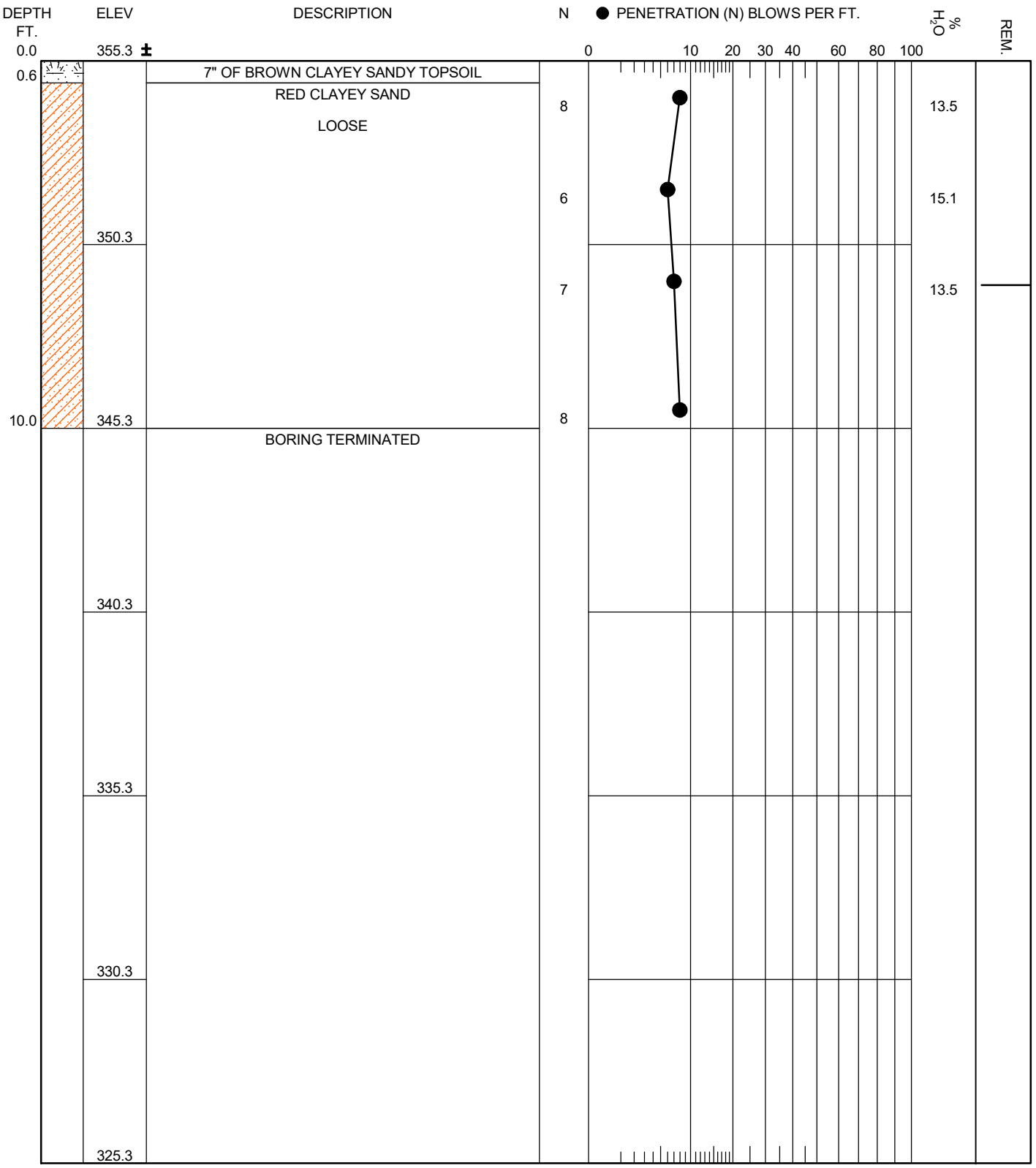
TEST BORING LOG

JOB NO. A25114.00571.000

BORING NO. B-11

DATE DRILLED 12/9/25

TYPE BORING SB



Boring and Sampling Meets ASTM D-1586

Penetration (N) is the Number of Blows of 140 lb. Hammer Falling 30 in. Required to Drive 1.4 in I.D. Sampler 1 Ft.

☒ Undisturbed Sample

LA Lab Analysis

Water Level

Water Level

Boring Caved 6.1' AFTER 1 HOUR

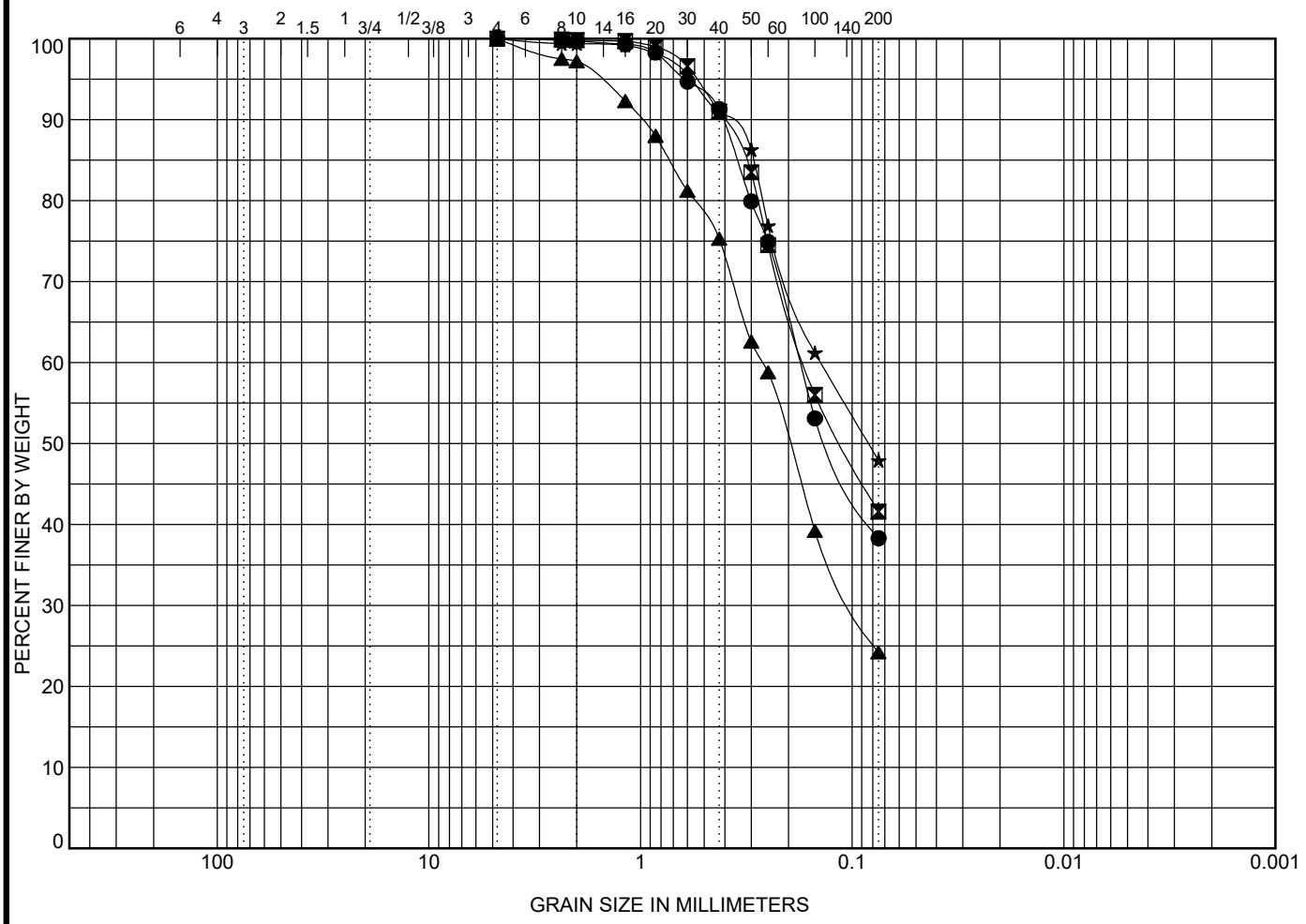
TEST BORING LOG

JOB NO. A25114.00571.000

BORING NO. B-12

DATE DRILLED 12/9/25

TYPE BORING SB



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	7027	B-1 2.5-4'	CLAYEY SAND SC	24	14	10		
⊠	7028	B-4 2.5-4'	CLAYEY SAND SC	29	16	13		
▲	7029	B-5 2.5-4'	SILTY, CLAYEY SAND SC-SM	21	15	6		
★	7030	B-11 0-1.5'	CLAYEY SAND SC	29	14	15		

	Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	7027	B-1 2.5-4'	4.75	0.176			0.0	61.7	38.3	
⊠	7028	B-4 2.5-4'	4.75	0.168			0.0	58.4	41.6	
▲	7029	B-5 2.5-4'	4.75	0.265	0.098		0.0	75.8	24.2	
★	7030	B-11 0-1.5'	4.75	0.141			0.0	52.1	47.9	

Client: Southern Engineering Solutions
201 E Troy Street
Andalusia, AL 36420

Test Methods: ASTM D6913, ASTM D4318
Sample Received Date: 12/9/2025
Test Date(s): Grain Size - 12/17/2025, Atterberg Limits - 12/17/2025

UES™

GRAIN SIZE DISTRIBUTION

Project: Andalusia Elementary School Addition

Location: Andalusia, AL

Job No.: A25114.00571.000 Report Date: 12/19/2025

Reviewed By: Steve Carmichael, P.E.

US GRAIN SIZE2 A25114.00571.000.GPJ CARMICHL.GDT 12/23/25

INVESTIGATIVE FIELD PROCEDURES

Penetration Testing & Split Barrel Sampling: A standard 2.0" O.D. (1.4" I.D.) split barrel sampler is first seated 6" to penetrate any loose cuttings and then driven an additional 12" with blows of a 140-pound hammer falling 30". The number of blows required to drive the sampler the final foot is recorded and designated the “penetration resistance” (N). (ASTM D- 1586)

Soil Boring (SB): The test bore is advanced by a drilling rig utilizing 5-5/8" O.D. (2-1/4" I.D.) hollow stem augers. Soil samples are obtained with a standard split-tube sampler by driving the sampler thru the hollow auger. Collected soil specimens are sealed in air tight containers and delivered to the laboratory to confirm the drillers classifications. (ASTM D- 1452 & 1586)

Auger Boring (AB): Steel flight augers are utilized to advance the test bore. The soils are visually classified and sampled from the cuttings which are bought to the surface. (ASTM D-1452)

Undisturbed Sampling (UD): Relatively undisturbed soil samples are obtained by forcing a section of 3" O.D. 16-gauge steel tubing into the soil at the desired sample location. The tube is then sealed from moisture loss and delivered to the laboratory for possible laboratory testing.

Rotary-Wash Boring (RB): The drilling operation is performed by first setting a length of casing and then advancing the test bore by “jetting” a bentonite solution thru drill rods and bit.

Core Drilling (CD): The test bore is advanced thru rock by coring which utilizes a diamond bit and a double tube, swivel type core barrel. (ASTM D-2113)

Monitoring Wells (MW): Temporary or permanent wells may be installed to provide the accurate water table determination and periodic monitoring. The well is constructed with 1.5" to 4" diameter PVC pipe meeting current standards for monitoring well construction.

NOTES AND REFERENCES

Soil descriptions are based on the predominate constituent of the material and are further described by appropriate modifiers in reverse order of their importance. For example, a predominate sand soil containing clay would be described as “clayey sand”. Additional modifiers may be used, beginning with the least important constituent such as “silty clayey sand”, etc.

