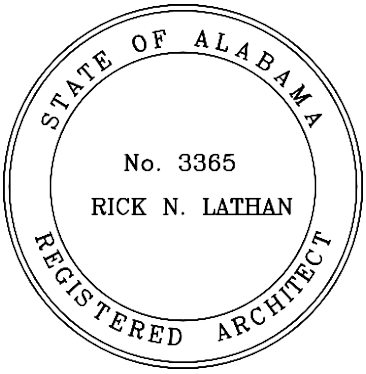


LATHAN · McKEE
ARCHITECTS

300 CHASE PARK SOUTH • SUITE 200 • HOOVER, ALABAMA 35244
205-988-9112

ADDENDUM NO. 4
NEW CLASSROOM ADDITION FOR ASHVILLE HIGH SCHOOL
Architect Job No. 24-106
September 8, 2025
DCM #20240625

BIDS DUE:
Thursday, September 11, 2025, until
2:00 p.m., local time, held at
St. Clair County Board of Education, Annex
175 College Street
Odenville, AL 35120

The Plans and Specifications are here by amended. The following supersedes all contrary and/or conflicting information and is made part of the contract documents.

SPECIFICATIONS

1. **SECTION 01030 – SPECIAL PROJECT REQUIREMENTS**: REPLACE PREVIOUS TERRACON PROPOSAL WITH THE ATTACHED TERRACON REPORT.
   ASHVILLE HIGH SCHOOL CLASSROOM ADDITION
   GEOTECHNICAL ENGINEERING REPORT
   TERRACON PROJECT NO. E1255061

2. **SECTION 10720 – ROOF SCREENS**: ADD THE ATTACHED SPECIFICATION.

3. **SECTION 11150 – METAL BOLLARDS**: USE ATTACHED REVISED SPECIFICATION IN LIEU OF PREVIOUS VERSION.

DRAWINGS

1. **SHEETS C-2.0, C-4.0, C-5.0, C-7.0**: SEE THE CLOUDED REVISIONS FOR MODIFICATIONS TO THE DOMESTIC WATER ROUTING AND THE FIRE HYDRANT ADDITION.

CLARIFICATIONS

1. GENERAL CONTRACTOR IS REQUIRED TO INCLUDE ALL FEES ASSOCIATED WITH TRANSFERING THE ADEM PERMIT FROM THE OWNER TO THE CONTRACTOR.

2. ALL DOMESTIC WATER PIPING TO BE TYPE A PEX PIPING BY UPONOR OR PRE-APPROVED EQUAL.

3. **REFERENCE A2.2:** NOTES REQUIRING MODIFICATION OF EXISTING GUTTER AND DOWNSPOUT SHOULD READ, “NEW GUTTER AND DOWNSPOUT EXTENSION. MODIFY EXISTING GUTTER AND DOWNSPOUT AS REQUIRED TO ENSURE WATERTIGHT AND SEAMLESS CONNECTION. NEW WORK TO MATCH EXISTING COLOR AND PROFILE.

4. **REFERENCE A2.2:** WHERE NEW WORK IS REQUIRED AT THE EXISTING ROOF, THE GENERAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING THE EXISTING CONDITIONS. EXISTING AND NEW WORK SHALL BE REMOVED/INSTALLED TO ENSURE A WEATHERTIGHT ENVELOPE.

5. THE EXISTING ROOF INSULATION THICKNESS VARIES AND IS TO BE VERIFIED BY THE GENERAL CONTRACTOR. COORDINATE WITH OWNER PRIOR TO CORING THE ROOF AND LEAVE THE ROOF WEATHER TIGHT WHEN FINISHED. DECKING IS BELIEVED TO BE TECTUM DECKING.

6. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVDING A SAFE AND FREE ACCESS TO ALL EXISTING CLASSROOMS AND THROUGH CORRIDOR H113 DURING THE HOURS WHEN THE BUILDING IS OCCUPIED. ACCESS THROUGH CORRIDOR H113 ALLOWS A MEANS OF EGRESS WHEN THE EXISTING EXTERIOR EGRESS DOORS ARE BLOCKED OFF DURING CONSTRUCTION. WORK IN THE EXISTING BUILDING IS TO BE COORDINATED/SCHEDULED WITH THE OWNER PRIOR TO CONSTRUCTION AND IS NOT TO INTERFER WITH THE REGULAR DAY TO DAY ACTIVITIES IN THE SCHOOL.

7. IT IS ACCEPTABLE TO DEMOLISH THE COMPLETE EXISTING CONCRETE SLAB AT (WOMEN’S RESTROOM H112, MENS RESTROOM H114, STORAGE H111, JANITOR H115) AND REPLACE WITH A NEW SLAB THAT MEETS THE NEW CONSTRUCTION REQUIEREMENTS IN LIEU OF REINFROCING UNDER EXISTING SLAB.

8. MOP AND BROOM HOLDER – MODEL B-223 X 36” SURFACE MOUNT, STAINLESS STEEL, TYPE 302 (18-8) SATIN FINISH. HOLDERS SPRING LOADED, RUBBER CAM WITH PLATED STEEL RETAINER. MOUNTING HEIGHT 6’-0” FLOOR TO TOP. ONE PER SERVICE AND/OR MOP SINKS.

9. SOAP DISPENSER (SURFACE MOUNT) – MODEL B-4112, LIQUID VALVE, SURFACE MOUNTED, STAINLESS-STEEL FINISH, VANDAL RESISTANT. ONE PER REGULAR LAVATORY AND AS INDICATED ON DRAWINGS.

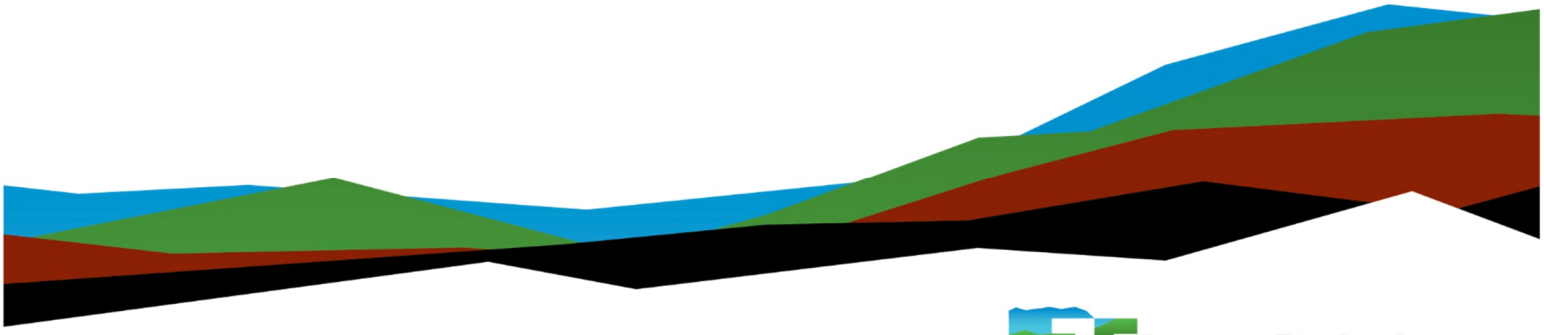
Ashville High School Classroom Addition

Geotechnical Engineering Report

May 13, 2025 | Terracon Project No. E1255061

Prepared for:

St. Clair County Board of Education
410 Roy Drive
Ashville, Alabama 35953



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May 13, 2025

St. Clair County Board of Education
410 Roy Drive
Ashville, AL 35953

Attn: Dr. Justin Burns
E: justin.burns@sccboe.org

Re: Geotechnical Engineering Report
Classroom Addition
Ashville High School
Ashville, Alabama
Terracon Project No. E1255061

Dear Dr. Burns:

We have completed the scope of Geotechnical Engineering services for the above referenced project in general accordance with Terracon Proposal No. PE1255061, dated March 31, 2025. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of foundations, floor slabs, and pavement for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,

Terracon

Hamilton Brannon

Staff Engineer

Bryan Ritenour, P.E.

Senior Engineer

Table of Contents

Figures

Attachments

Note: This report was originally delivered in a web-based format. Blue Bold text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the Terracon logo will bring you back to this page. For more interactive features, please view your project online at client.terracon.com.

Refer to each individual Attachment for a listing of contents.

Introduction

This report presents the results of our subsurface exploration and Geotechnical Engineering services performed for the proposed Classroom Additions which will be located at Ashville High School in Ashville, Alabama. The purpose of these services was to provide information and geotechnical engineering recommendations relative to:

- Subsurface soil conditions
- Groundwater conditions
- Seismic site classification per IBC
- Site preparation and earthwork
- Pavement considerations
- Foundation design and construction
- Floor slab design and construction
- Demolition Considerations

The geotechnical engineering Scope of Services for this project included the advancement of 9 test borings, laboratory testing, engineering analysis, and preparation of this report.

Drawings showing the site and boring locations are shown on the Site Location and Exploration Plan, respectively. The results of the laboratory testing performed on soil samples obtained from the site during our field exploration are included on the boring logs in the Exploration Results section.

Project Description

Our initial understanding of the project was provided in our proposal and was discussed during project planning. A period of collaboration has transpired since the project was initiated, and our final understanding of the project conditions is as follows:

Item	Description
Information Provided	Site layout plans were provided by Mr. Cody Bryant (Lathan Architects) via email.
Project Description	The project consists of a classroom addition and new pavement at the existing Ashville High School.
Building Construction	Masonry with slab on grade

Item	Description
Finished Floor Elevation	Assumed to match existing building
Maximum Loads	■ Columns: 100 - 200 kips (assumed) ■ Walls: 3-5 kips per linear foot (klf) (assumed) ■ Floor Slabs: 100 pounds per square foot (psf) (assumed)
Grading/Slopes	No grading plans for this project have been provided. We anticipate cuts and fills of less than 2 feet will be required.
Below-Grade Structures	None anticipated
Free-Standing Retaining Walls	None anticipated
Pavements	New asphalt or concrete pavement

Terracon should be notified if any of the above information is inconsistent with the planned construction, especially the grading limits, as modifications to our recommendations may be necessary.

Site Conditions

The following description of site conditions is derived from our site visit in association with the field exploration and our review of publicly available geologic and topographic maps.

Item	Description
Parcel Information	The project is located at the existing Ashville High School in Ashville, St. Clair Count, AL Latitude/Longitude (approximate) 33.8183° N 86.2671° W (See Site Location)
Existing Improvements	Parking area
Current Ground Cover	Grass, gravel, and asphalt
Existing Topography	Relatively level. The furnished topographical survey indicates existing grades onsite range from around EL. 630 to around EL. 632.

Geotechnical Characterization

We have developed a general characterization of the subsurface conditions based upon our review of the subsurface exploration, laboratory data, geologic setting and our understanding of the project. This characterization, termed GeoModel, forms the basis of our geotechnical calculations and evaluation of the site. Conditions observed at each exploration point are indicated on the individual logs. The individual logs can be found in the Exploration Results and the GeoModel can be found in the Figures attachment of this report.

As part of our analyses, we identified the following model layers within the subsurface profile. For a more detailed view of the model layer depths at each boring location, refer to the GeoModel.

Model Layer	Layer Name	General Description
1	Surface Material	Asphalt ranging from 1 to 4 inches-thick with base 3 to 10 inches-thick, gravel ranging 1 to 3 inches-thick, and topsoil 6 inches-thick
2	Existing Fill	Sandy silt with gravel and lean clay with gravel, with variable amounts of organics, N-values range from 2 to 23 blows per foot
3	Native Clays	Fat clay with gravel (CH) and lean clay (CL) with variable amounts of sand and chert, typically, medium stiff to hard except the upper 2 feet of boring B-1

The borings were advanced in the dry using a hollow stem auger drilling technique that allows short term groundwater observations to be made while drilling. Groundwater was observed in borings B-1, P-3, and P-4. The locations and depths are indicated in the below table.

Boring	Depth to Groundwater During Drilling (feet)
B-1	3
P-3	6
P-4	3

None of the other borings encountered groundwater during drilling. However, groundwater conditions may be different at the time of construction. Groundwater conditions may change because of seasonal variations in rainfall, runoff, and other conditions not apparent at the time of drilling. Long-term groundwater monitoring was outside the scope of services for this project.

Geological Hazards

Published maps indicate the site is underlain by the Conasauga Formation. The Conasauga Formation consists of medium-bluish-gray, fine-grained, thin-bedded argillaceous limestone and interbedded dark-gray shale in varying proportions.

This formation is a carbonate-based rock geology and is therefore soluble in slightly acidic groundwater. Weathering is typified by a chemical solutioning process that progresses along joints, fractures and bedding planes in the bedrock. This process often results in a highly irregular rock profile that contains deep weathered slots filled with soft soils. Voids or caves may also be present in the bedrock. The weathering of the bedrock and subsequent collapse or erosion of the overburden into these openings results in what is referred to as karst topography. Any construction in karst topography is accompanied by some degree of risk for future internal soil erosion and ground subsidence that could affect the stability of the proposed structure.

Although no evidence of sinkhole activity was observed during our subsurface exploration on the proposed site, it should be noted that this study does not preclude the possibility of future sinkhole occurrence within the area. Even an extensive drilling exploration program could not rule out the possibility of future sinkhole formation at the site. The owner must accept that there is some degree of risk in developing over carbonate rock geology.