Water levels shown on the test boring logs reflect those levels measured at the specified time and date indicated on the logs. These water levels are subject to seasonal fluctuation and can be effected by local surface drainage and/or rainfall during the monitoring period.

The following table describes soil relative densities and consistencies based on penetration resistance values (N) determined by the Standard Penetration Test. The “N” values are estimated for hand tool bores using a portable dynamic cone penetrometer.

	N	Relative Density
	0 – 3	Very Loose
	4 – 9	Loose
Sand	10 – 19	Firm
	20 - 29	Very Firm
	30 - 49	Dense
	50+	Very Dense

	N	Consistency
	0 - 2	Very Soft
	3 - 5	Soft
	6 - 11	Firm
Clay and Silt	12 - 17	Stiff
	18 - 29	Very Stiff
	30 - 49	Hard
	50+	Very Hard

Laboratory Test References

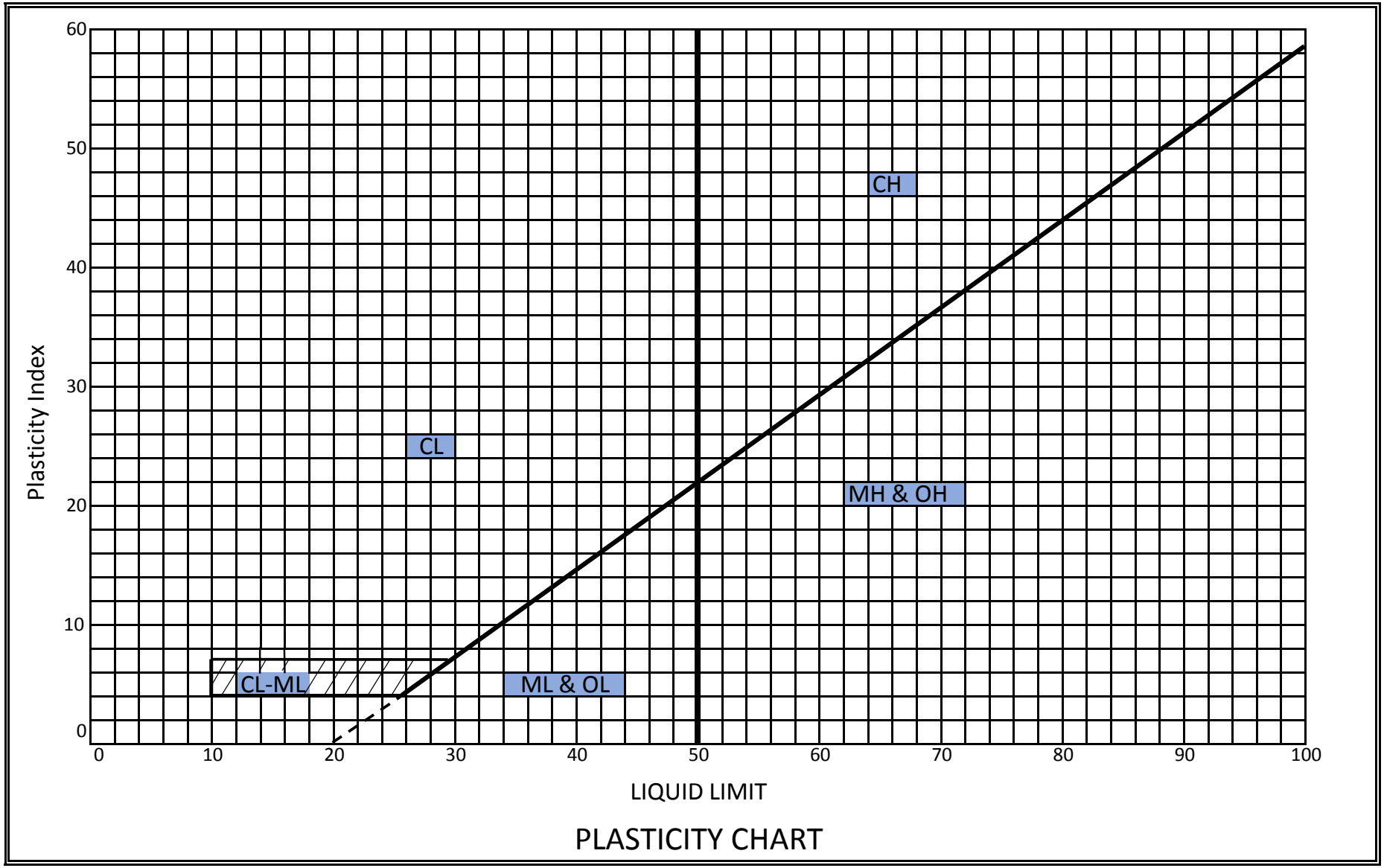
Test	**Reference**
Moisture Content	ASTM D-854
Particle Size Analysis	ASTM D-421,422,1140
Atterberg Limit	ASTM D-423, 424
Specific Gravity	ASTM D-2216
Compaction Test	ASTM D-698, 1557
California Bearing Ratio Test	AASHTO T-193
Triaxial Shear Test	ASTM D-2850
Unconfined Compression Test	ASTM D-2166
Consolidation Test	ASTM D-2435
Soil Permeability Test	ASTM D-2434

The Unified Soil Classification System

Major divisions			Group symbol		Typical names	Classification criteria for coarse-grained soils	
Coarse-grained soils (more than half of material is larger than No. 200)	Gravels (more than half of coarse fraction is larger than No. 4 sieve size)	Clean gravels (little or no fines)	GW		Well-graded gravels, gravel-sand mixtures, little or no fines	$C_U \geq 4$ $1 \leq C_C \leq 3$	
			GP		Poorly graded gravels, gravel-sand mixtures, little or no fines	Not meeting all gradation requirements for GW ($C_U < 4$ or $1 > C_C > 3$)	
		Gravels with fines (appreciable amount of fines)	GM	d/u	Silty gravels, gravel-sand-silt mixtures	Atterberg limits below A line or $I_P < 4$	Above A line with $4 < I_P < 7$ are borderline cases requiring use of dual symbols
			GC		Clayey gravels, gravel-sand-clay mixtures	Atterberg limits below A line with $I_P > 7$	
	Sands (more than half of coarse fraction is smaller than No. 4 sieve size)	Clean sands (little or no fines)	SW		Well-graded sands, gravelly sands, little or no fines	CU ≥ 6 $1 \leq C_C \leq 3$	
			SP		Poorly graded sands, gravelly sands, little or no fines	Not meeting all gradation requirements for SW ($C_U < 6$ or $1 > C_C > 3$)	
		Sands with fines (appreciable amount of fines)	SM	d/u	Silty sands, sand-silt mixtures	Atterberg limits below A line or $I_P < 4$	Limits plotting in hatched zone with $4 \leq I_P \leq 7$ are borderline cases requiring use of dual symbols
			SC		Clayey sands, sand-clay mixtures	Atterberg limits above A line with $I_P > 7$	
Fine-grained soils (more than half of material is smaller than No. 200)	Silts and clays (liquid limit < 50)		ML		Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity	1. Determine percentages of sand and gravel from grain-size curve. 2. Depending on percentages of fines (fraction smalled than 200 sieve size), coarse-grained soils are classified as follows: Less than 5%-GW, GP, SW, SP More than 12%-GM, GC, SM, SC 5 to 12%-Borderline cases requiring dual symbols.	
			CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays		
			OL		Organic silts and organic silty clays of low plasticity		
	Silts and clays (liquid limit > 50)		MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts		
			CH		Inorganic clays or high plasticity, fat clays		
			OH		Organic clays of medium to high plasticity, organic silts		
	Highly organic soils		Pt		Peat and other highly organic soils		

$$C_U = D_{60}/D_{10}$$

$$C_C = D^2_{30}/D_{10}D_{60}$$



PLASTICITY CHART

General Terms and Conditions

Binding Agreement. By accepting the Proposal Client accepts and agrees to be bound by all terms and conditions set forth in the Proposal and these General Terms and Conditions. The Proposal and these General Terms and Conditions (collectively, the "**Agreement**") comprise the entire agreement between UES Professional Solutions 18, LLC ("**UES**") and the Client and supersede all prior or contemporaneous understandings, agreements, and representations.

Scope of Services. UES shall provide the services (the "**Services**") set forth in the Proposal. UES shall not provide and is not responsible for the supervision or direction of the actual work of the contractor, or for site safety. The Client agrees that UES will not be expected to make exhaustive or continuous site visits beyond those established in the Proposal, but that construction observation appropriate for the construction stage shall be performed. It is understood that the Services provided by UES will not relieve the contractor of its duties and responsibilities for performing its work in accordance with the plans and specifications. UES will observe, test, document and alert the Client and/or its contractor, in a timely manner, when UES deems work pertinent to its Services is not being performed in accordance with the plans and specifications. The Services do not include investigation, detection, prevention, or assessment of biological pollutants such as molds, fungi, spores, bacteria or any of their byproducts. Full-time construction observation by UES employees does not mean that UES is observing all work by the contractor or all placement of all materials. Full-time construction observation means that an employee of UES has been assigned to the project for the time required to fulfill UES's contractual responsibilities.

Additional Services. If, during the performance of the Services, UES, its sole discretion, deems it necessary to perform services in addition to the Services (the "**Additional Services**") to successfully complete any evaluation or analysis contained in the Services, UES shall request in writing a modification of its Scope of Services, along with a description of the additional fees for the performance of such Additional Services. The Client may authorize such Additional Services in writing, which shall modify the terms of this Agreement. If the Client declines to modify the terms of this Agreement with respect to the Additional Services UES shall have the right to modify the Agreement to eliminate any evaluation or analysis that would require the Additional Services and to modify the fees to be charged to reflect the elimination of any evaluation or analysis, which modification shall be binding on the Client.

Schedule. The Client acknowledges that any schedule for the performance of the Services contained in the Proposal is an estimate of the time required for performance of the Services, and that the performance of the Services may not be complete prior to the expiration of the period or periods listed in such schedule. Any failure of UES to perform the Services within the time set forth in any schedule for performance shall not be considered a material breach of this Agreement.

Insurance. The Client represents and warrants that Client or the owner of the Property shall, as applicable, maintain one or more general liability, automobile and workman's compensation insurance policies providing coverage for injuries or damage incurred on the property (the "**Property**") at which the Services are to be performed in the amount of at least $1,000,000 per policy, per occurrence. The Client agrees to add UES as an additional insured for General Liability coverage. UES shall procure and maintain insurance coverage as it deems to be adequate. Certificates for such policies shall be provided to the owner upon request.

Entry onto Property. If the Client is the owner of the Property, the Client hereby authorizes UES to enter the Property for the purpose of performing the Services and the Client represents and warrants that the Client has full power and authority to permit UES personnel to enter and perform the Services on the Property, as may be required under the terms of this Agreement. If the Client is not the owner of the Property, the Client shall assist UES in obtaining permission from the Property's owner to access the Property and perform the Services. If such permission cannot be obtained, UES may, in its sole discretion, modify or cancel the Agreement. If UES determines it is necessary to enter onto property adjacent to the Property (the "**Adjacent Property**") to complete the performance of the Services, UES will contact the Client prior to making any entry onto any Adjacent Property to request that the Client obtain permission from the owner of the Adjacent Property, and from any other third party from whom permission may be required to allow UES to enter thereon. Upon receiving such a request, the Client shall assist UES in obtaining permission from the owner of the Adjacent Property. If such permission or authorization cannot be obtained, UES may, in its sole discretion, modify the Agreement to eliminate any Services that would require entry onto such Adjacent Property and such adjustments shall be binding on the Client.

Fees and Payment of Invoices. As consideration for the Services, the Client shall pay to UES for the costs and fees stated in the Proposal (the "**Fees**"). If the Client designates a third party to pay the Fees the Client shall remain liable for the full payment of the Fees. UES will submit invoices to the Client periodically. Unless otherwise stated on the Invoice or in the Proposal, invoices are due and payable within thirty (30) days from the invoice date. If the Client fails to make any payments due UES for the Services within thirty (30) days from invoice date, interest as permitted by Georgia law may be charged until the full amounts due are paid. If the Client fails to pay the amount due UES within thirty (30) days from UES's invoice date, UES may, in its sole discretion, suspend services being performed under this Agreement until UES has been paid in full all amounts due for the Services provided, expenses incurred and other related charges. Failure by the Client to pay UES prior to the due date of an invoice shall constitute a material breach of the Agreement. Payments received from the Client will be applied and credited first to interest then to principal. The Client will reimburse UES for all time spent and expenses (including attorneys' fees) incurred in connection with collecting any delinquent amounts.

Client's Responsibilities. In addition to the Client's obligations to pay for the Services performed under this Agreement and the Client's other obligations set forth in this Agreement, the Client agrees to assist and cooperate with UES in any manner necessary and within its ability to facilitate performance of the Services, supply UES with all information and documents in the Client's possession or knowledge that are relevant to the Services. The Client shall designate the location of all subsurface structures on plans to be furnished to UES such as pipes, tanks, cables and utilities within the property lines and shall be responsible for any damage inadvertently caused by UES to any such structure or utility not so designated.

Standards of Performance. The standard of care for all professional engineering and related services performed or furnished by UES under the Proposal and this Agreement will be the care and skill ordinarily used by members of the profession practicing under similar circumstances at the same time and in the same locality. The Client shall be responsible for, and UES may rely on, the accuracy and completeness of specifications, requirements, programs, instructions, reports, data, drawings, and other information furnished by the Client to UES pursuant to this Agreement. UES may use such specifications, requirements, programs, instructions, reports, data, drawings and information in performing or furnishing services under this Agreement. In the event necessary requirements or specifications are not provided before the Services commence, UES may set basic requirements for soil density tests and concrete sample fabrication that will be used until such time as they are provided.

Dispute Resolution; Litigaiton. As a condition precedent to filing any action in state or federal court concerning the Proposal or this Agreement, UES and the Client agree to negotiate all disputes between them arising out of or relating to the Proposal or the Agreement in good faith for a period of 30 days from the date of written notice of such dispute, regardless of the nature of the relief sought. If such negotiations between UES and the Client do not fully resolve the dispute, as a further condition precedent to filing any action in state or federal court, UES and Client shall mediate the dispute with a mutually acceptable alternative dispute resolution service. If said dispute is not fully resolved by said mediation, the dispute may then proceed in a state or federal court in Fulton County, Georgia unless an alternative venue is agreed upon by both UES and the Client. The prevailing party in any lawsuit filed by the parties concerning the Proposal or this Agreement shall be entitled to recover its costs and expenses incurred in such proceedings from the other party, including reasonable attorneys' fees, costs of court and expert witness costs. THE CLIENT IRREVOCABLY WAIVES ANY AND ALL RIGHT TO TRIAL BY JURY WITH RESPECT TO ANY LEGAL PROCEEDING ARISING OUT OF OR RELATED TO THE PROPOSAL OR THIS AGREEMENT. The Client acknowledges that it understands and has considered the implication of this waiver and makes this waiver voluntarily.

Use of Documents and Intellectual Property. Unless otherwise agreed in writing, all documents and information prepared by UES or obtained from a third party in connection with the performance of the Services are instruments of service (the "**Instruments of service**"), and UES shall retain ownership therein (including the right to reuse at the discretion of UES). All Instruments of Service are solely for use by the Client and will not be provided by the Client to any other person or entity without the prior written consent of UES. The Client has the right to reuse the Instruments of Service for purposes reasonably connected with the project for which the Services are provided, including without limitation design and licensing requirements of the project. No party other than the Client may rely on the Instruments of Service, and the Client will not represent to any other party that it may rely on the Instruments of Service without the express prior written consent of UES. The Client acknowledges that UES may employ or develop proprietary software, trade secrets, or other intellectual property in the performance of the Services (the "**Intellectual Property**"). The Client hereby agrees that it will not retain or acquire any ownership interest in the Intellectual Property and that all Intellectual Property employed or developed by UES in the course of the performance of the Services shall remain the property of UES or a third party, as applicable.

Term of Agreement. This Agreement shall begin on the date of execution as set forth on the Proposal and shall continue until the completion of all obligations of the parties under this Agreement, mutual written agreement of the parties, termination for material breach of this Agreement, or termination by UES for convenience. UES shall have the right, in the event of a material breach by the Client to terminate this Agreement. Said termination shall be effective immediately upon delivery by UES to the Client of a written termination notice or on such other later date as may be specified in any such notice of termination. UES may also terminate this Agreement for convenience upon thirty (30) days' written notice to the Client. If UES commits a material breach of this Agreement, the Client may terminate this Agreement upon thirty (30) days written notice to UES, provided the breach remains uncured at the end of such thirty (30) day period.

Indemnification. The Client agrees to defend, indemnify and hold UES and its agents, employees, owners, insurers and fiduciaries (the "**UES Indemnified Parties**") harmless for any costs, liabilities, claims, expenses, or damages incurred by the UES Indemnified Parties arising, directly or indirectly, from the provision of the Services by UES to the Client, including, but not limited to, any costs, liabilities, claims, expenses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) arising from the following: (a) any injury incurred by any UES employee or other personnel in the course of performing the Services; (b) any out-of-pocket cost or expense incurred by UES payable to any third party arising exclusively from the performance of the Services, other than the costs and expenses payable to UES personnel as compensation; (c) entry onto the Property or any Adjacent Property by UES after the Client has represented to UES that UES is duly authorized to enter such Property or Adjacent Property; and (d) any misrepresentation or breach of any warranty set forth in this Agreement by the Client.

Limitation of Liability. Notwithstanding any other term or provision in the Proposal and the Agreement, in recognition of the relative risks, rewards and benefits of the work being performed by UES to both the Client and UES, the risks have been allocated such that the Client agrees and acknowledged that, to the fullest extent permitted by Georgia law, the total liability of UES to the Client for any and all injuries, claims, losses, expenses, damages or claim expenses arising out of the Proposal and the Agreement from any cause or causes of action whatsoever, whether arising out of contract, negligence, strict liability in tort, or warranty, shall not exceed any amounts paid by the Client for the Services relating to the event giving rise to the liability; provided, however, that, in the event such claims are attributable to gross negligence or intentional misconduct of UES, the limit of liability will be increased to the greater of $250,000 or the amount paid by the Client for the Services relating to the event giving rise to the liability, less any applicable insurance amount covering alleged damages or claims. No action, regardless of form, arising from or pertaining to this Agreement or the Services may be brought by the Client more than one (1) year after such action has accrued, and neither UES nor any officer, director, manager, employee, or agent of UES shall have any liability under this Agreement for consequential, exemplary, or incidental damages, including, without limitation, damages for loss of goodwill, losses due to delay or work stoppage, and any and all business or commercial damages or losses.

Disclaimer of Warranties. UES DOES NOT MAKE ANY WARRANTY, WHETHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE SERVICES PROVIDED HEREUNDER, AND ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR USE ARE HEREBY EXPRESSLY EXCLUDED.

No Third-Party Beneficiary. The provisions of this Agreement are and will be for the benefit of the parties to the Agreement only and are not for the benefit of any third party, and accordingly, no third party shall have the right to enforce the provisions of this Agreement.

Force Majeure. UES shall not be liable or responsible to the Client, nor be deemed to have defaulted or breached this Agreement, for any failure or delay in fulfilling or performing any term of this Agreement if such failure or delay is caused by or results from acts or circumstances beyond the reasonable control of UES including, without limitation, acts of God, flood, fire, earthquake, explosion, governmental actions, civil unrest, national emergency, or labor disputes; provided, however, that, if the event in question continues for a continuous period in excess of thirty (30) days, the Client shall be entitled to give notice in writing to UES to terminate this Agreement.

Disposal of Samples. UES may dispose of all stored soil, rock, and asphalt samples 60 or more days after submission of the final report covering those samples. UES may dispose of stormwater samples immediately upon testing.

Successors, Assigns, and Beneficiaries. The Client and UES each are hereby bound and the partners, successors, executors, administrators and legal representatives of the Client and UES are hereby bound to the other party to this Agreement and to the partners, successors, executors, administrators and legal representatives (and said assigns) of such other party, in respect of all covenants, agreements and obligations of the Agreement.

Miscellaneous. The following other terms and conditions shall also govern this Agreement: (a) all representations, agreements to reimburse, defend, hold harmless or indemnify, dispute resolution provisions, and covenants or agreements that contemplate performance after completion of and/or payment for the Services in this Agreement shall survive any completion or termination of this Agreement; (b) the Agreement shall be construed and interpreted under and shall be governed by and enforced according to the substantive laws of Georgia, without regard to choice of law rules; (c) this Agreement may not be modified, changed or supplemented, nor may any obligations in this Agreement be waived, except by a written document signed by the party to be charged or by such party's agent duly authorized in writing; (d) no waiver of a breach of any of the terms, covenants or conditions of this Agreement will be construed or held to be a waiver of any succeeding or preceding breach of the same or any other term, covenant or condition herein contained; (e) the failure of either party to insist upon strict performance of any of the provisions of this Agreement shall in no way constitute a waiver of its rights, at law or in equity, or a waiver of any other provisions of this Agreement or subsequent default by the other party in the performance of or compliance with any of the terms and conditions set forth in this Agreement; (f) the parties to this Agreement agree that both have had the opportunity to review and negotiate the terms of this Agreement and to obtain the assistance of counsel in reviewing and negotiating such terms prior to execution, and that this Agreement shall be construed neither against nor in favor of either party but shall be construed in a neutral manner; (g) all notices and other communications shall be in writing and shall be deemed properly delivered, received, given and served: (i) on the same day as personally delivered; (ii) when delivered if deposited in the United States mail, certified or registered, postage prepaid, return receipt requested; (iii) when delivered by Federal Express or other comparable courier service, charges prepaid and any delivery failure caused by a party's failure to give notice of change of address or refusal to accept delivery shall be deemed receipt of notice; and (h) the parties acknowledge that each will have access to the others' proprietary information and pledge to one another to use the same solely for the purpose of furthering the performance of this Agreement, and upon the termination thereof, to maintain and protect the confidentiality of the same forevermore as though it was their own.

SECTION 15900 - HVAC INSTRUMENTATION AND CONTROLS

PART 1 - GENERAL

1.1 DESCRIPTION

A. General: The control system shall be as indicated on the drawings and described in the specifications and consist of a communicating thermostat.

1.2 APPROVED CONTROL SYSTEM CONTRACTORS AND MANUFACTURERS

A. Approved Building Control System Contractors and Manufacturers: Precision Environmental Solutions (Brandon Ellison), Walters Controls, Alabama Industrial Controls, Alberio.

PART 2 - PRODUCTS

2.1 MATERIALS

A. All products used in this installation shall be new, currently under manufacture, and shall be applied in similar installations for a minimum of 2 years. The installation shall not be used as a test site for any new products unless explicitly approved by the Owner's representative in writing. Spare parts shall be available for at least 5 years after completion of this contract.

2.2 COMMUNICATING, PROGRAMMABLE, TOUCH-SCREEN ROOM CONTROLLERS

A. General: Stand Alone – KMC Controls BAC-190000 Series FlexStat, Honeywell TC500 or Schneider Electric SE8600 Series (Touchscreen 7-Day Programmable) Indoor Air Quality and AC Unit Controllers with Humidity capability and Re-Heat Function capability. These are designed for single-stage and multi-stage control of heating/cooling equipment such as self-contained indoor air quality, heat pumps and AC units.