Seismic Site Class

The seismic design requirements for buildings and other structures are based on Seismic Design Category. Site Classification is required to determine the Seismic Design Category for a structure. The Site Classification is based on the upper 100 feet of the site profile defined by a weighted average value of either shear wave velocity, standard penetration resistance, or undrained shear strength in accordance with Section 20.4 of ASCE 7 and the International Building Code (IBC). Based on the soil/bedrock properties observed at the site and as described on the exploration logs and results, our professional opinion is that a Seismic Site Classification of D be considered for the project. Subsurface explorations at this site were extended to a maximum depth of 15 feet. The site properties below the boring depth to 100 feet were estimated based on our experience and knowledge of geologic conditions of the general area. Additional deeper borings or geophysical testing may be performed to confirm the conditions below the current boring depth.

Geotechnical Overview

The site can be made suitable for the proposed construction based upon geotechnical conditions encountered in the test borings, provided that the recommendations in this report are implemented in the design and construction phases of this project.

Beneath the surface material (Asphalt ranging from 1 to 4 inches-thick with base 3 to 10 inches-thick, gravel ranging 1 to 3 inches-thick, or topsoil 6 inches-thick), variable consistency existing fill consisting of sandy silt with gravel and lean clay with gravel was encountered to depths ranging from 2.5 to 7.5 feet. N-values in the fill ranged from 2 to 23 blows per foot with the majority of the N-values being less than 7 blows per foot. The highly variable N-values indicate that fill was likely not placed in a controlled manner (i.e., not placed in thin lifts and evenly compacted). Borings B-1 through P-1 penetrated the existing fill and encountered native fat clays with gravel (CH) and lean clays (CL). The N-values indicate that the clays typically have consistencies ranging from medium stiff to hard. However, the upper 2 feet of native soils at borings B-1 were soft.

Based on the conditions encountered and estimated load settlement relationships, the proposed shallow foundations, floor slabs, and any other settlement sensitive areas or features can be supported on conventional continuous or spread footings bearing on existing fill improved by compacted aggregated piers. Aggregate piers are recommended to improve the existing fill as discussed in the Ground Improvement section of this report.

Overexcavation of low consistency soils was considered as an option for ground improvement. Due to the depth of undercutting, shallow groundwater, and difficulties of excavating near an existing structure, overexcavation and replacement of the of existing fill and any soft native soils is not recommended.

Shallow foundation design and construction recommendations area provided in the Shallow Foundations section.

After the stripping of the site, the exposed subgrade in the parking areas should be compacted and then proof-rolled under the observation of the Geotechnical Engineer as further discussed in the Earthwork section of this report. Any soft, loose, or otherwise unstable soils excessively deflecting during the proof-roll should be undercut and replaced with structural fill or stabilized as discussed in the Earthwork section of this report.

The existing fill may become unstable with typical earthwork and construction traffic, especially after precipitation events. The effective drainage should be completed early in the construction sequence and maintained after construction to avoid potential issues. If possible, the grading should be performed during the warmer and drier times of the year. If grading is performed during the winter months, an increased risk for possible

undercutting and replacement of unstable subgrade will persist. Additional site preparation recommendations, including subgrade improvement and fill placement, are provided in the Earthwork section.

The recommendations contained in this report are based upon the results of field and laboratory testing (presented in the Exploration Results), engineering analyses, and our current understanding of the proposed project. The General Comments section provides an understanding of the report limitations.

Earthwork

Earthwork is anticipated to include demolition of existing hardscape, removal of existing asphalt pavement, excavations, and engineered fill placement. The following sections provide recommendations for use in the preparation of specifications for the work. Recommendations include critical quality criteria, as necessary, to render the site in the state considered in our geotechnical engineering evaluation for foundations, floor slabs, and pavements.

Demolition

Construction of the new Classroom Additions will require demolition of the existing pavements. We recommend utilities be removed from within the proposed building footprint and at least 5 feet beyond the outer edge of foundations.

For areas outside the proposed building footprint and foundation bearing zones, existing, pavements, and utilities should be removed where they conflict with the proposed pavements and utilities. In such cases, existing foundations, floor slabs, pavements and utilities should be removed to a depth of at least 2 feet below the affected utility or design pavement subgrade elevation.

Site Preparation

Prior to placing fill, the existing pavements should be completely removed, along with the complete stripping of any topsoil and organics exposed after pavements removal. Soft or loose soils are commonly encountered within existing utility trenches. If existing utilities are to be removed or rerouted from the site, all loose soil should be removed, and the trenches should be properly backfilled with new structural fill.

Subgrade Preparation – Building

Aggregate Pier Ground Improvement

Since aggregate piers are recommended to support shallow foundations and other settlement sensitive features, some minor initial surface stabilization within the building pad should be anticipated. The depth of the initial undercut or stabilizations should be determined based on an observation by the Geotechnical Engineer.

Following the initial stripping, Geotechnical Engineer's observation, and any recommended shallow undercutting the new engineered fill required to achieve the subgrade elevation can be place, compacted, and density-tested as described later in this section. However, the placement and compactions of lifts should generally be controlled to a degree that the final subgrade will support the aggregate pier installation procedures and other general earthwork. Open-graded stone or rock should not be used as grade-raise fill.

Subgrade Preparation – Pavement Areas

In future paved areas, after demolition and stripping of asphalt and topsoil, the exposed pavement subgrades should be densified using a heavy vibratory sheepsfoot roller. After densification/compaction, the subgrade should be proofrolled with an adequately loaded vehicle such as a fully-loaded tandem-axle dump truck. The proofrolling should be performed under the observation of the Geotechnical Engineer or representative. Areas excessively deflecting under the proofroll should be delineated and subsequently addressed by the Geotechnical Engineer. Such areas should either be removed, further densified in place, or stabilized by other methods discussed in the Soil Stabilization section. Excessively wet or dry material should either be removed or moisture conditioned and recompacted. Compacted structural fill soils should then be placed to the proposed design grade and the moisture content and compaction of subgrade soils should be maintained until foundation or pavement construction.

The existing fill could become unstable with typical earthwork and construction traffic, especially after precipitation events. The effective drainage should be completed early in the construction sequence and maintained after construction to avoid potential issues. If possible, the grading should be performed during the warmer and drier times of the year. If grading is performed during the winter months, an increased risk for possible undercutting and replacement of unstable subgrade will persist.

Excavation

We anticipate that excavations for the proposed construction can be accomplished with conventional earthmoving equipment. The bottom of excavations should be thoroughly

cleaned of loose soils and disturbed materials prior to backfill placement and/or construction.

Soil Stabilization

We anticipate some degree of disturbance to the subgrade after removal of the existing, utilities and pavements. Additionally, unstable subgrades may develop in areas subjected to repetitive construction traffic or if earthwork is performed during the wetter and cooler periods of the year. Methods of subgrade improvement, as described below, could include scarification, moisture conditioning and recompaction or removal of unstable materials. The appropriate method of improvement, if required, would be dependent on factors such as schedule, weather, the size of area to be stabilized, and the nature of the instability. More detailed recommendations can be provided during construction as the need for subgrade stabilization occurs. Performing site grading operations during warm seasons and dry periods would help reduce the amount of subgrade stabilization required.

If the exposed subgrade is unstable during proofrolling operations, it could be stabilized using one of the methods outlined below.

- Scarification and Recompaction - It may be feasible to scarify, dry, and recompact the exposed soils. The success of this procedure would depend primarily upon favorable weather and sufficient time to dry the soils. Stable subgrades likely would not be achievable if the thickness of the unstable soil is greater than about 1 foot, if the unstable soil is at or near groundwater levels, or if construction is performed during a period of wet or cool weather when drying is difficult.

- Crushed Stone - The use of crushed stone or crushed gravel combined with the use of high-modulus geotextiles (i.e. engineering fabric or geogrid) is a common procedure to improve subgrade stability. Typical undercut depths would be expected to range from about 12 to 18 inches below finished subgrade elevation. Prior to placing the fabric or geogrid, we recommend that all below grade construction, such as utility line installation, be completed to avoid damaging the fabric or geogrid. Equipment should not be operated above the fabric or geogrid until one full lift of crushed stone fill is placed above it. The maximum particle size of granular material placed over geotextile fabric or geogrid should not exceed 1-1/2 inches.

Further evaluation of the need and recommendations for subgrade stabilization can be provided during construction as the geotechnical conditions are exposed.

Fill Material Types

Fill required to achieve design grade should be classified as structural fill. Structural fill is material used below, or within 5 feet of structures, pavements or constructed slopes.

Property	Structural Fill
Composition	Free of deleterious material
Maximum particle size	4 inches
Fines content	Not limited
Plasticity	Liquid Limit less than 50 Plasticity index less than 25

Imported Fill Materials: Imported fill materials should meet the following material property requirements. Regardless of its source, compacted fill should consist of approved materials that are free of organic matter and debris. Frozen material should not be used, and fill should not be placed on a frozen subgrade.

Soil Type [1]	USCS Classification	Acceptable Parameters (for Structural Fill)
Low Plasticity Cohesive	CL, CL-ML ML, SM, SC	Liquid Limit less than 50 Plasticity index less than 30
Granular	GW, GP, GM, GC, SW, SP, SM, SC	Less than 50% passing No. 200 sieve

1. Structural fill should consist of approved materials free of organic matter and debris. Frozen material should not be used, and fill should not be placed on a frozen subgrade. A sample of each material type should be submitted to the Geotechnical Engineer for evaluation prior to use on this site. Additional geotechnical consultation should be provided prior to use of uniformly graded gravel on the site.

Fill Placement and Compaction Requirements

Structural fill should meet the following compaction requirements.

Item	Structural Fill

Maximum Lift Thickness	8 inches or less in loose thickness when heavy, self-propelled compaction equipment is used 4 to 6 inches in loose thickness when hand-guided equipment (i.e. jumping jack or plate compactor) is used
Minimum Compaction Requirements [1]	98% of the maximum standard proctor dry density
Water Content Range [1]	Low plasticity cohesive: -2% to +2% of optimum Granular: -3% to +3% of optimum

1. Maximum density and optimum water content as determined by the standard Proctor test (ASTM D 698).

Utility Trench Backfill

Any soft or unsuitable materials encountered at the bottom of utility trench excavations should be removed and replaced with structural fill or bedding material in accordance with public works specifications for the utility be supported. This recommendation is particularly applicable to utility work requiring grade control and/or in areas where subsequent grade raising could cause settlement in the subgrade supporting the utility. Trench excavation should not be conducted below a downward 1:1 projection from existing foundations without engineering review of shoring requirements and geotechnical observation during construction.

On-site materials are considered suitable for backfill of utility and pipe trenches, provided the material is free of organic matter and deleterious substances. However, material used as trench backfill should comply with the pipe manufacturer or governing municipality's requirements.

Trench backfill should be mechanically placed and compacted as discussed earlier in this report. Compaction of initial lifts should be accomplished with hand-operated tampers or other lightweight compactors. Where trenches are placed beneath slabs, footings, or pavements, the backfill should satisfy the gradation requirements of engineered fill discussed in this report. Flooding or jetting for placement and compaction of backfill is not recommended.

Grading and Drainage

All grades must provide effective drainage away from the building during and after construction and should be maintained throughout the life of the structure. Water retained next to the building can result in soil movements greater than those discussed in this report. Greater movements can result in unacceptable differential floor slab

and/or foundation movements, cracked slabs and walls, and roof leaks. In areas where hardscapes and/or paving do not abut against the structure, the roof should have gutters/drains with downspouts that discharge onto splash blocks at a distance of at least 10 feet from the building.

Exposed ground should be sloped and maintained at a minimum 5% away from the building for at least 10 feet beyond the perimeter of the building. Locally, flatter grades may be necessary to transition ADA access requirements for flatwork. After building construction and landscaping have been completed, final grades should be verified to document effective drainage has been achieved. Grades around the structure should also be periodically inspected and adjusted, as necessary, as part of the structure's maintenance program. Where paving or flatwork abuts the structure, a maintenance program should be established to effectively seal and maintain joints and prevent surface water infiltration.

Earthwork Construction Considerations

Shallow excavations for the proposed structure are anticipated to be accomplished with conventional construction equipment. Upon completion of filling and grading, care should be taken to maintain the subgrade water content prior to construction of grade-supported improvements such as floor slabs and pavements. Construction traffic over the completed subgrades should be avoided. The site should also be graded to prevent ponding of surface water on the prepared subgrades or in excavations. Water collecting over or adjacent to construction areas should be removed. If the subgrade freezes, desiccates, saturates, or is disturbed, the affected material should be removed, or the materials should be scarified, moisture conditioned, and recompacted prior to floor slab construction.

As a minimum, excavations should be performed in accordance with OSHA 29 CFR, Part 1926, Subpart P, "Excavations" and its appendices, and in accordance with any applicable local and/or state regulations.

Construction site safety is the sole responsibility of the contractor who controls the means, methods, and sequencing of construction operations. Under no circumstances shall the information provided herein be interpreted to mean Terracon is assuming responsibility for construction site safety or the contractor's activities; such responsibility shall neither be implied nor inferred.

Construction Observation and Testing

The earthwork efforts should be observed by the Geotechnical Engineer (or others under their direction). Observation should include documentation of adequate removal of surficial materials (vegetation, topsoil, and pavements), evaluation and remediation of

existing fill materials, as well as proofrolling and mitigation of unsuitable areas delineated by the proofroll.

Each lift of compacted fill should be tested, evaluated, and reworked, as necessary, as recommended by the Geotechnical Engineer prior to placement of additional lifts. Each lift of fill should be tested for density and water content at a frequency of at least one test for every 2,500 square feet of compacted fill in the building areas and 5,000 square feet in pavement areas. Where not specified by local ordinance, one density and water content test should be performed for every 50 linear feet of compacted utility trench backfill and a minimum of one test performed for every 12 vertical inches of compacted backfill.

In areas of foundation excavations, the bearing subgrade should be evaluated by the Geotechnical Engineer in accordance with the specifications of the rammed aggregate pier designer.

In addition to the documentation of the essential parameters necessary for construction, the continuation of the Geotechnical Engineer into the construction phase of the project provides the continuity to maintain the Geotechnical Engineer's evaluation of subsurface conditions, including assessing variations and associated design changes.

Ground Improvement

The building's shallow foundations, floor slabs, and any other settlement sensitive features can be supported on the existing fill if ground improvement methods are utilized. Ground improvement methods are proprietary systems designed by licensed contractors who could provide further information regarding support options.

A ground improvement alternative that may allow more efficient shallow foundation support (i.e., higher allowable bearing pressures and/or lower estimated settlement) includes the installation of aggregate piers. An aggregate pier consists of a stone-filled column constructed by excavating a cylindrical hole and backfilling it with crushed stone placed in lifts and applying a high degree of compactive effort resulting in stone filled piers. The aggregate pier construction process not only results in a rigid stone-filled column that lends support to structures, it also helps to densify the soils surrounding the pier. Aggregate pier foundations are a proprietary product and, if considered, should be designed and installed by a geotechnical specialty contractor. Due to the specialty of this soil improvement procedure, we recommend that a performance specification be used for this system.

We understand if aggregate pier foundations are utilized, the aggregate pier design firm will be the geotechnical engineer of record for these foundations. As such, the design firm would provide the necessary design parameters for the planned foundation system

including, but not limited to, allowable bearing capacity, settlement estimates and foundation-specific earthwork recommendations.

The proprietary design calculations should demonstrate that aggregate pier soil improvement is estimated to control long-term total and differential foundation settlements to less than 1-inch and ½-inch, respectively.

In order to document that the aggregate piers are installed in accordance with the design-build documents, it is recommended that a geotechnical engineer or qualified soils technician who is independent of the contractor perform continuous observation during compacted stone column installation. An accurate record should be kept of the date, depth of penetration, bearing material and other pertinent data for each compacted stone column.

Shallow Foundations

If the site has been prepared in accordance with the requirements noted in Earthwork, the following design parameters are applicable for shallow foundations.

Design Parameters – Compressive Loads

Item	Description
Maximum Net Allowable Bearing Pressure [1, 2]	The allowable bearing pressure will be provided by the aggregate pier designers.
Required Bearing Stratum [3]	Existing fill improved by aggregate piers, or engineered fill supported by the improved existing fill
Minimum Foundation Dimensions	Per IBC 1809.7
Ultimate Passive Resistance[4] (equivalent fluid pressures)	330 pcf (cohesive backfill)
Sliding Resistance [5]	0.30 ultimate coefficient of friction –
Minimum Embedment below Finished Grade [6]	18 inches
Estimated Total Settlement from Structural Loads [2]	Less than about 1 inch, or as detailed by the rammed aggregate pier designer
Estimated Differential Settlement [2, 7]	About 1/2 of total settlement, or as detailed by the rammed aggregate pier designer

1. The maximum net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation. Values assume that exterior grades are no steeper than 20% within 10 feet of structure.
2. Values provided are for maximum loads noted in Project Description. Additional geotechnical consultation will be necessary if higher loads are anticipated.
3. Existing fill improved by aggregate piers.
4. Use of passive earth pressures require the sides of the excavation for the spread footing foundation to be nearly vertical and the concrete placed neat against these vertical faces or that the footing forms be removed and compacted structural fill be placed against the vertical footing face. Assumes no hydrostatic pressure. Apply a factor of safety of at least 1.5 when designing for lateral force resistance.
5. Can be used to compute sliding resistance where foundations are placed on improved on-site soil/materials. Frictional resistance for granular materials is dependent on the bearing pressure which may vary due to load combinations.
6. Embedment necessary to minimize the effects of frost and/or seasonal water content variations. For sloping ground, maintain depth below the lowest adjacent exterior grade within 5 horizontal feet of the structure.
7. Differential settlements are noted for equivalent-loaded foundations and bearing elevation as measured over a span of 50 feet.
8. The allowable bearing pressure will be provided by the aggregate pier designers.

Design Parameters – Overturning and Uplift Loads

Shallow foundations subjected to overturning loads should be proportioned such that the resultant eccentricity is maintained in the center-third of the foundation (e.g., e < b/6, where b is the foundation width). This requirement is intended to keep the entire foundation area in compression during the extreme lateral/overturning load event. Foundation oversizing may be required to satisfy this condition.

Uplift resistance of spread footings can be developed from the effective weight of the footing and the overlying soils with consideration to the IBC basic load combinations.

Item	Description
Soil Moist Unit Weight	120 pcf
Soil Effective Unit Weight[1]	58 pcf
Soil weight included in uplift resistance	Soil included within the prism extending up from the top perimeter of the footing at an angle of 20 degrees from vertical to ground surface

1. Effective (or buoyant) unit weight should be used for soil above the foundation level and below a water level. The high groundwater level should be used in uplift design as applicable.

Foundation Construction Considerations

As noted in Earthwork, the footing excavations should be evaluated under the observation of the Geotechnical Engineer. The base of all foundation excavations should be free of water and loose soil, prior to placing concrete. Concrete should be placed soon after excavating to reduce bearing soil disturbance. Care should be taken to prevent wetting or drying of the bearing materials during construction. Excessively wet or dry material or any loose/disturbed material in the bottom of the footing excavations should be removed/reconditioned before foundation concrete is placed.

Sensitive soils exposed at the surface of footing excavations may require surficial compaction with hand-held dynamic compaction equipment prior to placing structural fill, steel, and/or concrete. Should surficial compaction not be adequate, construction of a working surface consisting of either crushed stone or a lean concrete mud mat may be required prior to the placement of reinforcing steel and construction of foundations.

Floor Slabs

Design parameters for floor slabs assume the requirements for Earthwork (including installation of the rammed aggregate piers) have been followed. Specific attention should be given to positive drainage away from the structure and positive drainage of the aggregate base beneath the floor slab.

Depending upon the site and weather conditions at the time of construction, unsuitable, weak, and/or loose soils may be observed at the floor slab subgrade level. These soils should be densified in place or undercut and replaced with structural fill.

Floor Slab Design Parameters

Item	Description
Floor Slab Support[1]	Minimum 4 inches base course meeting material specifications of ACI 302 Subgrade compacted to recommendations in Earthwork
Estimated Modulus of Subgrade Reaction [2]	100 pounds per square inch per inch (psi/in) for point loads

1. Floor slabs should be structurally independent of building footings or walls to reduce the possibility of floor slab cracking caused by differential movements between the slab and foundation.
2. Modulus of subgrade reaction is an estimated value based upon our experience with the subgrade condition, the requirements noted in Earthwork, and the

floor slab support as noted in this table. It is provided for point loads. For large area loads the modulus of subgrade reaction would be lower.

The use of a vapor retarder should be considered beneath concrete slabs on grade covered with wood, tile, carpet, or other moisture sensitive or impervious coverings, when the project includes humidity-controlled areas, or when the slab will support equipment sensitive to moisture. When conditions warrant the use of a vapor retarder, the slab designer should refer to ACI 302 and/or ACI 360 for procedures and cautions regarding the use and placement of a vapor retarder.

Saw-cut contraction joints should be placed in the slab to help control the location and extent of cracking. For additional recommendations, refer to the ACI Design Manual. Joints or cracks should be sealed with a waterproof, non-extruding compressible compound specifically recommended for heavy duty concrete pavement and wet environments.

Where floor slabs are tied to perimeter walls or turn-down slabs to meet structural or other construction objectives, our experience indicates differential movement between the walls and slabs will likely be observed in adjacent slab expansion joints or floor slab cracks beyond the length of the structural dowels. The Structural Engineer should account for potential differential settlement through use of sufficient control joints, appropriate reinforcing or other means.

Floor Slab Construction Considerations

Finished subgrade, within and for at least 10 feet beyond the floor slab, should be protected from traffic, rutting, or other disturbance and maintained in a relatively moist condition until floor slabs are constructed. If the subgrade should become damaged or desiccated prior to construction of floor slabs, the affected material should be removed, and structural fill should be added to replace the resulting excavation. Final conditioning of the finished subgrade should be performed immediately prior to placement of the floor slab support course.

The Geotechnical Engineer should observe the condition of the floor slab subgrades immediately prior to placement of the floor slab support course, reinforcing steel, and concrete. Attention should be paid to high traffic areas that were rutted and disturbed earlier, and to areas where backfilled trenches are located.

Pavements

General Pavement Comments

Pavement designs are provided for the traffic conditions and pavement life conditions as noted in Project Description and in the following sections of this report. A critical aspect of pavement performance is site preparation. Pavement designs noted in this section must be applied to the site which has been prepared as recommended in the Earthwork section.

Pavement Design Parameters

A minimum California Bearing Ratio (CBR) of 4 was assumed for the subgrade for the asphaltic concrete (AC) pavement designs. A modulus of subgrade reaction of 100 pci was used for the Portland cement concrete (PCC) pavement designs. The value was derived based upon our experience with the existing fill subgrade soils at the site, and our expectation of the quality of the subgrade as prescribed by the Site Preparation conditions as outlined in Earthwork. A modulus of rupture of 580 psi was used in design for the concrete (based on correlations with a minimum 28-day compressive strength of 4,000 psi).

Pavement Section Thicknesses

The following table provides our opinion of minimum thickness for AC sections:

Asphaltic Concrete Design

Layer	Thickness (inches)	
	Light Duty [1]	Heavy Duty [1]
AC Wearing Surface [2, 3]	1.0	1.5
AC Binder [2]	2.0	2.5
Aggregate Base [2]	6.0	8.0

1. See Project Description for more specifics regarding traffic assumptions.
2. All materials should meet the current Alabama Department of Transportation (ALDOT) Standard Specifications for Highway Construction.
    - Asphaltic Surface - ALDOT 424A Superpave Bituminous Concrete Wearing Surface Layer, ½ inch maximum aggregate size mix

- Asphaltic Binder - ALDOT 424B Superpave Bituminous Concrete Upper Binder Layer, ¾ inch maximum aggregate size mix
- Aggregate Base – ALDOT 825B Dense Graded Aggregate Base, compacted to 100% of the modified Proctor

3. A minimum 1.0-inch surface course should be used on ACC pavements.

The following table provides our estimated minimum thickness of PCC pavements.

Portland Cement Concrete Design

Layer	Thickness (inches)	
	Light Duty [1]	Heavy Duty [1]
PCC [2]	5.0	6.0
Aggregate Base	4.0	4.0

1. See Project Description for more specifics regarding traffic classifications.
2. All materials should meet Section 450 of the Alabama Department of Transportation (ALDOT) Standard Specifications for Highway Construction.

Areas for parking of heavy vehicles, concentrated turn areas, and start/stop maneuvers could require thicker pavement sections. Edge restraints (i.e. concrete curbs or aggregate shoulders) should be planned along curves and areas of maneuvering vehicles.

A minimum 4-inch thick base course layer is recommended to help reduce potential for slab curl, shrinkage cracking, and subgrade pumping through joints. Proper joint spacing will also be required to prevent excessive slab curling and shrinkage cracking. Joints should be sealed to prevent entry of foreign material and doweled where necessary for load transfer. PCC pavement details for joint spacing, joint reinforcement, and joint sealing should be prepared in accordance with ACI 330 and ACI 325.

Where practical, we recommend early-entry cutting of crack-control joints in PCC pavements. Cutting of the concrete in its “green” state typically reduces the potential for micro-cracking of the pavements prior to the crack control joints being formed, compared to cutting the joints after the concrete has fully set. Micro-cracking of pavements may lead to crack formation in locations other than the sawed joints, and/or reduction of fatigue life of the pavement.

Openings in pavements, such as decorative landscaped areas, are sources for water infiltration into surrounding pavement systems. Water can collect in the islands and migrate into the surrounding subgrade soils thereby degrading support of the pavement. Islands with raised concrete curbs, irrigated foliage, and low permeability near-surface

soils are particular areas of concern. To reduce the risk of excess water migrating into the surrounding subgrade, the curb and gutter could be placed directly on the cohesive soil subgrade rather than on the unbound granular base course.

Pavement Drainage

Pavements should be sloped to provide rapid drainage of surface water. Water allowed to pond on or adjacent to the pavements could saturate the subgrade and contribute to premature pavement deterioration. In addition, the pavement subgrade should be graded to provide positive drainage within the granular base section.

Pavement Maintenance

The pavement sections represent minimum recommended thicknesses and, as such, periodic upkeep should be anticipated. Preventive maintenance should be planned and provided for through an on-going pavement management program. Maintenance activities are intended to slow the rate of pavement deterioration and to preserve the pavement investment. Pavement care consists of both localized (e.g., crack and joint sealing and patching) and global maintenance (e.g., surface sealing). Additional engineering consultation is recommended to determine the type and extent of a cost-effective program. Even with periodic maintenance, some movements and related cracking may still occur, and repairs may be required.