2.3 AUXILIARY CONTROL DEVICES

A. Motorized dampers, unless otherwise specified elsewhere, shall be as follows:

1. Damper frames shall be 16-gauge galvanized sheet metal or 1/8" extruded aluminum with reinforced corner bracing.
2. Damper blades shall not exceed 8" in width or 48" in length. Blades are to be suitable for medium velocity performance (2,000 fpm). Blades shall be not less than 16 gauges.
3. Damper shaft bearings shall be as recommended by manufacturer for application.
4. All blade edges and top and bottom of the frame shall be provided with compressible seals. Side seals shall be compressible stainless steel. The blade seals shall provide for a maximum leakage rate of 10 CFM per square foot at 2.5" W.C. differential pressure.
5. All leakage testing and pressure ratings will be based on AMCA Publication 500.
6. Individual damper sections shall not be larger than 48" x 60". Provide a minimum of one damper actuator per section.

B. Control dampers shall be parallel or opposed blade types as scheduled on drawings.

C. Electric damper/valve actuators.

1. The actuator shall have electronic overload or digital rotation sensing circuitry to prevent damage to the actuator throughout the rotation of the actuator.

2. Where shown, for power-failure/safety applications, an internal mechanical, spring return mechanism shall be built into the actuator housing.
3. All rotary spring return actuators shall be capable of both clockwise and counterclockwise spring return operation. Linear actuators shall spring return to the retracted position.
4. Proportional actuators shall accept a 0-10 VDC or 0-20 ma control signal and provide a 2-10 VDC or 4-20 ma operating range.
5. All non-spring return actuators shall have an external manual gear release to allow manual positioning of the damper when the actuator is not powered. Spring return actuators with more than 60 in-lb. torque capacity shall have a manual crank for this purpose.
6. Actuators shall be provided with a conduit fitting and a minimum 1m electrical cable and shall be pre-wired to eliminate the necessity of opening the actuator housing to make electrical connections.
7. Actuators shall be Underwriters Laboratories Standard 873 listed.
8. Actuators shall be designed for a minimum of 60,000 full stroke cycles at the actuator's rated torque.

D. Binary Temperature Devices

1. Low-Voltage Space Thermostats shall be 24 V, bimetal-operated, mercury-switch type, with either adjustable or fixed anticipation heater, concealed setpoint adjustment, 13°C-30°C (55°F-85°F) setpoint range, 1°C (2°F) maximum differential, and vented cover.
2. Line-Voltage Space Thermostats shall be bimetal-actuated, open-contact type or bellows-actuated, enclosed, snap-switch type or equivalent solid-state type, with heat anticipator, UL listing for electrical rating, concealed setpoint adjustment, 13°C-30°C (55°F-85°F) setpoint range, 1°C (2°F) maximum differential, and vented cover.
3. Low-Limit airstream thermostats shall be UL listed, vapor pressure type. Element shall be at least 6 m (20 ft) long. Element shall sense temperature in each 30 cm (1 ft) section and shall respond to lowest sensed temperature. Low-limit thermostat shall be manual reset only.

E. Temperature Sensors

1. Temperature sensors shall be Resistance Temperature Device (RTD) or Thermistor.
2. Duct sensors shall be rigid or average as shown. Averaging sensors shall be a minimum of 1.5m (5 feet) in length.
3. Immersion sensors shall be provided with a separable stainless steel well. Pressure rating of well is to be consistent with the system pressure in which it is to be installed.
4. Space sensors shall be equipped with set-point adjustment, override switch, display, and/or communication port as shown on the drawings.
5. Provide matched temperature sensors for differential temperature measurement. Differential accuracy shall be within 0.1 C (0.2 F)
6. The space temperature, setpoint, and override confirmation will be annunciated by a digital display for each zone sensor. The setpoint will be selectable utilizing buttons.

G. Humidity Sensors

1. Duct and room sensors shall have a sensing range of 20% to 80% with accuracy of ±5% R.H.
2. Duct sensors shall be provided with a sampling chamber.
3. Outdoor air humidity sensors shall have a sensing range of 20% to 95% R.H. It shall be suitable for ambient conditions of -40 C to 75 C (40 F to 170 F)

4. Humidity sensor's drift shall not exceed 1% of full scale per year.

A. Low Limit Thermostats
   1. Safety low limit thermostats shall be vapor pressure type with an element 6m (0 ft) minimum length. Element shall respond to the lowest temperature sensed by any one-foot section.
   2. Low limit shall be manual reset only.

B. Relays
   1. Control relays shall be UL listed plug-in type with dust cover. Contact rating, configuration, and coil voltage suitable for application.
   2. Time delay relays shall be UL listed solid-state plug-in type with adjustable time delay. Delay shall be adjustable plus or minus 200% (minimum) from set-point shown on plans. Contact rating, configuration, and coil voltage suitable for application. Provide NEMA 1 Type enclosure when not installed in local control panel.

C. Transformers and Power Supplies
   1. Control transformers shall be UL listed, Class 2 current-limiting type, or shall be furnished with over-current protection in both primary and secondary circuits for Class 2 service.
   2. Unit output shall match the required output current and voltage requirements. Current output shall allow for a 50% safety factor. Output ripple shall be 3.0 mV maximum Peak-to-Peak. Regulation shall be 0.10% line and load combined, with 50 microsecond response time for 50% load changes. Unit shall have built-in over-voltage protection.
   3. Unit shall operate between 0 C and 50 C.
   4. Unit shall be UL recognized.

D. Current Switches

   1. Current-operated switches shall be self-powered, solid state with adjustable trip current. The switches shall be selected to match the current of the application and output requirements of the DDC system.

PART 3 - EXECUTION

3.1 EXAMINATION

A. The project plans shall be thoroughly examined for control device and equipment locations, and any discrepancies, conflicts, or omissions shall be reported to the Architect/Engineer for resolution before rough-in work is started.

B. The contractor shall inspect the site to verify that equipment is installable as shown, and any discrepancies, conflicts, or omissions shall be reported to the Architect/Engineer for resolution before rough-in work is started.

3.2 PROTECTION

A. The Contractor shall protect all work and material from damage by his/her work or workers and shall be liable for all damage thus caused.

B. The Contractor shall be responsible for his/her work and equipment until finally inspected, tested, and accepted. The Contractor shall protect his/her work against theft or damage and shall carefully store material and equipment received on site that is not immediately installed. The Contractor shall close all open ends of work with temporary covers or plugs during storage and construction to prevent entry of foreign objects.

3.3 GENERAL WORKMANSHIP

A. Install equipment, piping, wiring/conduit parallel to building lines (i.e. horizontal, vertical, and parallel to walls) wherever possible.

B. Provide sufficient slack and flexible connections to allow for vibration of piping and equipment.

C. Install all equipment in readily accessible location as defined by chapter 1 article 100 part A of the NEC. Control panels shall be attached to structural walls unless mounted in equipment enclosure specifically designed for that purpose. Panels shall be mounted to allow for unobstructed access for service.

D. Verify integrity of all wiring to ensure continuity and freedom from shorts and grounds.

E. All equipment, installation, and wiring shall comply with acceptable industry specifications and standards for performance, reliability, and compatibility and be executed in strict adherence to local codes and standard practices.

F. Installation: By trained and experienced mechanics. All work shall be done by the control sub-contractor. All wiring incidental to the control system not shown on the Electrical Drawings or specified in Division 16 shall be provided and installed by the Control Contractor including all interlock control wiring between the various components of the air conditioning system, and all smoke detection system electrical wiring.

3.4 FIELD QUALITY CONTROL

A. All work, materials and equipment shall comply with the rules and regulations of applicable local, state, and federal codes and ordinances as identified in Part 1 of this Section.

B. Contractor shall continually monitor the field installation for code compliance and quality of workmanship. All visible piping and or wiring runs shall be installed parallel to building lines and properly supported.

C. Contractor shall arrange for field inspections by local and/or state authorities having jurisdiction over the work.

3.5 WIRING

A. All control and interlock wiring shall comply with the national and local electrical codes and Division 16 of these specifications. Where the requirements of this section differ with those in Division 16, the requirements of this section shall take precedence.

B. Where Class 2 wires are in concealed and accessible locations including ceiling return air plenums, approved cables not in raceway may be used provided that:

C. Circuits meet NEC Class 2 (current-limited) requirements. Low-voltage power circuits shall be sub-fused when required to meet Class 2 current-limit.

D. All cables shall be UL listed for application, i.e., cables used in ceiling plenums shall be UL listed specifically for that purpose.

E. Do not install Class 2 wiring in conduit containing Class 1 wiring. Boxes and panels containing high voltage may not be used for low voltage wiring except for the purpose of interfacing the two (e.g., relays and transformers).

F. Where class 2 wiring is run exposed, wiring shall be run parallel along a surface or perpendicular to it, and bundled, using approved wire ties at no greater than 3 m (10 ft) intervals. Such bundled cable shall be fastened to the structure, using specified fasteners, at 1.5 m (5 ft) intervals or more often to achieve a neat and workmanlike result.

G. All wire-to-device connections shall be made at a terminal blocks or terminal strip. All wire-to wire connections shall be at a terminal block, or with a crimped connector. All wiring within enclosures shall be neatly bundled and anchored to permit access and prevent restriction to devices and terminals.

H. Maximum allowable voltage for control wiring shall be 120V. If only higher voltages are available, the Control System Contractor shall provide step down transformers.

I. All wiring shall be installed as continuous lengths, where possible. Any required splices shall be made only within an approved junction box or other approved protective device.

J. Install plenum wiring in sleeves where it passes through walls and floors. Maintain fire rating at all penetrations in accordance with other sections of this specification and local codes.

K. Size of conduit and size and type of wire shall be the design responsibility of the Control System Contractor, in keeping with the manufacturer's recommendation and NEC.

L. Control and status relays are to be located in designated enclosures only. These relays may also be located within packaged equipment control panel enclosures. These relays shall not be located within Class 1 starter enclosures.

M. Follow manufacturer's installation recommendations for all communication and network cabling. Network or communication cabling shall be run separately from other wiring.

N. Adhere to Division 16 requirements for installation of raceway.

O. This Contractor shall terminate all control and/or interlock wiring and shall maintain updated (as-built) wiring diagrams with terminations identified at the job site.

P. Flexible metal conduits and liquid-tight, flexible metal conduits shall not exceed 3' in length and shall be supported at each end. Flexible metal conduit less than 1/2" electrical trade size shall not be used. In areas exposed to moisture, including chiller and rooms, liquid-tight, flexible metal conduits shall be used.

3.6 INSTALLATION OF SENSORS

A. Install sensors in accordance with the manufacturer's recommendations.

B. Mount sensors rigidly and adequate for the environment within which the sensor operates.

C. Room temperature sensors shall be installed on concealed junction boxes properly supported by the wall framing.

D. All wires attached to sensors shall be air sealed in their conduits or in the wall to stop air transmitted from other areas affecting sensor readings.

E. Install duct static pressure tap with tube end facing directly down-stream of air flow.

F. Sensors used in mixing plenums, and hot and cold decks shall be of the averaging type. Averaging sensors shall be installed in a serpentine manner horizontally across duct. Each bend shall be supported with a capillary clip.

G. All pipe mounted temperature sensors shall be installed in wells. Install all liquid temperature sensors with heat conducting fluid in thermal wells.

H. Wiring for space sensors shall be concealed in building walls. EMT conduit is acceptable within mechanical and service rooms.