Pavement performance is affected by its surroundings. In addition to providing preventive maintenance, the civil engineer should consider the following recommendations in the design and layout of pavements:

- Final grade adjacent to paved areas should slope down from the edges at a minimum 2%.
- Subgrade and pavement surfaces should have a minimum 2% slope to promote proper surface drainage, unless flatter slopes are required for ADA compliance.
- Install joint sealant and seal cracks immediately.
- Seal all landscaped areas in or adjacent to pavements to reduce moisture migration to subgrade soils.
- Place compacted, low permeability backfill against the exterior side of curb and gutter.
- Place curb, gutter and/or sidewalk directly on cohesive subgrade soils rather than on unbound granular base course materials.

General Comments

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly effect excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety and cost estimating including excavation support and dewatering requirements/design are the responsibility of others. Construction and site development have the potential to affect adjacent properties. Such impacts can include damages due to vibration, modification of groundwater/surface water flow during construction, foundation movement due to undermining or subsidence from excavation, as well as noise or air quality concerns. Evaluation of these items on nearby properties are commonly associated with contractor means and methods and are not addressed in this report. The owner and contractor should consider a preconstruction/precondition survey of surrounding development. If changes in the nature, design, or location of the project are planned, our conclusions and

recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

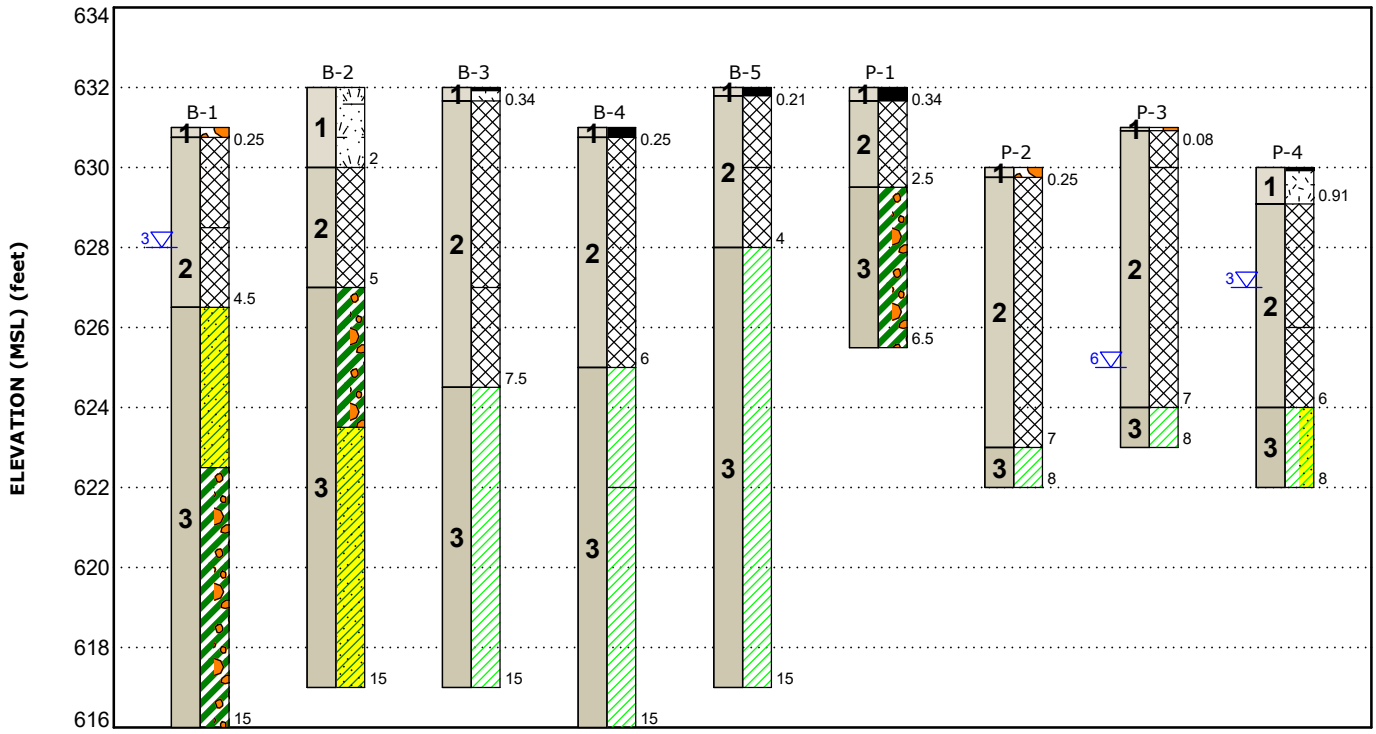
Figures

Contents:

Ashville High School Classroom Addition
33215 US 231 | Ashville, AL
Terracon Project No. E1255061

Terracon
2147 Riverchase Office Rd
Hoover, AL

GeoModel



This is not a cross section. This is intended to display the Geotechnical Model only. See individual logs for more detailed conditions.

Model Layer	Layer Name	General Description
1	Surface Material	Asphalt ranging from 1 to 4 inches-thick with base 3 to 10 inches-thick, gravel ranging 1 to 3 inches-thick, and topsoil 6 inches-thick
2	Existing Fill	Sandy silt with gravel and lean clay with gravel, with variable amounts of organics, N-values range from 2 to 23 blows per foot
3	Native Clays	Fat clay with gravel (CH) and lean clay (CL) with variable amounts of sand and chert, typically, medium stiff to hard except the upper 2 feet of boring B-1

Legend

- Poorly-graded Gravel
- Fill
- Sandy Lean Clay
- Fat Clay with Gravel
- Topsoil
- Asphalt
- Base
- Lean Clay
- Lean Clay with Sand

▽ First Water Observation

Groundwater levels are temporal. The levels shown are representative of the date and time of our exploration. Significant changes are possible over time.
Water levels shown are as measured during and/or after drilling. In some cases, boring advancement methods mask the presence/absence of groundwater. See individual logs for details.

NOTES:
Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project. Numbers adjacent to soil column indicate depth below ground surface.

Attachments

Exploration and Testing Procedures

Field Exploration

Number of Borings	Approximate Boring Depth (feet)	Location
5	15	Building Area
4	6.5 to 8	Parking and Driving Lanes

Boring Layout and Elevations: Terracon personnel provided the boring layout using existing site features. If a more precise boring layout is desired, we recommend borings be surveyed.

Subsurface Exploration Procedures: We advanced the borings with a truck-mounted, rotary drill rig using continuous flight augers (solid stem and/or hollow stem, as necessary, depending on soil conditions). Four samples were obtained in the upper 10 feet of each boring and at intervals of 5 feet thereafter. In the split-barrel sampling procedure, a standard 2-inch outer diameter split-barrel sampling spoon was driven into the ground by a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths. For safety purposes, all borings were backfilled with auger cuttings after their completion and the upper portion of the borehole was plugged with a cement mixture.

We also observed the boreholes while drilling and at the completion of drilling for the presence of groundwater. Groundwater was encountered while drilling in borings B-1, P-3, and P-4.

The sampling depths, penetration distances, and other sampling information was recorded on the field boring logs. The samples were placed in appropriate containers and taken to our soil laboratory for testing and classification by a Geotechnical Engineer. Our exploration team prepared field boring logs as part of the drilling operations. These field logs included visual classifications of the materials observed during drilling and our interpretation of the subsurface conditions between samples. Final boring logs were prepared from the field logs. The final boring logs represent the Geotechnical Engineer's interpretation of the field logs and include modifications based on observations and tests of the samples in our laboratory.

Laboratory Testing

The project engineer reviews the field data and assigns various laboratory tests to better understand the engineering properties of the various soil. Procedural standards noted below are for reference to methodology in general. In some cases, variations to methods are applied because of local practice or professional judgment. Standards noted below include reference to other, related standards. Such references are not necessarily applicable to describe the specific test performed:

- Moisture Content
- Atterberg Limits

The laboratory testing program often included examination of soil samples by an engineer. Based on the results of our field and laboratory programs, we described and classified the soil samples in accordance with the Unified Soil Classification System.

Site Location and Exploration Plans

Contents:

Site Location Plan
Exploration Plan

Note: All attachments are one page unless noted above.

Site Location

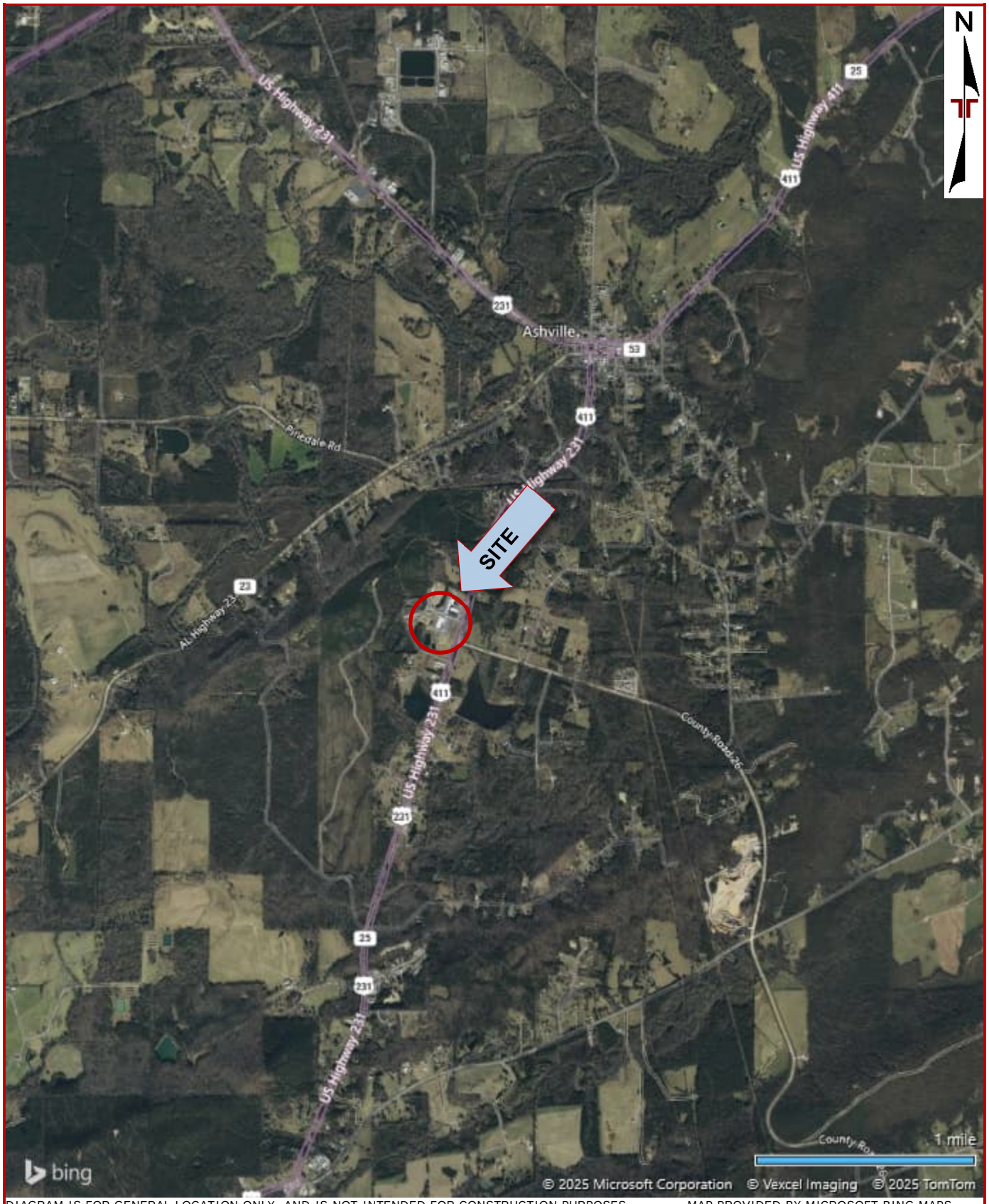


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES MAP PROVIDED BY MICROSOFT BING MAPS