I. Install outdoor air temperature sensors on north wall complete with sun shield at designated location.

3.7 ACTUATORS

A. Mount and link control damper actuators per manufacturer's instructions.

1. To compress seals when spring return actuators are used on normally closed dampers, power actuator to approximately 5° open position, manually close the damper, and then tighten the linkage.
2. Check operation of damper/actuator combination to confirm that actuator modulates damper smoothly throughout stroke to both open and closed positions.
3. Valves - Actuators shall be mounted on valves with adapters approved by the actuator manufacturer. Actuators and adapters shall be mounted following manufacturer's recommendations.

3.8 IDENTIFICATION OF HARDWARE AND WIRING

A. All wiring and cabling, including that within factory-fabricated panels, shall be labeled at each end within 2" of termination with a cable identifier and other descriptive information.

B. Permanently label or code each point of field terminal strips to show the instrument or item served.

C. Identify control panels with minimum 1-cm (1/2”) letters on nameplates.

D. Identify all other control components with permanent labels. Identifiers shall match record documents. All plug-in components shall be labeled such that removal of the component does not remove the label.

1. boards or point modules shall be required to implement use of these spare points.

3.9 CLEANING

A. This contractor shall clean up all debris resulting from his or her activities daily. The contractor shall remove all cartons, containers, crates, etc. under his control as soon as their contents have been removed. Waste shall be collected and placed in a location designated by the Construction Manager or General Contractor.

B. At the completion of work in any area, the Contractor shall clean all of his/her work, equipment, etc., making it free from dust, dirt and debris, etc.

C. At the completion of work, all equipment furnished under this Section shall be checked for paint damage, and any factory finished paint that has been damaged shall be repaired to

match the adjacent areas. Any metal cabinet or enclosure that has been deformed shall be replaced with new material and repainted to match the adjacent areas.

3.10 TRAINING

A. Train the designated staff of Owner's representative and Owner for 4-hours minimum to enable them to proficiently operate the system; create, modify, and delete programming; add, remove, and modify physical points for the system, and perform routine diagnostic and troubleshooting procedures.

B. The instructor(s) shall be factory-trained instructors experienced in presenting this material.

3.11 ACCEPTANCE

A. The control systems will not be accepted as meeting the requirements of Completion until all tests described in this specification have been performed to the satisfaction of the Engineer.

END OF SECTION

GARNER & ASSOCIATES ENGINEERING

February 9, 2026

Lathan McKee
631 South Hull Street
Montgomery, AL 36104

RE: Addition to Andalusia Elementary School

Dear Sir/Madam:

Please include the following in your next addendum on this project:

Electrical Specifications:

1. Refer to Division 26, Section 16010, 1.8. D:
    A. Contractor shall provide a $75,000 allowance for the fire fighter communication (BDA) system.
2. Refer to Division 26, Section 16610, 2.2:
    A. Color Scheme shall be as follows:

    Data – Blue, Wireless Access – Green, CCTV – Yellow, Security – Red, Intercom – White, Fiber – Orange and Lighting Control – Purple.
3. Refer to Division 26, Section 16800, 1.3. 1:
    A. Last paragraph covering existing fire alarm system shall be omitted

Clarifications:

1. Refer to Drawing Sheet E0.1 – Electrical Symbol Legend and Notes:
    A. General Electrical Notes – Note 1, Primary into the transformer is 7200 volts.
2. Refer to Drawing Sheet E0.3 – Power Riser Diagram, Detail and Notes:
    A. Note describing PTC-X – amperage should be 200 amps.
    B. Aluminum is acceptable primary feeder for transformer service.
3. Refer to Drawing Sheet E0.8 – Electrical Details:
    A. Details 2, 4 & 5 – All cabling shall be cat 6A.

B. Auxiliary System Matrix – Audio visual equipment and intercom equipment will be furnished and installed by owner. Electrical contractor will only be responsible for cabling and power required.

Electrical Drawings:

1. Refer to Drawing Sheet E0.3 – Power Riser Diagram, Details and Notes:

   A. Power Riser Diagrams 1, 2 & 3 – 3" red roll duct conduit from Primary Sectionailizer Cabinet (PTC-X) to Transformer. HDPE SDR-13.5 or HDPE SDR-11 is acceptable.

2. Refer to Drawing Sheet E0.8 – Electrical Details:

   A. Detail 2 – Structure Cable Riser Diagram – Conduit from box stubbed up to above ceiling shall be 1" conduit in lieu of 1.25".

3. Refer to Drawing Sheet E1.1 – Electrical Site Plan:

   A. Primary box located on the southwest corner of drive shall be labeled Primary Pullbox in lieu of Primary Junction Box and for splicing new primary with existing primary. Coordinate size of box with Utility Company.

   B. Electrical Site Legend – TX, in lieu of calling United Supply for transformer, Contractor shall purchase transformer thru City of Andalusia Utilities.

4. Refer to Drawing Sheet E1.3 – Electrical Site Details:

   A. Detail 4 – General Notes 4, Contractor shall coordinate with City of Andalusia Utilities in lieu of Dixie Electric Cooperative.

5. Refer to Drawing Sheets E2.2 – Lighting Floor Plan – Part 'B':

   A. Gymnasium B112 – Conduit routed and attached to bar joist shall be permissible to use EMT.

6. Refer to Drawing Sheets E3.2 – Power Floor Plan – Part 'B':

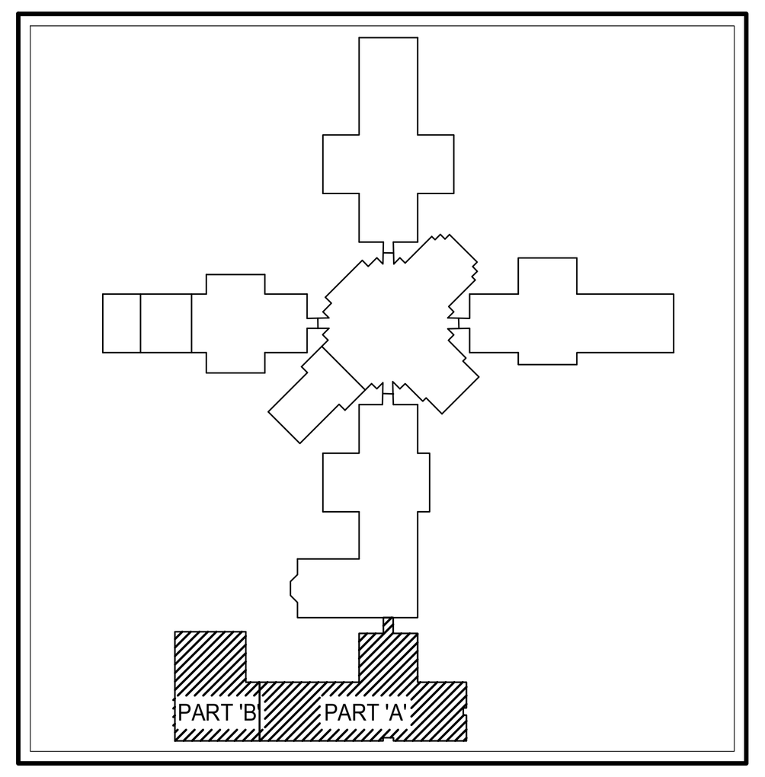
   A. Gymnasium B112 – Conduit routed and attached to bar joist shall be permissible to use EMT.

If you have any questions, please contact our office.

Garner & Associates Engineering
RH

2026 02 9. Addendum #2.25-091

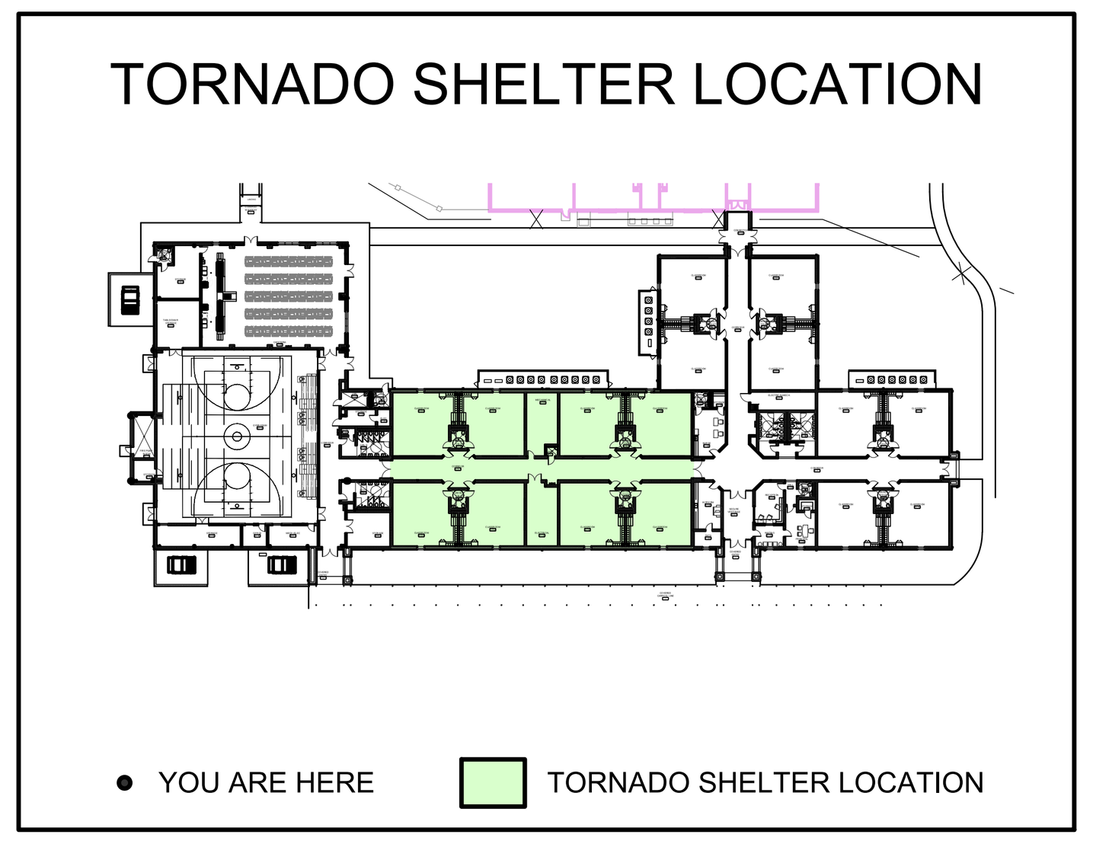
ALABAMA LICENSED No. 33579 PROFESSIONAL 02/9/2026 D. MORGAN GARNER ENGINEER



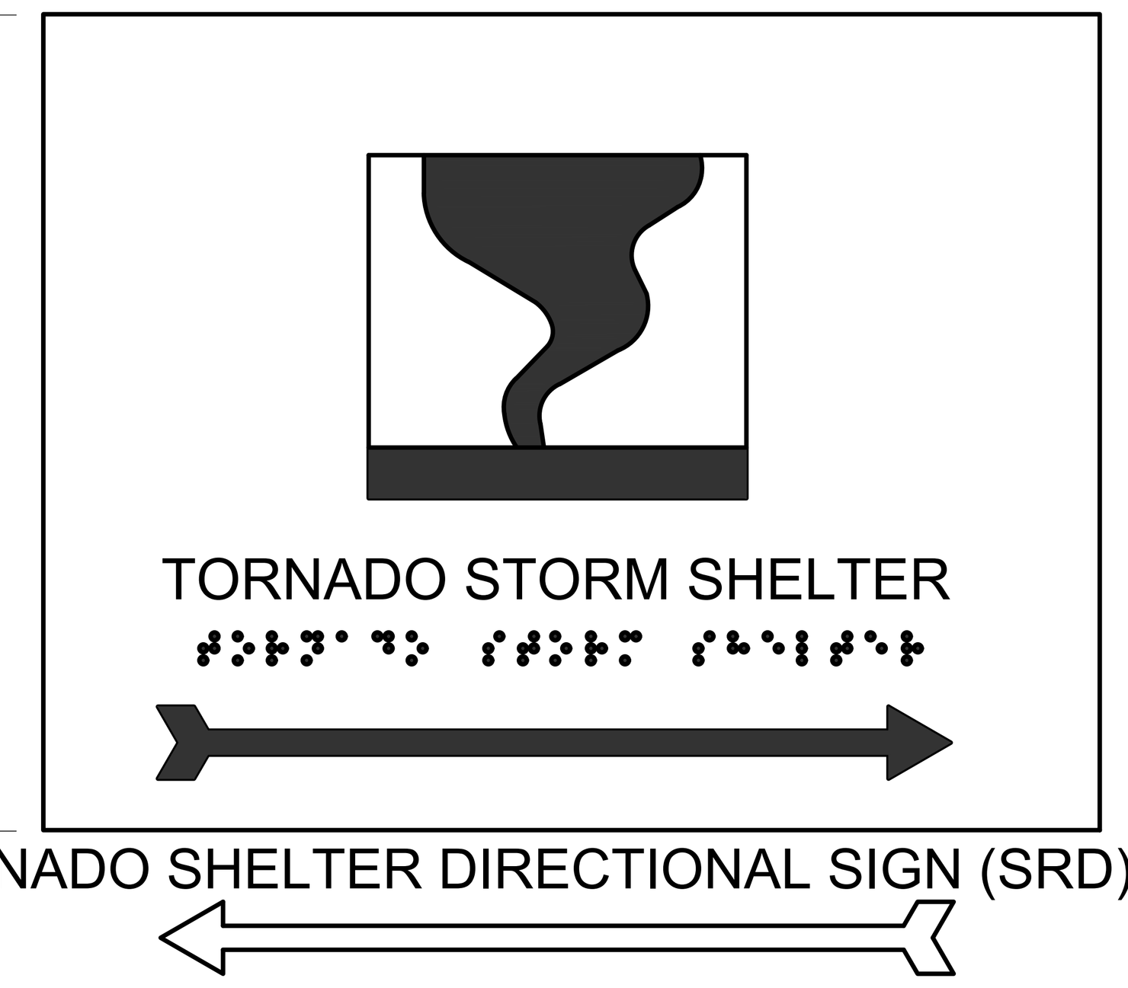
KEY PLAN
SCALE: NTS

TRUE NORTH

11" × 9"



TORNADO SHELTER SIGN (SRI)



TORNADO SHELTER DIRECTIONAL SIGN (SRD)

NOTICE

NOW LEAVING THE TORNADO SHELTER

TORNADO SHELTER SIGN (PSS)

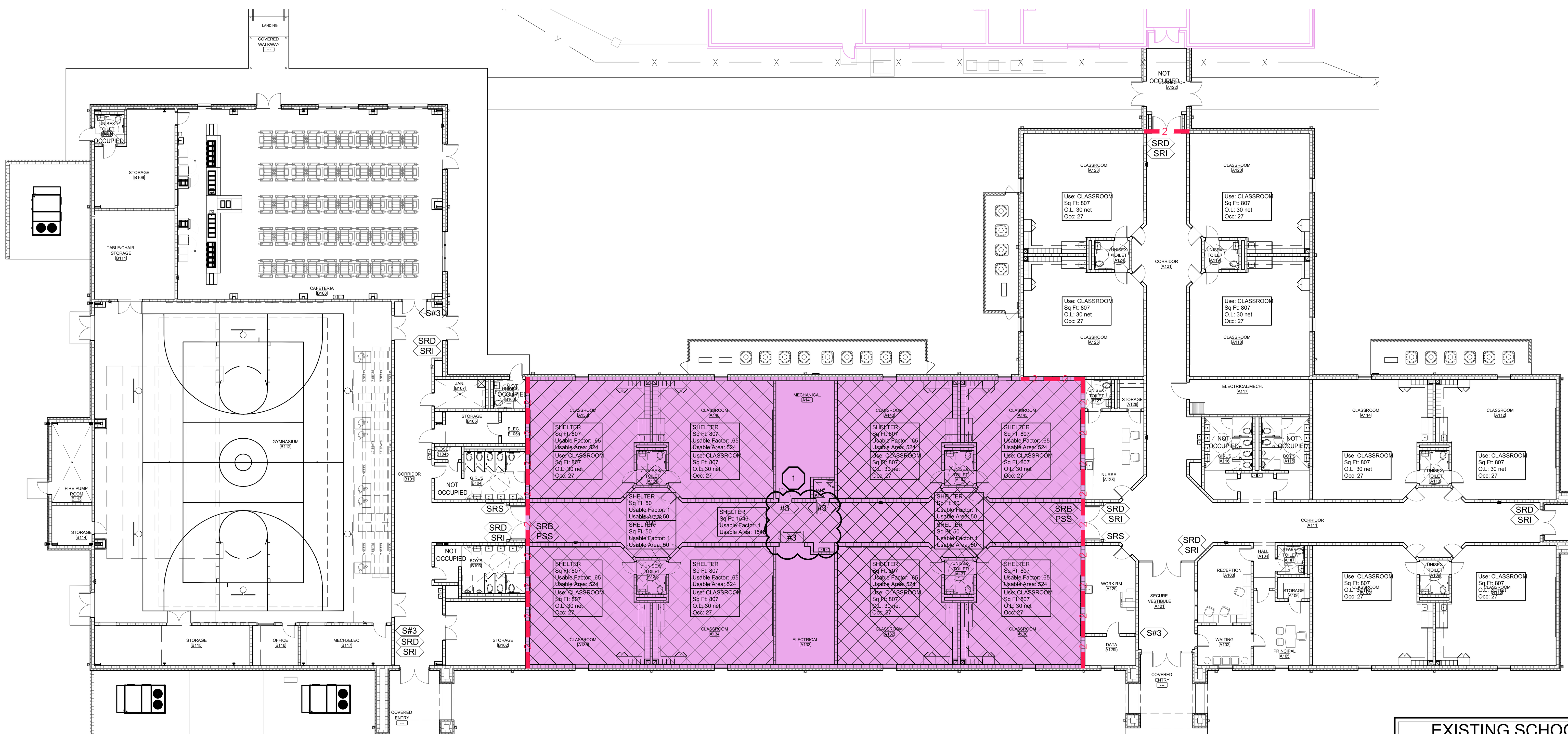
TORNADO SHELTER SIGN (SRS)

TORNADO SHELTER SIGN (SRB)

ELECTRICAL ROOM

THE ROOM CONTAINS ENERGIZED BATTERY SYSTEMS
THE ROOM CONTAINS ENERGIZED ELECTRICAL CIRCUITS
THE BATTERY ELECTROLYTE SOLUTIONS, WHERE PRESENT ARE *CORROSIVE* LIQUIDS

INVERTER ROOM SIGNAGE



SHELTER PLAN
SCALE: 1/16" = 1'-0"

NOTICE
DURING STORM EVENT, RELEASE MECHANICAL HOOKS LOCATED AT REAR SIDE OF DOOR(S) PRIOR TO ENTERING THE STORM SHELTER.
Keep Posted Under Penalty Of Law

SHELTER DOOR OPERATION SIGN #1
SIGN TO BE POSTED AT EACH SHELTER ENTRANCE DOOR .

NOTICE
DOOR TO REMAIN OPEN DURING STORM EVENT
Keep Posted Under Penalty Of Law

SHELTER DOOR OPERATION SIGN #2
SIGN TO BE POSTED AT ENTRANCE TO EACH CLASSROOM DOOR .

NOTICE
NOT TO BE USED DURING STORM EVENT
Keep Posted Under Penalty Of Law

SHELTER DOOR OPERATION SIGN #3
SIGN TO BE POSTED AT ALL AREAS NOT DESIGNATED AS USABLE SHELTER AREA.
(SEE PLAN) #3 1

***NOTE:**
PER DCM BULLETIN #23-01:
IBC SECTION 423.5 WHERE THE GROUP E OCCUPANCY CONSISTS OF ANY ADDITION TO AN EXISTING E OCCUPANCY SITE, THE NEW ADDITION OR STAND-ALONE BUILDING SHALL BE REQUIRED TO ACCOMODATE THE OCCUPANT LOAD OF ANY SPACE ADDED TO THE EXISTING E OCCUPANCY SITE.
THE OWNER HAS INSTRUCTED THE ARCHITECT TO PROVIDE FOR THE OCCUPANT LOAD OF THE NEW ADDITION ONLY.

EXISTING SCHOOL LOAD CALCULATIONS

TORNADO SHELTER LOAD CALCULATIONS GROSS AREA OF INSTRUCTIONAL SPACE DIVIDED BY 30

INSTRUCTIONAL SPACE	AREA SQ. FT.	# OCC.	X #	TOTAL OCC. LOAD
CLASSROOMS (55)	858	29	55	1595
TOTAL STUDENT OCC. LOAD				1595
10% FOR STAFF				160
TOTAL SHELTER OCC. LOAD EXISTING				1755±

NEW ADDITION SCHOOL LOAD CALCULATIONS

TORNADO SHELTER LOAD CALCULATIONS GROSS AREA OF INSTRUCTIONAL SPACE DIVIDED BY 30

INSTRUCTIONAL SPACE	AREA SQ. FT.	# OCC.	X #	TOTAL OCC. LOAD
CLASSROOMS (16)	807	27	16	432
TOTAL STUD. OCC. LOAD				432
10% FOR STAFF				44
TOTAL SHELTER. OCC. LOAD				476

TORNADO SHELTER DESIGN INFORMATION

WIND AND DESIGN LOAD	
DESIGN WIND SPEED	200 MPH
WIND DIRCETIONALITY FACTOR	1.0
WIND EXPOSURE CATAGORY	C
INTERNAL PRESSURE COEFFICIENT, CG_{pi}	+-0.55
TOPOGRAPHIC FACTOR, K_{tz}	1.0
WIND DIRECTIONALITY FACTOR, K_d	1.0
MISSILE IMPACT CRITERIA	100 MPH VERTICALLY 67 MPH HORIZONTALLY
ROOF LIVE LOAD	100 PSF
VENTING AREA (SQ. IN.)	CITING EXCEPTION 304.7 2020 ICC 500
WALL / OPENINGS / DOOR AND WINDOW ASSEMBLIES	
DOOR / ALCOVES /BAFFLED ENTRY	TESTING IN COMPLIANCE WITH 2020 ICC-500
WALLS AND ROOF SYSTEMS	TESTING IN COMPLIANCE WITH 2020 ICC 500 OR APPENDIX E FEMA 361
GLAZING SYSTEMS	WINDOWS COMPLYING WITH 2020 ICC 500
OPENING PROTECTIVES - LOUVERS OR VENTS	TESTING IN COMPLIANCE WITH 2020 ICC 500
FLOOD HAZARDS	
SPECIAL FLOOD HAZARD AREA	NO
WITHIN 0.2% OF SFPA	NO
SHELTER AREA FLOOR ELEVATION	361.70