Exploration Plan

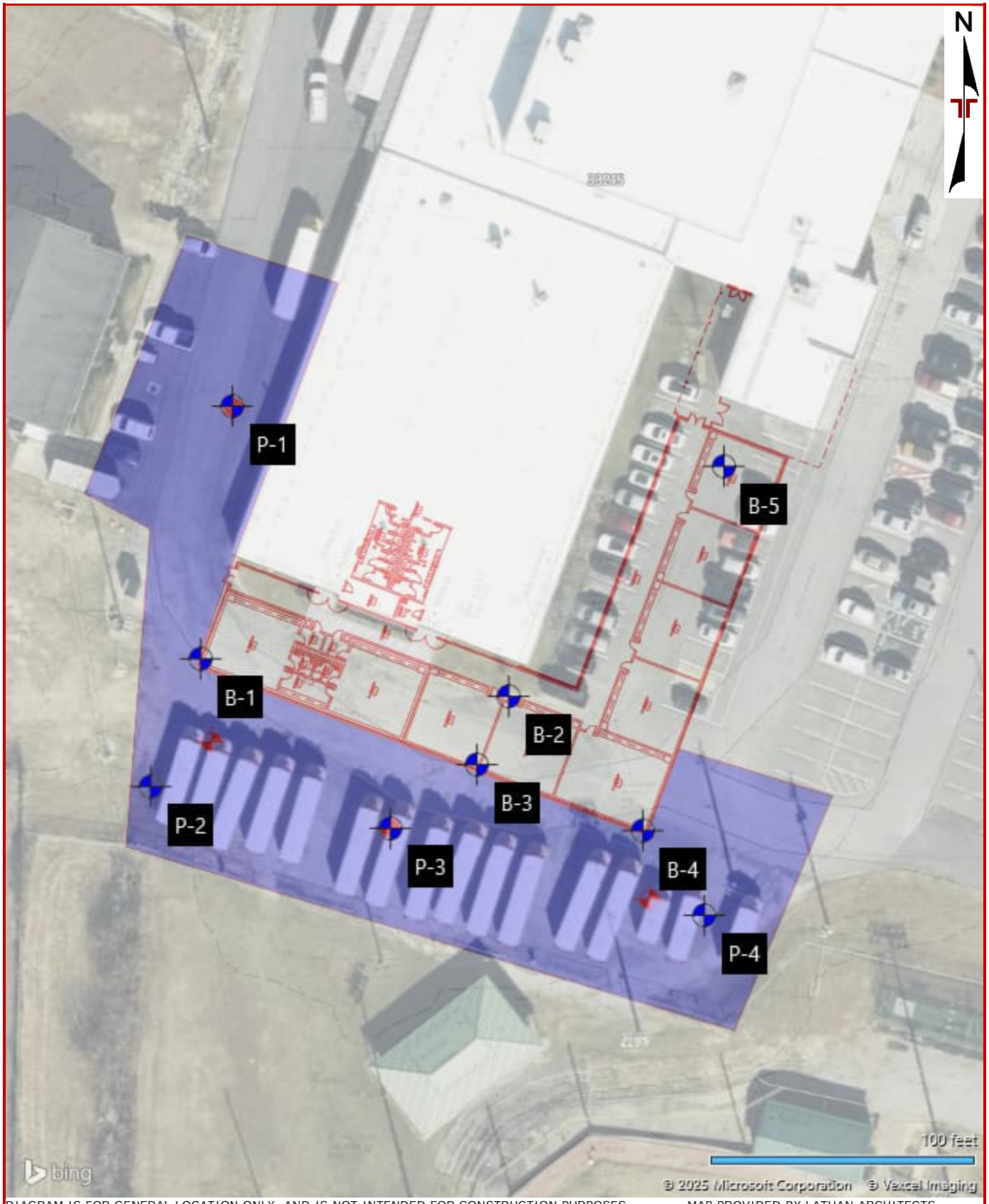


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY LATHAN ARCHITECTS

Exploration and Laboratory Results

Contents:

Boring Logs (B-1 through B-5 and P-1 through P-4)

Note: All attachments are one page unless noted above.

Ashville High School Classroom Addition
33215 US 231 | Ashville, AL
Terracon Project No. E1255061

Terracon
2147 Riverchase Office Rd
Hoover, AL

Boring Log No. B-1

Model Layer	Graphic Log	Location: See Exploration Plan Depth (Ft.) / Elevation: 631 (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits LL-PL-PI	Percent Fines
1		0.3 **GRAVEL (3")** 630.75							
2		**FILL - SANDY SILT WITH GRAVEL**, light brown				2-5-6 N=11			
		2.5 628.5							
		FILL - LEAN CLAY, trace gravel, gray		▽		2-3-2 N=5	16.5		
		4.5 626.5							
		SANDY LEAN CLAY (CL), with fine gravel, tan with light gray, very soft to soft	5			WOH-2-1 N=3	19.1		
		becomes stiff							
		8.5 622.5							
3		**FAT CLAY WITH GRAVEL (CH)**, tan, stiff				3-6-5 N=11	25.4		
		becomes very stiff	10						
		15.0 616				4-15-13 N=28			
		Boring Terminated at 15 Feet	15						

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).
See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
▽ Water observed at 3' during drilling

Drill Rig
Mobile B-46

Driller
UES

Notes

Advancement Method
Hollow stem auger

Logged by
THB

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Boring Started
04-22-2025

Boring Completed
04-22-2025

Ashville High School Classroom Addition
33215 US 231 | Ashville, AL
Terracon Project No. E1255061

Terracon
2147 Riverchase Office Rd
Hoover, AL

Boring Log No. B-2

Model Layer	Graphic Log	Location: See Exploration Plan Depth (Ft.) — Elevation: 632 (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits LL-PL-PI	Percent Fines
1		**TOPSOIL (24")** 2.0 — 630				1-3-4 N=7			
2		**FILL - LEAN CLAY WITH GRAVEL**, tan with gray 5.0 — 627				2-3-2 N=5	37.4	38-18-20	
		FAT CLAY WITH GRAVEL (CH), yellowish brown, medium stiff 8.5 — 623.5	5			2-3-3 N=6	38.0		
3		**SANDY LEAN CLAY (CL)**, with chert, light brown, hard, contains relict rock bedding becomes very stiff 15.0 — 617	10			12-18-19 N=37	10.3		
						6-7-18 N=25			
		Boring Terminated at 15 Feet	15						

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).
See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Water not observed during drilling

Drill Rig
Mobile B-46

Driller
UES

Notes

Advancement Method
Hollow stem auger

Logged by
THB

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Boring Started
04-22-2025

Boring Completed
04-22-2025

Ashville High School Classroom Addition
33215 US 231 | Ashville, AL
Terracon Project No. E1255061

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2147 Riverchase Office Rd
Hoover, AL

Boring Log No. B-3

Model Layer	Graphic Log	Location: See Exploration Plan Depth (Ft.) / Elevation: 632 (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits LL-PL-PI	Percent Fines
1		0.1 **ASPHALT (1")** 631.92 0.3 **BASE (3")** 631.66							
2		**FILL - SANDY SILT WITH GRAVEL**, orange with gray				4-4-5 N=9			
						5-3-3 N=6			
		5.0 627	5						
		FILL - LEAN CLAY, with organics, llight brown				2-1-3 N=4	34.1		
		7.5 624.5							
3		**LEAN CLAY (CL)**, with chert, orangish tan, very stiff	10			5-6-9 N=15	11.3		
						8-10-15 N=25			
		15.0 617	15						
		Boring Terminated at 15 Feet							

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Water not observed during drilling

Drill Rig
Mobile B-46

Driller
UES

Notes

Advancement Method
Hollow stem auger

Logged by
THB

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Boring Started
04-22-2025

Boring Completed
04-22-2025

Ashville High School Classroom Addition
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Boring Log No. B-4

Model Layer	Graphic Log	Location: See Exploration Plan Depth (Ft.) / Elevation: 631 (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits LL-PL-PI	Percent Fines
1		0.3 **ASPHALT (3")** 630.75							
2		**FILL - SANDY SILT WITH GRAVEL**, with organics, orange with gray				7-3-8 N=11			
		without organics				4-5-8 N=13	17.8		
		with rootlets	5			2-2-3 N=5	33.1		
		6.0 625							
3		**LEAN CLAY (CL)**, orangish tan, medium stiff							
		9.0 622							
		LEAN CLAY (CL), with chert, orange, hard	10			10-18-23 N=41	17.7		
		15.0 616	15			11-18-50/5" N=50+			
		Boring Terminated at 15 Feet							

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Water not observed during drilling

Drill Rig
Mobile B-46

Driller
UES

Notes

Advancement Method
Hollow stem auger

Logged by
THB

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Boring Started
04-22-2025

Boring Completed
04-22-2025

Ashville High School Classroom Addition
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Boring Log No. B-5

Model Layer	Graphic Log	Location: See Exploration Plan Depth (Ft.) / Elevation: 632 (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits LL-PL-PI	Percent Fines
1		0.2 **ASPHALT (2.5")** 631.79							
2		**FILL - SANDY SILT WITH GRAVEL**, tan with gray				8-4-4 N=8			
		2.0 630							
		FILL - LEAN CLAY (CH), yellowish brown				1-1-2 N=3	36.7		
		4.0 628							
3		**LEAN CLAY (CH)**, orangish tan, soft	5			1-3-5 N=8	31.3		
		becomes orange with gray							
		becomes very stiff, with chert	10			6-10-14 N=24	16.9		
						4-8-17 N=25			
		15.0 617	15						
		Boring Terminated at 15 Feet							

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).
See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Water not observed during drilling

Drill Rig
Mobile B-46

Driller
UES

Notes

Advancement Method
Hollow stem auger

Logged by
THB

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Boring Started
04-22-2025

Boring Completed
04-22-2025

Ashville High School Classroom Addition
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Terracon
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Hoover, AL

Boring Log No. P-1

Model Layer	Graphic Log	Location: See Exploration Plan Depth (Ft.) / Elevation: 632 (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits LL-PL-PI	Percent Fines
1		0.3 **ASPHALT (4")** 631.66							
2		**FILL - SANDY SILT WITH GRAVEL**, reddish brown 2.5 629.5				11-5-5 N=10			
3		**FAT CLAY WITH GRAVEL (CH)**, yellowish brown, medium stiff without gravel 6.5 625.5	5			2-2-2 N=4 2-2-4 N=6			
		Boring Terminated at 6.5 Feet							

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).
See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Water not observed during drilling

Drill Rig
Mobile B-46

Driller
UES

Notes

Advancement Method
Hollow stem auger

Logged by
THB

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Boring Started
04-22-2025

Boring Completed
04-22-2025

Ashville High School Classroom Addition
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Boring Log No. P-2

Model Layer	Graphic Log	Location: See Exploration Plan Depth (Ft.) / Elevation: 630 (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits LL-PL-PI	Percent Fines
1		0.3 **GRAVEL (3")** 629.75							
2		**FILL - LEAN CLAY WITH GRAVEL**, yellowish brown				5-2-2 N=4			
		becoms yellowish brown with gray				2-3-4 N=7	25.6		
		with organics	5			1-2-2 N=4			
		7.0 623							
3		**LEAN CLAY (CL)**, medium gray with brown, stiff				2-4-4 N=8			
		8.0 622							
		Boring Terminated at 8 Feet							

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
Water not observed during drilling

Drill Rig
Mobile B-46

Driller
UES

Notes

Advancement Method
Hollow stem auger

Logged by
THB

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Boring Started
04-22-2025

Boring Completed
04-22-2025

Ashville High School Classroom Addition
33215 US 231 | Ashville, AL
Terracon Project No. E1255061

Terracon
2147 Riverchase Office Rd
Hoover, AL

Boring Log No. P-3

Model Layer	Graphic Log	Location: See Exploration Plan Depth (Ft.) / Elevation: 631 (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits LL-PL-PI	Percent Fines
1		0.1 **GRAVEL (1")** 630.92 **FILL - SANDY SILT WITH GRAVEL**, orange 1.0 630				6-3-2 N=5			
2		**FILL - LEAN CLAY**, gray with organics and gravel 7.0 624	5	▽		1-2-4 N=6 2-3-2 N=5			
3		**LEAN CLAY (CL)**, medium gray with brown, stiff 8.0 623				1-4-5 N=9			
		Boring Terminated at 8 Feet							

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).
See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
▽ Water observed at 6' during drilling

Drill Rig
Mobile B-46

Driller
UES

Notes

Advancement Method
Hollow stem auger

Logged by
THB

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Boring Started
04-22-2025

Boring Completed
04-22-2025

Ashville High School Classroom Addition
33215 US 231 | Ashville, AL
Terracon Project No. E1255061

Terracon
2147 Riverchase Office Rd
Hoover, AL

Boring Log No. P-4

Model Layer	Graphic Log	Location: See Exploration Plan Depth (Ft.) / Elevation: 630 (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits LL-PL-PI	Percent Fines
1		0.1 **ASPHALT (1")** 629.92 **BASE (10")** 0.9 629.09				11-13-10 N=23			
2		**FILL - LEAN CLAY WITH GRAVEL**, orangish tan 4.0 626		▽		4-4-2 N=6	19.5		
		FILL - LEAN CLAY WITH GRAVEL, gray 6.0 624	5			1-1-1 N=2			
3		**LEAN CLAY WITH SAND (CL)**, yellowish brown with light gray, stiff 8.0 622				2-5-6 N=11			
		Boring Terminated at 8 Feet							

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).
See Supporting Information for explanation of symbols and abbreviations.

Water Level Observations
▽ Water observed at 3' during drilling

Drill Rig
Mobile B-46

Driller
UES

Notes

Advancement Method
Hollow stem auger

Logged by
THB

Abandonment Method
Boring backfilled with auger cuttings upon completion.

Boring Started
04-22-2025

Boring Completed
04-22-2025

Supporting Information

Contents:

Note: All attachments are one page unless noted above.

Terracon
2147 Riverchase Office Rd
Hoover, AL

General Notes

Sampling	Water Level	Field Tests
Standard Penetration Test	Water Initially Encountered Water Level After a Specified Period of Time Water Level After a Specified Period of Time Cave In Encountered Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.	N Standard Penetration Test Resistance (Blows/Ft.) (HP) Hand Penetrometer (T) Torvane (DCP) Dynamic Cone Penetrometer UC Unconfined Compressive Strength (PID) Photo-Ionization Detector (OVA) Organic Vapor Analyzer

Descriptive Soil Classification

Soil classification as noted on the soil boring logs is based Unified Soil Classification System. Where sufficient laboratory data exist to classify the soils consistent with ASTM D2487 "Classification of Soils for Engineering Purposes" this procedure is used. ASTM D2488 "Description and Identification of Soils (Visual-Manual Procedure)" is also used to classify the soils, particularly where insufficient laboratory data exist to classify the soils in accordance with ASTM D2487. In addition to USCS classification, coarse grained soils are classified on the basis of their in-place relative density, and fine-grained soils are classified on the basis of their consistency. See "Strength Terms" table below for details. The ASTM standards noted above are for reference to methodology in general. In some cases, variations to methods are applied as a result of local practice or professional judgment.

Location And Elevation Notes

Exploration point locations as shown on the Exploration Plan and as noted on the soil boring logs in the form of Latitude and Longitude are approximate. See Exploration and Testing Procedures in the report for the methods used to locate the exploration points for this project. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

Strength Terms

Relative Density of Coarse-Grained Soils
(More than 50% retained on No. 200 sieve.)
Density determined by Standard Penetration Resistance

Relative Density	Standard Penetration or N-Value (Blows/Ft.)
Very Loose	0 - 3
Loose	4 - 9
Medium Dense	10 - 29
Dense	30 - 50
Very Dense	> 50

Consistency of Fine-Grained Soils
(50% or more passing the No. 200 sieve.)
Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance

Consistency	Unconfined Compressive Strength Qu (tsf)	Standard Penetration or N-Value (Blows/Ft.)
Very Soft	less than 0.25	0 - 1
Soft	0.25 to 0.50	2 - 4
Medium Stiff	0.50 to 1.00	5 - 8
Stiff	1.00 to 2.00	9 - 15
Very Stiff	2.00 to 4.00	16 - 30
Hard	> 4.00	> 30

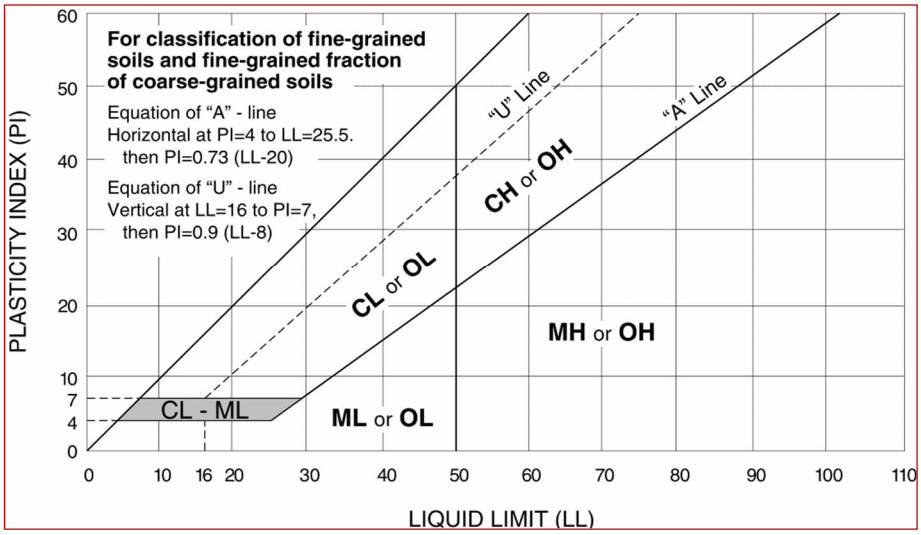
Relevance of Exploration and Laboratory Test Results

Exploration/field results and/or laboratory test data contained within this document are intended for application to the project as described in this document. Use of such exploration/field results and/or laboratory test data should not be used independently of this document.

Unified Soil Classification System

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [A]				Soil Classification	
				Group Symbol	Group Name [B]
Coarse-Grained Soils: More than 50% retained on No. 4 sieve	Gravels: More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels: Less than 5% fines [C]	Cu≥4 and 1≤Cc≤3 [E]	GW	Well-graded gravel [F]
			Cu<4 and/or [Cc<1 or Cc>3.0] [E]	GP	Poorly graded gravel [F]
		Gravels with Fines: More than 12% fines [C]	Fines classify as ML or MH	GM	Silty gravel [F, G, H]
			Fines classify as CL or CH	GC	Clayey gravel [F, G, H]
	Sands: 50% or more of coarse fraction passes No. 4 sieve	Clean Sands: Less than 5% fines [D]	Cu≥6 and 1≤Cc≤3 [E]	SW	Well-graded sand [I]
			Cu<6 and/or [Cc<1 or Cc>3.0] [E]	SP	Poorly graded sand [I]
		Sands with Fines: More than 12% fines [D]	Fines classify as ML or MH	SM	Silty sand [G, H, I]
			Fines classify as CL or CH	SC	Clayey sand [G, H, I]
Fine-Grained Soils: 50% or more passes the No. 200 sieve	Silts and Clays: Liquid limit less than 50	Inorganic:	PI > 7 and plots above "A" line [J]	CL	Lean clay [K, L, M]
			PI < 4 or plots below "A" line [J]	ML	Silt [K, L, M]
		Organic:	$\frac{LL\ oven\ dried}{LL\ not\ dried}$ < 0.75	OL	Organic clay [K, L, M, N]
					Organic silt [K, L, M, O]
	Silts and Clays: Liquid limit 50 or more	Inorganic:	PI plots on or above "A" line	CH	Fat clay [K, L, M]
			PI plots below "A" line	MH	Elastic silt [K, L, M]
		Organic:	$\frac{LL\ oven\ dried}{LL\ not\ dried}$ < 0.75	OH	Organic clay [K, L, M, P]
					Organic silt [K, L, M, Q]
Highly organic soils:	Primarily organic matter, dark in color, and organic odor			PT	Peat

[A] Based on the material passing the 3-inch (75-mm) sieve.
[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.
[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.
[D] Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.
[E] $Cu = D_{60}/D_{10}$ $Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$
[F] If soil contains ≥ 15% sand, add "with sand" to group name.
[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.
[H] If fines are organic, add "with organic fines" to group name.
[I] If soil contains ≥ 15% gravel, add "with gravel" to group name.
[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.
[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.
[L] If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name.
[M] If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.
[N] PI ≥ 4 and plots on or above "A" line.
[O] PI < 4 or plots below "A" line.
[P] PI plots on or above "A" line.
[Q] PI plots below "A" line.



1.0 - GENERAL

1.1 Section Includes

A. Stand-alone roof equipment screens and supporting steel framework. Screens shall be designed to attach to the roof structure and not the equipment being screened.

B. Roof screen accessories.

1.2 Related Sections

A. Section 03300 - Cast-In-Place Concrete: Execution requirements for embedded anchors and attachments for metal fabrications specified by this section in concrete.
B. Section 04210 - Masonry Anchorage and Reinforcement: Installation of anchors.
C. Section 05120 - Structural Steel: Metal Framing.
D. Section 05310 - Steel Floor Deck.
E. Section 05500 - Metal Fabrications: Frames and supports.
F. Section 09910 - Paints and Coatings: Field applied paint finish.
G. Division 15 - Roof Top HVAC Equipment.

1.3 References

A. ASTM A 500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
B. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
C. ASTM A 666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
D. ASTM A 1008 - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable.
E. ASTM B 749 - Standard Specification for Lead and. Lead Alloy Strip, Sheet, and Plate Products.
F. ASTM D 4811 - Standard Specification for Nonvulcanized (Uncured) Rubber Sheet Used as Roof Flashing.
G. ASTM D 6878 - Standard Specification for Thermoplastic Polyolefin Based Sheet Roofing.
H. ASCE 7 - Minimum Design Loads for Buildings and Other Structures.
I. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination.
J. AWS D1.1 - Structural Welding Code - Steel.
K. AWS D1.6 - Structural Welding Code - Stainless Steel.

1.4 Coordination

A. Coordinate Work with other operations and installation of roofing materials to avoid damage to installed insulation and membrane materials.

1.5 Action Submittals

A. Submit under provisions of Section 013300.
B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.

3. Installation methods.

C. Shop Drawings: Layout and erection drawings showing typical cross sections and dimensioned locations of all frames and base supports. Include erection drawings, elevations, and details where applicable. Indicate welded connections using standard AWS A2.4 welding symbols. Indicate net weld lengths.

D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.

E. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, shape, and patterns.

1.6 Informational Submittals

A. Design Calculations: 3 copies of structural design calculations for structural components and components resisting wind loads with seal and signature of professional engineer licensed in the State of Alabama.

B. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

C. Welders Certificates: Certify welders employed on the Work, verifying AWS qualification within previous 12 months.

D. Warranties: 3 signed copies.

1.7 Quality Assurance

A. Manufacturer Qualifications: Manufacturer with a minimum five years documented experience in producing pre-manufactured metal-framed equipment screens.

B. Design Qualifications: Provide structural design calculations stamped by a professional engineer licensed in the state in which this project is located.

C. Welders: AWS certified within previous 12 months.

D. Pre-Installation Meeting:

1. Convene at job site, at least seven calendar days prior to scheduled beginning of construction activities of this section, to review requirements of this section.
2. Require attendance by representatives of the installing subcontractor (who will represent the system manufacturer), the mechanical subcontractors and other entities affected by construction activities of this section.
3. Notify Architect four calendar days in advance of scheduled meeting date.

E. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.

1. Locate in area designated by Architect.
2. Construct mock-up, one full screen section wide, including two roof supports.
3. Do not proceed with remaining work until workmanship, color, and location is approved by Architect.
4. Remove mock-up if required by Architect.
5. Accepted mock-up may remain in place.

1.8 Delivery, Storage, And Handling

A. Deliver materials to the project site clearly marked for proper identification.

B. Receive, handle and store materials in conformance with the manufacturers printed instructions.

C. Store products under cover, in manufacturer's unopened packaging until ready for installation.

D. Protect materials from exposure to moisture.

E. Store materials in a dry, warm, ventilated weathertight location.

F. Protect metal fabrications from damage by exposure to weather.

G. Handling: Use a forklift or crane to move material. Do not lift the bundles by the metal bands.

1. Fork Lift: Spread the forks as far as possible to balance the load. Drive slowly when moving long bundles over uneven surfaces to avoid tipping the load
2. Crane: Position the canvas sling straps so that the space between the straps is at least 1/3 the length of the bundle. Use sling straps with looped ends running one end of the strap through the loop at the other end to cinch the bundle when lifted. When setting the load on the roof, put wood blocks under it to protect the roof and allow space to remove the sling straps.
3. Roof Placement: Spread the bundles and crates out as much as possible to avoid overloading the roof structure. Place the material directly over major supports such as beams or trusses.
4. Position bundles of tubing parallel to the slope of the roof and block prior to opening to prevent the tubing from rolling down the roof slope when unbundled.

1.9 Project Conditions

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

B. Field Measurements: Verify roof screen dimensions and conditions of the installation by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabricating equipment enclosure without field measurements. Coordinate construction to ensure that actual dimensions correspond to established dimensions.

1.10 Warranty

A. Framing System: Provide manufacturer's standard written limited warranty stating that the complete framing system shall be warranted against structural failure due to cracking, buckling, bending, tearing or corrosion arising under normal use and environmental conditions for the coverage period applicable.

1. Products installed on projects located 2 miles or greater from salt or brackish bodies of water shall be warranted for twenty (20) years
2. Products installed on projects located greater than 1 mile but less than 2 miles from salt or brackish bodies of water will be warranted for five (5) years, except for aluminum, stainless steel or copper Products which will be warranted for twenty (20) years.
3. Products installed on projects located 1 mile or less from salt or brackish bodies of water will be warranted for three (3) years, except for aluminum, stainless steel or copper Products which will be warranted for twenty (20) years

B. Panel Finish:

1. Provide written warranty stating that the paint finish applied on all equipment enclosure panels will be warranted against chipping, peeling, cracking, fading, or blistering for the coverage period of twenty (20) years.
2. Provide warranty signed by the panel manufacturer and paint finish applicator (if separate from manufacturer).

C. Louvers: Refer to Section 08910, Louvers
D. The above warranties are in addition to, and not a limitation of, other rights the Owner may have under the Contract Documents.

2.0 - PRODUCTS

2.1 Performance Requirements

A. Design Loads: Comply with Building Code for site location and building height.
1. Design to resist ASCE 7 - Minimum Design Loads for Buildings and Other Structures.
2. Design all materials, assembly and attachments to resist snow, wind, suction and uplift loading at any point without damage or permanent set.

B. Structural Design: Prepare structural design calculations for screen framing and attachment to structure including reactions at base supports for verification of roof structure by Architect.

C. All welds to be performed by an AWS certified welder. Valid certification to be provided.

2.2 Manufacturers

A. Acceptable Manufacturer: RoofScreen Mfg., which is the Basis of Design.

B. Comparable products may be pre-approved. See Section 01360 - Product Substitutions. Requests for substitutions will be considered in accordance with provisions of Section 01360. Submit 10 days prior to bid. Approval shall be in writing via Addendum.

2.3 Materials

A. Square Base Supports: Weldments fabricated from cold rolled steel conforming to ASTM A 1008, fabricated with pre-punched holes in base plate for fastening to roof structure. After fabrication, apply minimum 2 to 4 mil baked on powder coat primer.
1. Height 5 inches (127 mm).
2. Height 9 inches (229 mm).
3. Height 12 inches (305 mm).