TORNADO SHELTER LEGEND

SYMBOL	DESCRIPTION
	OVERALL SHELTER CONSTRUCTION LIMITS
	EXTENTS OF USABLE SHELTER AREA
—2—2—	TWO HOUR FIRE BARRIER WITH 90 MINUTE OPENING PROTECTIVE'S
SRS	TORNADO SHELTER ROOM SIGNAGE IN ACCORDANCE WITH ICC 500 - SECTION 508.6 & ALABAMA BUILDING COMMISSION BULLETIN JULY 29, 2010, SUBJECT: ADDITIONAL GUIDANCE ON ICC 500 REQUIREMENTS, ATTACHMENT D SHELTER LOCATION SIGNAGE
SRD	TORNADO SHELTER ROOM DIRECTIONAL SIGNAGE IN ACCORDANCE WITH ICC 500 - SECTION 508.5
SRB	TORNADO SHELTER ROOM DESIGN INFORMATION SIGNAGE IN ACCORDANCE WITH ICC 500 - SECTION 508.2 AND ALABAMA BUILDING COMMISSION BULLETIN DATED JULY 29, 2010, SUBJECT: ADDITIONAL GUIDANCE ON ICC 500 REQUIREMENTS ITEM #6 SHELTER SIGNAGE, AND ATTACHMENT C DESIGN INFORMATION SHELTER SIGNAGE.
FAK	FIRST AID KIT / NUMBER OF KITS (1 PER 200)(SEE SPECIFICATIONS) LOCATE KITS IN SHELTER PER OWNER DIRECTION
PSS	TORNADO SHELTER ROOM PERIMETER SIGNAGE SIGN INDICATION IN ACCORDANCE WITH ICC 500 - SECTION 508.7
SRI	TORNADO SHELTER ROOM IDENTIFYING SIGNAGE SIGN

SHELTER OCCUPANT LOAD

TORNADO SHELTER USEABLE AREA

USEABLE TORNADO SHELTER AREA CALCULATIONS

SHELTER SPACE	SQ. FT.	USABLE REDUCTION FACTOR	USABLE SQ. FT. EACH	TOTAL USABLE SQ. FT.
CLASSROOMS (8)	807	.65	524	4192
CORRIDOR (1)		1.0	1546	1546
TOILETS (4)	50	1.0	50	200
TOTAL USABLE AREA				5938

TORNADO SHELTER OCCUPANT CAPACITY

TORNADO SHELTER WILL REQUIRE A MINIMUM OF 1 WHEEL CHAIR SPACE FOR EVERY 200 OCCUPANTS

SPACE FOR WHEEL CHAIR OCCUPANTS 6 x 10 SQ. FT. = 60 SQ. FT.

REMAINING AREA FOR NON WHEEL CHAIR OCCUPANTS 5938 - 60 = 5878

MAX. Number of STANDING OR SITTING OCCUPANTS 5878 / 5 = 1175 OCCUPANTS.

TOTAL OCCUPANTS IN TORNADO SHELTER = **1181** OCCUPANTS

PLUMBING CALCULATIONS TORNADO SHELTER

1181 OCCUPANTS

TOILET FIXTURES (TABLE 702.3) ICC 500
(2 TOILETS MINIMUM)
(1 PER 250 FOR 1ST 500 OCC.): 2 REQUIRED
\+ (1 PER ADDITIONAL 500 OCC.): **2** REQUIRED
TOTAL TOILET FIXTURES: 4 REQUIRED, 4 PROVIDED

LAVATORIES (TABLE 702.3) ICC 500
(1 PER 1,000 OCC.) **2** REQUIRED **4** PROVIDED

LATHAN McKEE ARCHITECTS

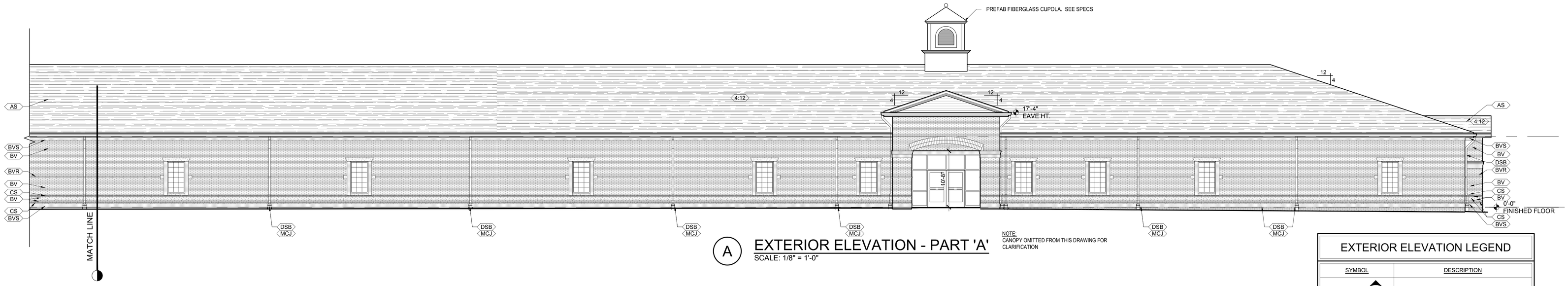
ADDITION TO
ANDALUSIA ELEMENTARY SCHOOL
FOR THE
ANDALUSIA CITY BOARD OF EDUCATION
ANDALUSIA, ALABAMA

SHEET TITLE: SHELTER PLAN

STATE OF ALABAMA — WALTER T. McKEE, JR. No. 1082 MONTGOMERY, ALA. — REGISTERED ARCHITECT

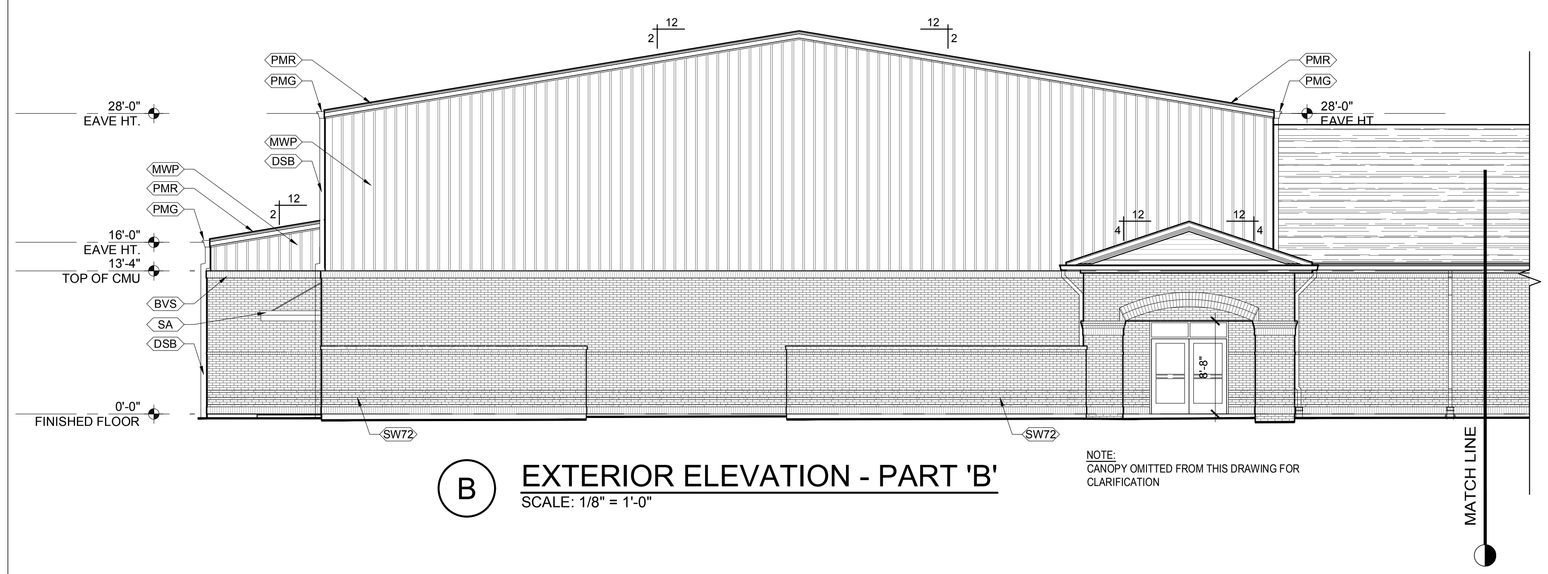
PROJ. MGR.: -
DRAWN: KDD
DATE: 01.14.2026
REVISIONS
1 02.06.2026

JOB NO. 24-304
SHEET NO. G1.2



A EXTERIOR ELEVATION - PART 'A'
SCALE: 1/8" = 1'-0"

NOTE:
CANOPY OMITTED FROM THIS DRAWING FOR CLARIFICATION

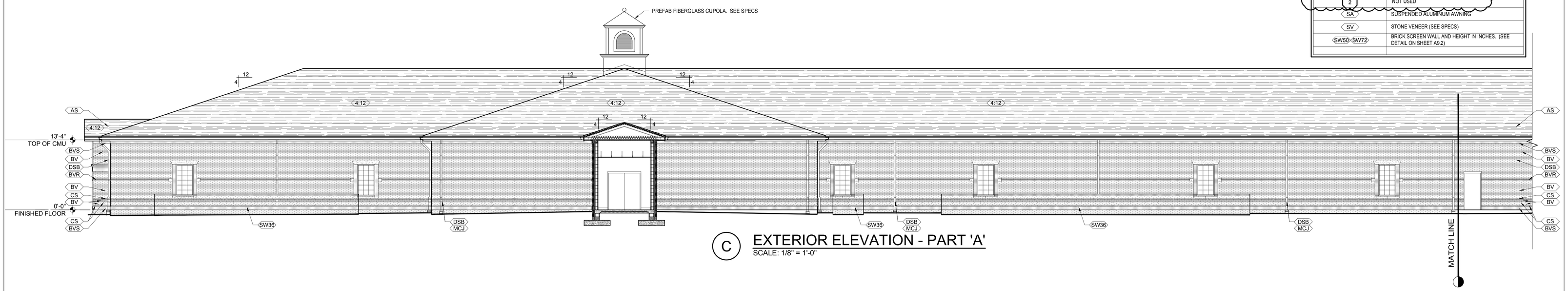


B EXTERIOR ELEVATION - PART 'B'
SCALE: 1/8" = 1'-0"