B. Square Base Support Extensions: Fabricated from same material and finish as base supports.
1. Height 3 inches (76 mm).
2. Height 4 inches (101 mm).

C. Square Base Cap: Weldments fabricated from AISI Type 304 stainless steel with mill finish, and fabricated to overlap base support and flashing boot a minimum of 2 inches (51 mm). Provide moment resisting adjustable connection to attach framing to base cap.

D. Round Post Supports: 12 inch (305 mm) tall weldments fabricated from galvanized steel tube conforming to ASTM A 500 and cold rolled steel plate conforming to ASTM A36, fabricated with pre-punched holes in base plate for fastening to roof structure. After fabrication, apply minimum 2 to 4 mil shop primer to base plate and weld. Provide height adjustment with galvanized tube

sleeve conforming to ASTM A 500, sized to telescope over outside of round post tube and fastened at desired height with self-drilling, self-tapping screws.

E. Round Post Cap: Weldments fabricated from AISI Type 304 stainless steel with mill finish fabricated to slip over 2-1/2" sleeve tube allowing adjustable height when used with Round Post Support.

F. Square Galvanized Roof Flashing: Fabricated from galvanized sheet steel, 24 gauge, conforming to ASTM A 653/A 653M. Provide with [galvanized sheet steel, 24 gauge (ASTM A 653/A 653M)] [lead, 4 psf (ASTM B 749)] base flange that extends a minimum of 4 inches (102 mm) onto the roof surface on all four sides. Riser shall be tapered to allow easy fit over Square Base Supports with minimal gap at top of flashing. Solder all seams for water tightness.

G. Square Copper Roof Flashing: Fabricated from cold rolled copper sheet, 16 oz per sq ft, conforming to ASTM B 370. Provide with [copper sheet (ASTM B 370), 16 oz per sq ft] [lead, 4 psf (ASTM B 749)] base flange that extends a minimum of 4 inches (102 mm) onto the roof surface on all four sides. Riser shall be tapered to allow easy fit over Square Base Supports with minimal gap at top of flashing. Solder all seams for water tightness.

H. Square TPO Roof Flashing: Fabricated from 60 mil, white, single ply TPO sheet conforming to ASTM D 6878. Provide with base flange that extends a minimum of 5 inches (127 mm) onto the roof surface on all four sides. Riser shall be tapered to allow easy fit over Square Base Supports with minimal gap at top of flashing. Hot weld all seams for water tightness.

I. Square PVC Roof Flashing: Fabricated from 60 mil, white, single ply PVC sheet conforming to ASTM D 4434. Provide with base flange that extends a minimum of 5 inches (127 mm) onto the roof surface on all four sides. Riser shall be tapered to allow easy fit over Square Base Supports with minimal gap at top of flashing. Hot weld all seams for water tightness.

J. Round Lead Roof Flashing: Fabricated from sheet lead, 4 psf, conforming to ASTM B 749. Provide with base flange that extends a minimum of 5 inches (127 mm) onto the roof surface on all four sides. Solder all seams for water tightness.

K. Round TPO Roof Flashing: Fabricated from 60 mil, white, single ply TPO sheet conforming to ASTM D 6878. Provide with base flange that extends a minimum of 5 inches (127 mm) onto the roof surface on all four sides. Hot weld all seams for water tightness.

L. Round PVC Roof Flashing: Fabricated from 60 mil, white, single ply PVC sheet conforming to ASTM D 4434. Provide with base flange that extends a minimum of 5 inches (127 mm) onto the roof surface on all four sides. Hot weld all seams for water tightness.

M. Roof Flashing: Refer to Division 07 section that specifies the roof membrane.

N. Base Cap Gasket: EPDM with self-adhesive closed cell foam.

O. Framing: Carbon steel structural tubing in manufacturer’s standard sizes, conforming to ASTM A 500 with manufacturer’s standard galvanized coating conforming to ASTM B 117 salt spray testing. Provide with wall thickness as determined by structural calculations.

P. Connector Fittings: Fabricated from AISI Type 304 stainless steel with mill finish.

Q. Steel Z section: Steel sheet conforming to ASTM A 653, Class SS, with a G90 hot-dip galvanized coating.

R. Steel Hat Channel: Steel sheet conforming to ASTM A 653, Class SS, with a G90 hot-dip galvanized coating.

S. Hardware: Bolts, nuts, washers and screws 18-8 stainless steel.

T. Welding Materials: AWS D1.1; type required for materials being welded.

U. Panel:
1. Profile:
   a. 7.2 Rib Panel.
   b. 3 inch Deep Rib Panel.
   c. Flush Panel.
   d. R Panel.
   e. U Panel.
   f. 7/8 inch (22 mm) Corrugated.
   g. Flush Textured Panel.
2. Base Metal:
   i. Minimum 26 gauge Galvalume steel sheet, AZ50, conforming to ASTM A 792 for painted and unpainted panels.
   j. Minimum 24 gauge Galvalume steel sheet, AZ50, conforming to ASTM A 792 for painted and unpainted panels.
3. Finish:
   l. PVDF fluoropolymer, 1 mil, 2 coat, 70 percent.
   m. Siliconized polyester thermoset coating, 0.90 mil minimum dry film thickness.
   n. Color as selected by Architect from manufacturer's standard color range, 20 colors minimum.
   o. Coat reverse side with off-white primer coat.
4. Panel Fasteners: No. 14 self-tapping sheet metal screw. Color coat heads to match panel color.
5. Panel Trim: Same material and finish as panel. Configuration as shown on Drawings

V. Panel: Panel No. _____ as manufactured by _____.
1. Base Metal: _____.
2. Finish: _____.
3. Panel Fasteners: _____.
4. Panel Trim: _____.

W. Louvers: Refer to Section 089100, Louvers.

2.4 Fabrication

A. Fit and shop assemble items in largest practical sections, for delivery to site.

B. Fabricate items with joints tightly fitted and secured.

C. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

D. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where

specifically noted otherwise.

E. Fabricate system components so that portions of screen can be dismantled for repairs to equipment being screened and for future roof replacement.

F. Trim and Closures: Fabricated from 24 gauge metal and finished with the manufacturer's standard coating system.

3.0 - EXECUTION

3.1 Examination

A. Examine area where work will be installed to verify the installation can be performed in accordance with the Drawings and structural calculation requirements without interference from other equipment or trades.

B. If preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

C. Do not begin installation until conditions have been properly prepared.

3.2 Preparation

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 Installation

A. Install in accordance with manufacturer's instructions.

B. Install components plumb and level, accurately fitted, free from distortion or defects.

C. Provide for erection loads, and for sufficient temporary bracing to maintain indicated alignment until completion of erection and installation of permanent attachments.

D. Anchor fabrications to structure as indicated.

E. Separate dissimilar metals and use gasketed fasteners, isolation shim, or isolation tape to eliminate possibility of corrosive or electrolytic action between metals.

F. Exercise care when installing components so as not to damage finish surfaces. Touch up as required to repair damaged finishes.

G. Install flashing boots at base supports as required to provide a watertight connection. Install as recommended by the roof membrane manufacturer.

H. Remove all protective masking from material immediately after installation.

3.4 Cleaning And Protection

A. Remove all protective masking from framing and trim material immediately after installation. Remove temporary protective coverings and strippable films, if any,

as metal wall panels are installed, unless otherwise indicated in manufacturer's written installation instructions. Maintain in a clean condition during construction.

B. Protect installed products until completion of project.
   1. Ensure that finishes and structure of installed systems are not damaged by subsequent construction activities.
   2. If minor damage to finishes occurs, repair damage in accordance with manufacturer's recommendations; provide replacement components if repaired finishes are unacceptable to Architect.

C. Prior to Substantial Completion: Remove dust or other foreign matter from component surfaces; clean finishes in accordance with manufacturer's instructions.

D. Replace metal wall panels and framing members that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Manufactured carbon steel bollards of the following types:
   a. Fixed. (TIB-67-SA)

1.2 REFERENCES

A. ASTM International (ASTM):
   1. ASTM F2656 - Standard Test Method for Crash Testing of Vehicle Security Barriers.
   2. ASTM F3016 - Standard Test Method for Surrogate Testing of Vehicle Impact Protective Devices at Low Speeds.

B. European Standard EN124 - Specification for Manhole Covers, Road Gully Gratings and Frames for Drainage Purposes.

C. Manual on Uniform Traffic Control Devices (MUTCD).

D. Military Surface Deployment and Distribution Command Transportation Engineering Agency (SDDCTEA).

1.3 SUBMITTALS

A. Submit under provisions of Section 01 30 00 - Administrative Requirements.

B. Product Data:
   1. Manufacturer's data sheets on each product to be used.
   2. Preparation instructions and recommendations.
   3. Storage and handling requirements and recommendations.
   4. Typical installation methods.
   5. Operation and Maintenance Manuals.

C. Verification Samples: Two representative units of each type, size, pattern, and color.

D. Shop Drawings: Include details of materials, construction, and finish. Include relationship with adjacent construction.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.

B. Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.

C. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

~~D. Mock-Up: Construct a mock-up with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.~~
   ~~1. Intent of mock-up is to demonstrate quality of workmanship and visual appearance.~~
   ~~2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.~~
   ~~3. Retain mock-up during construction as a standard for comparison with completed work.~~
   ~~4. Do not alter or remove mock-up until work is completed or removal is authorized.~~

1.5 PRE-INSTALLATION CONFERENCE

A. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store and handle in strict compliance with manufacturer's written instructions and recommendations.

B. Protect from damage due to weather, excessive temperature, and construction operations.

1.7 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.8 WARRANTY

A. Manufacturer's standard limited warranty unless indicated otherwise.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Barrier1 Systems, LLC, which is located at: 5335 US Hwy. 220 Summerfield, NC 27358.

B. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

2.2 SC40 CRASH RATED BOLLARDS

A. Performance Requirements:
1. Protective Bollards shall be steel pipe with prefabricated stock cap 6” diameter 7’ steel painted pipe bollards filled with concrete set 3’-6” deep in 15” diameter concrete footing. Bollards shall be placed 3’-6” from connection and spaced around the perimeter at 48” o.c. max. ~~Crash Resistance, ASTM F2656: SC40 rated. Stops 2,430 lbs (1,102 kg) vehicles at 42.6 mph (68.6 kph) with less than 24 inches (610 mm) of penetrations~~.

~~B. Basis of Design: Tomcat Traffic Impact Bollard Model TIB-67-SA; as manufactured by Barrier1 Systems, LLC.~~
~~1. Description: Fixed steel bollard.~~
~~2. Material: 6-5/8 inch (168 mm) outside diameter steel pipe.~~
~~3. Bollard Height: Approximately 36 inches (914 mm).~~
~~4. Weight: 160 pounds (72.6 kg).~~
~~5. Foundation Depth: 30 inches (762 mm).~~
~~6. Bollard Spacing: As indicated on Drawings.~~
~~7. Cover: As indicated on Drawings.~~
~~8. Cover: Stainless steel.~~

PART 3 - EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly constructed and prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

A. Install in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction.

3.4 FIELD QUALITY CONTROL

A. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.
   1. Testing and Commissioning Completion: Prior to turnover.
   2. Field test each control panel button, traffic light, safety loop, safety light, and other features. Complete Formal Testing and Commissioning with customer in field, where barrier system and operations are signed off as "APPROVED" prior to turnover.