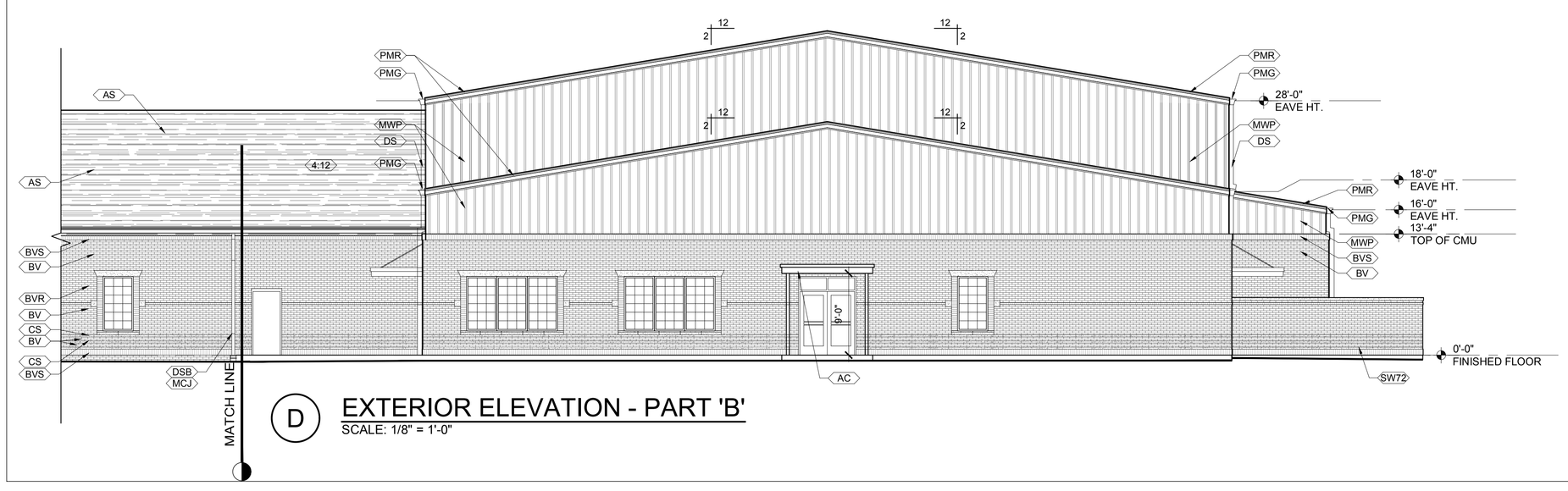
NOTE:
CANOPY OMITTED FROM THIS DRAWING FOR CLARIFICATION

EXTERIOR ELEVATION LEGEND

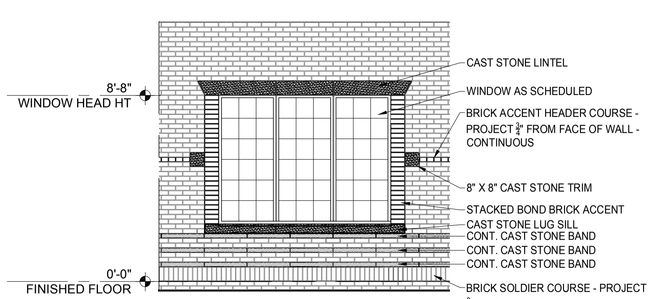
SYMBOL	DESCRIPTION
AX X	BUILDING SECTION SYMBOL
1	NOT USED
AC	ALUMINUM CANOPY
AS	ASPHALT SHINGLES (SEE SPECS)
BVA	BRICK VENEER - ACCENT COLOR
BV	BRICK VENEER
BVSA	BRICK VENEER - SOLDIER COURSE - ACCENT COLOR
BVS	BRICK VENEER - SOLDIER COURSE
BVR	BRICK VENEER - ROWLOCK COURSE
CS	CAST STONE (SEE SPECS)
DLF	DECORATIVE LIGHT FIXTURE (SEE ELECTRICAL)
DS	PREFINISHED METAL DOWNSPOUT
DSB	PREFINISHED METAL DOWNSPOUT TO BOOT
MCJ	MASONRY CONTROL JOINT LOCATIONS LOCATED BEHIND DOWNSPOUTS WHERE POSSIBLE
MRP	METAL ROOF PANELS
MWP	METAL WALL PANELS
PMC	PREFINISHED METAL COPING
PME	PREFINISHED METAL EAVE TRIM
PMF	PREFINISHED METAL FASCIA
PMG	PREFINISHED METAL GUTTER
PMR	PREFINISHED METAL RAKE TRIM
2	NOT USED
SA	SUSPENDED ALUMINUM AWNING
SV	STONE VENEER (SEE SPECS)
SW50 SW72	BRICK SCREEN WALL AND HEIGHT IN INCHES. (SEE DETAIL ON SHEET A9.2)



C EXTERIOR ELEVATION - PART 'A'
SCALE: 1/8" = 1'-0"



D EXTERIOR ELEVATION - PART 'B'
SCALE: 1/8" = 1'-0"



1 TYPICAL WINDOW DETAIL
SCALE: 1/4" = 1'-0"

LATHAN ▪ McKEE ARCHITECTS

ADDITION TO
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ANDALUSIA, ALABAMA

SHEET TITLE: EXTERIOR ELEVATIONS

STATE OF ALABAMA
WALTER T. McKEE, JR.
No. 1082
MONTGOMERY, ALA.
REGISTERED ARCHITECT

PROJ. MGR.: -
DRAWN: KDD

DATE: 01.14.2026

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2 02.06.2026

JOB NO. 24-304

SHEET NO:
A4.1

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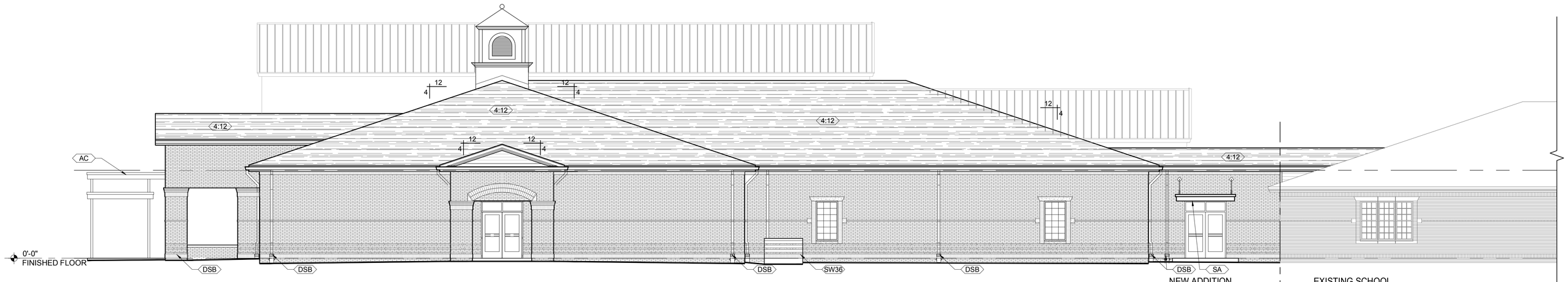
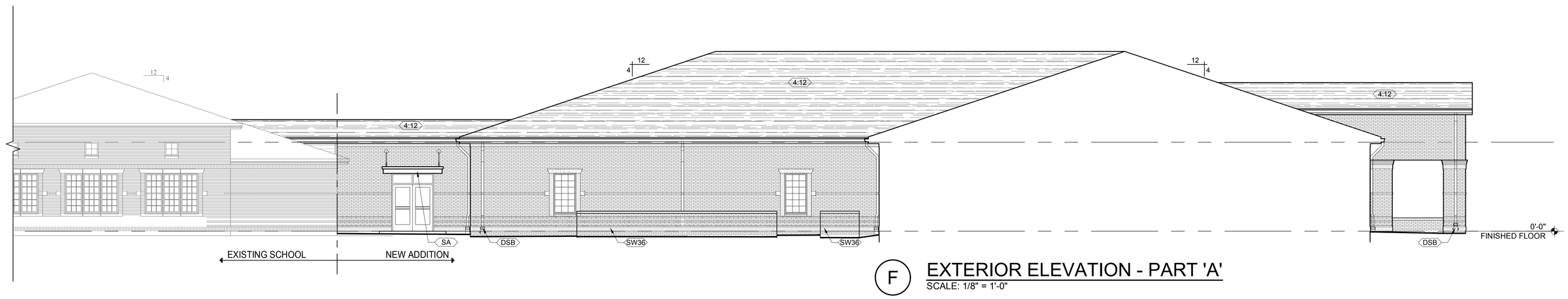


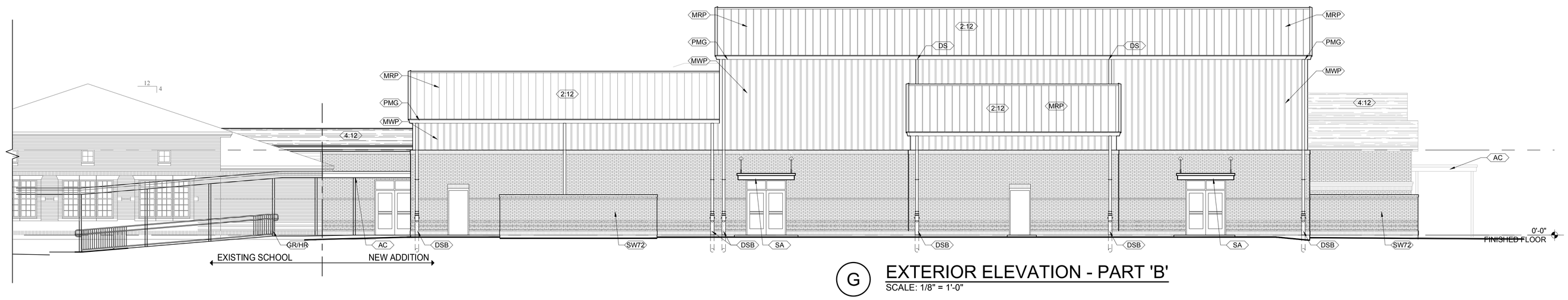
E EXTERIOR ELEVATION - PART 'A'
SCALE: 1/8" = 1'-0"



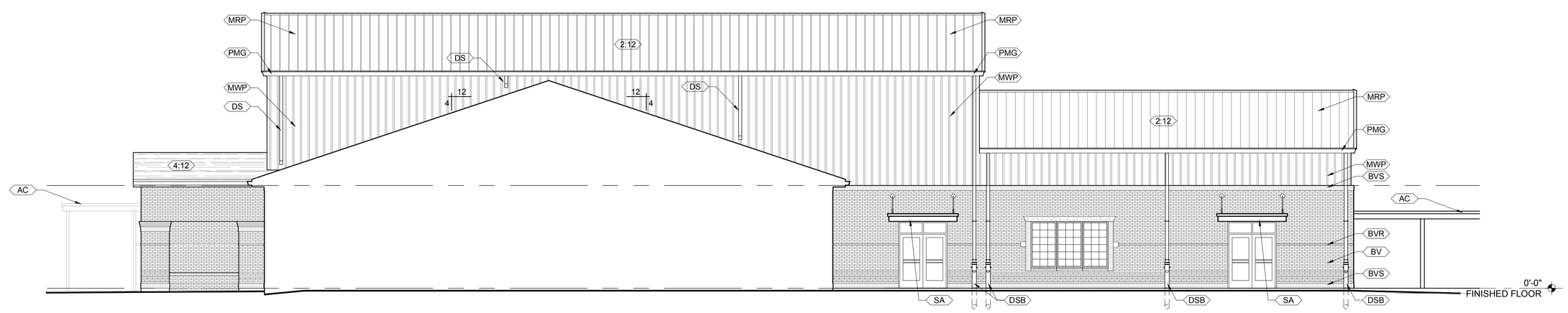
F EXTERIOR ELEVATION - PART 'A'
SCALE: 1/8" = 1'-0"

EXTERIOR ELEVATION LEGEND

SYMBOL	DESCRIPTION
AX.X	BUILDING SECTION SYMBOL
1	NOT USED
AC	ALUMINUM CANOPY
AS	ASPHALT SHINGLES (SEE SPECS)
BVA	BRICK VENEER - ACCENT COLOR
BV	BRICK VENEER
BVSA	BRICK VENEER - SOLDIER COURSE - ACCENT COLOR
BVS	BRICK VENEER - SOLDIER COURSE
BVR	BRICK VENEER - ROWLOCK COURSE
CS	CAST STONE (SEE SPECS)
DLF	DECORATIVE LIGHT FIXTURE (SEE ELECTRICAL)
DSB	PREFINISHED METAL DOWNSPOUT TO BOOT
GR/HR	METAL GUARDRAIL/HANDRAIL (SEE DETAIL ON SHEET A9.3)
MCJ	MASONRY CONTROL JOINT LOCATIONS LOCATED BEHIND DOWNSPOUTS WHERE POSSIBLE
MRP	METAL ROOF PANELS
MWP	METAL WALL PANELS
PMC	PREFINISHED METAL COPING
PME	PREFINISHED METAL EAVE TRIM
PMF	PREFINISHED METAL FASCIA
PMG	PREFINISHED METAL GUTTER
PMR	PREFINISHED METAL RAKE TRIM
2	NOT USED
SA	SUSPENDED ALUMINUM AWNING
SV	STONE VENEER (SEE SPECS)
SW50-SW72	BRICK SCREEN WALL AND HEIGHT IN INCHES. (SEE DETAIL ON SHEET A9.2)



G EXTERIOR ELEVATION - PART 'B'
SCALE: 1/8" = 1'-0"



H EXTERIOR ELEVATION - PART 'B'
SCALE: 1/8" = 1'-0"

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JOB NO. 24-304

SHEET NO:
A4.2

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