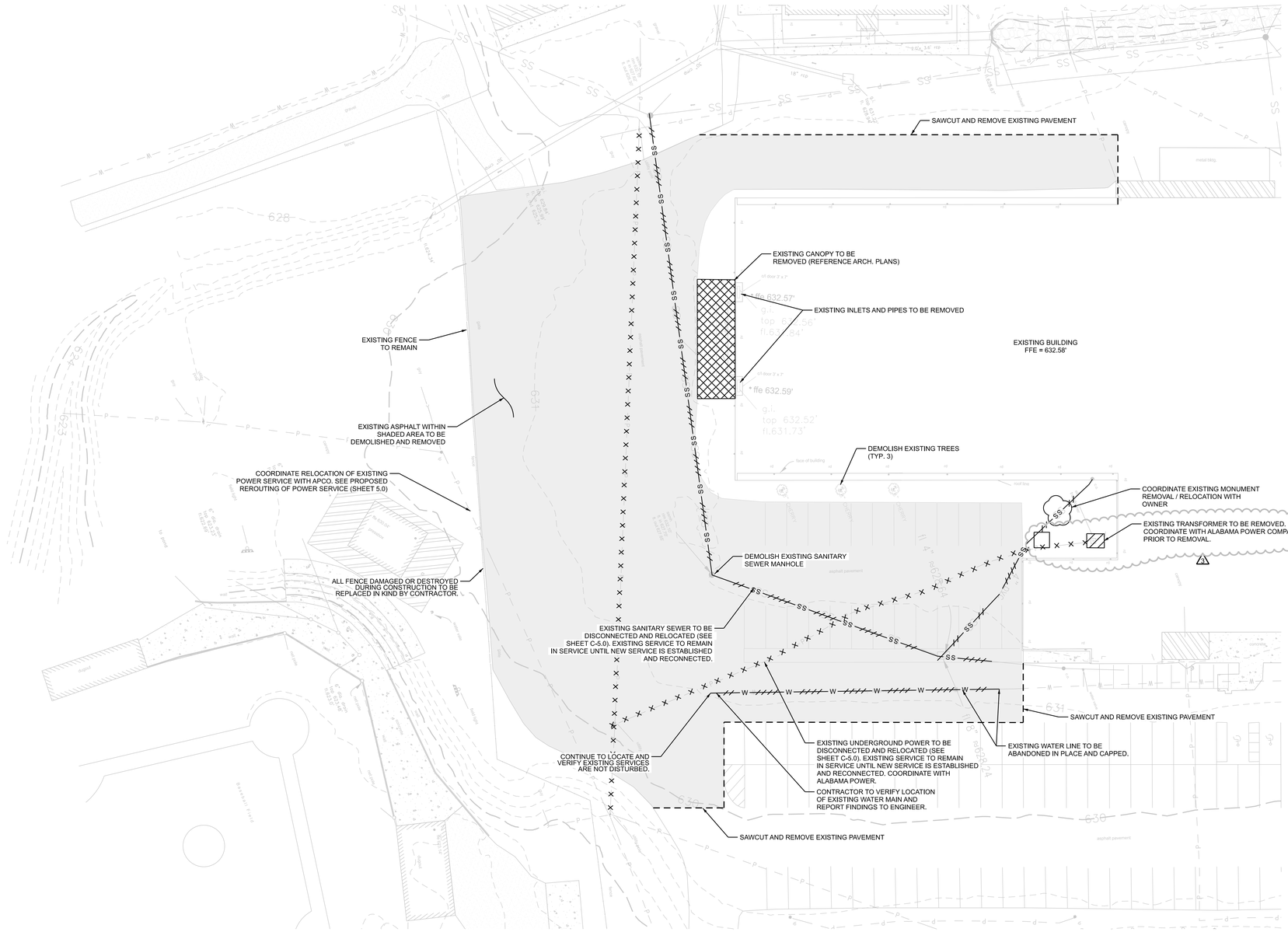
B. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.

3.5 CLEANING AND PROTECTION

A. Clean products in accordance with the manufacturer’s recommendations.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION



DEMOLITION NOTES

1. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE ADEQUACY AND INSTALLATION OF ALL TEMPORARY SHORING & BRACING SYSTEMS USED DURING THE PERFORMANCE OF THIS WORK.
2. WORK SHALL BE PERFORMED BY SKILLED AND PROPERLY EQUIPPED PERSONNEL. PROMPTLY REPAIR DAMAGES CAUSED BY DEMOLITION OPERATIONS.
3. REMOVE EXISTING CONSTRUCTION TO THE EXTENT NECESSARY FOR THE PROPER INSTALLATION OF NEW CONSTRUCTION AND JUNCTION WITH EXISTING WORK. CUT BACK FINISHED SURFACES TO STRAIGHT, PLUMB, OR LEVEL LINES AS REQUIRED.
4. WHERE OPENINGS ARE CUT OVERSIZED OR AT IMPROPER LOCATIONS AS DETERMINED BY THE ENGINEER, REPLACE THE EXCESS REMOVED MATERIAL AS INSTRUCTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
5. COORDINATE DEMOLITION WITH OTHER TRADES TO ASSURE THE PROPER SEQUENCE, LIMITS, METHODS AND TIME OF PERFORMANCE. SCHEDULE WORK SO AS TO IMPOSE A MINIMUM HARDSHIP ON THE PERFORMANCE OF WORK OF OTHER TRADES.
6. DEMOLITION SCHEDULE IN GENERAL, MATERIALS SHALL BE REMOVED AS FOLLOWS:
   A. REMOVE EXISTING BUILDINGS, FOUNDATIONS, CONCRETE PADS AND OTHER STRUCTURES. REMOVE ANY LEAD BASED PAINTS OR ASBESTOS CONTAINING MATERIALS PRIOR TO STRUCTURE DEMOLITION. PROVIDE FULL DEPTH SAWCUT AT ALL PAVEMENT REMOVALS.
   B. ASPHALT PAVEMENT AND PORTLAND CEMENT CONCRETE WHICH ARE INDICATED FOR REMOVAL; SAW CUT TO CLEAN, STRAIGHT, PERPENDICULAR LINES, UNLESS OTHERWISE SHOWN ON DRAWINGS. JACK HAMMERING IS NOT ACCEPTABLE, UNLESS INDICATED ON PLANS. CUT BACK CONCRETE WHEN NEW WORK WILL JOIN EXISTING TO PROVIDE KEY. PROVIDE WET VACUUM EQUIPMENT AS REQUIRED FOR CONTROL WASTE COOLING WATER.
   C. CURB: SAW CUT TO CLEAN, STRAIGHT, PERPENDICULAR LINES.
   D. REMOVE CONCRETE STRUCTURES OR PORTIONS OF STRUCTURES EXTENDING BELOW GRADE COMPLETELY.
   E. DEMOLITION SCHEDULE CAN BE ADJUSTED BY CONTRACTOR AS NECESSARY TO BEST FIT COORDINATION EFFORTS, HOWEVER, UTILITY SERVICE DISCONNECTS TO BE PERFORMED IN INITIAL DEMOLITION PLANS IF REQUIRED. DEPRESSIONS LEFT BY FOUNDATIONS, PIPE OR STRUCTURE REMOVALS SHALL BE BACKFILLED WITH STRUCTURAL FILL AND PROPERLY COMPACTED IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
7. WORK NOT MENTIONED TO BE REMOVED THAT INTERFERES WITH NEW CONSTRUCTION SHALL BE CUT AND REMOVED TO PROVIDE FOR PROPER INTERFACE WITH NEW CONSTRUCTION, OR PATCHING AND REPAIR, AS REQUIRED.
8. ALL MATERIALS INCLUDING DEBRIS FROM CLEARING AND BUILDING DEMOLITION SHALL BE DISPOSED OF IN AN APPROPRIATE OFF-SITE LOCATION. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FOR BOTH DEMOLITION WORK AND WASTE MATERIAL DISPOSAL INCLUDING ANY ADDITIONAL TESTING FOR LEAD BASED PAINT AND/OR ASBESTOS.
9. CERTAIN BUILDINGS ARE KNOWN TO CONTAIN ASBESTOS CONTAINING MATERIALS. REMOVE AND DISPOSE OF ASBESTOS CONTAINING MATERIALS IN ACCORDANCE WITH ST.CLAIR COUNTY HEALTH DEPARTMENT. BUILDINGS REQUIRING DEMOLITION AS SHOWN ON THIS SHEET HAVE HAD AN ASBESTOS INVESTIGATION COMPLETED. THESE DOCUMENTS WILL BE PROVIDED TO THE CONTRACTOR. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AN ASBESTOS INVESTIGATION FOR THESE BUILDINGS.
10. CITY OF ASHVILLE WATER AND SEWER AND ALABAMA GAS CORPORATION IS RESPONSIBLE FOR ALL WATER AND GAS DEMOLITION AND/OR RELOCATION. CONTRACTOR IS RESPONSIBLE FOR COORDINATING HIS DEMOLITION SCHEDULES WITH CITY OF CULLMAN WATER & WASTEWATER DEPARTMENT AND CULLMAN-JEFFERSON GAS. CITY OF CULLMAN WATER & WASTEWATER AND CULLMAN-JEFFERSON GAS WILL ABANDON IN PLACE ALL GAS AND WATER MAINS AND SERVICES THAT ARE CALLED TO BE RELOCATED OR REMOVED. IN ADDITION CITY OF CULLMAN WATER & WASTEWATER AND CULLMAN-JEFFERSON GAS WILL CAP ABANDONED WATER AND GAS MAINS AT 5 FEET EACH SIDE OF ALL PROPOSED UNDERGROUND UTILITIES AFTER NEW MAIN IS INSTALLED.
11. ALL WATER AND GAS VALVES THAT ARE NOT REMOVED OR RELOCATED SHALL BE ADJUSTED TO GRADE BY CITY OF ASHVILLE WATER AND SEWER AND ALABAMA GAS CORPORATION.

CAUTION NOTICE TO CONTRACTOR:

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE THE CONTRACTOR MUST CALL AT LEAST 48 HOURS BEFORE ANY SITE DISTURBANCE OR EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

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3528 Vann Road
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Birmingham, AL 35235
Phone: (205) 655-1991
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LATHAN ▪ McKEE ARCHITECTS

NEW CLASSROOM ADDITION FOR
ASHVILLE HIGH SCHOOL
33125 US-231, ASHVILLE, AL 35953
ST. CLAIR COUNTY BOARD OF EDUCATION

SHEET TITLE: DEMOLITION PLAN

ALABAMA LICENSED No. 35231 PROFESSIONAL ENGINEER WILLIAM DAVID DRILL
09-09-2025

PROJ. MGR.: R. VERNON
DRAWN: SAB
DATE: 09/08/2025
REVISIONS
1 ADDENDUM 4

JOB NO. 24-106
SHEET NO: C-2.0

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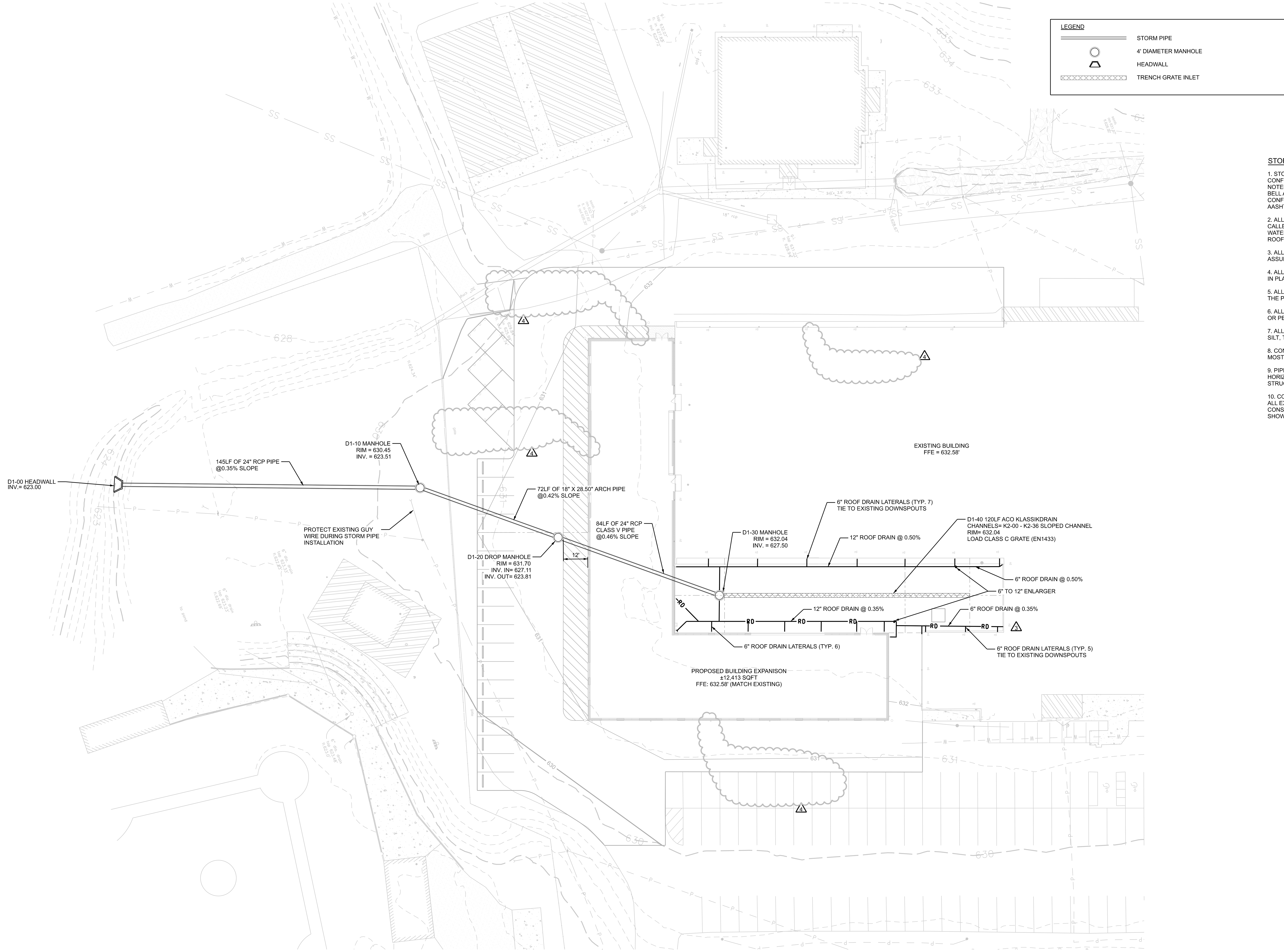

0 10 20 40

SCALE IN FEET
1" = 20'

STORM DRAINAGE NOTES:

1. STORM PIPE SHALL BE REINFORCED CONCRETE PIPE (RCP), CONFORMING TO ASTM C-76, B OR C WALL, CLASS III OR CLASS V, (UNLESS NOTED OTHERWISE ON PLAN). JOINTS SHALL BE TONGUE AND GROOVE OR BELL AND SPIGOT, WHICH MUST BE SEALED WITH RUBBER GASKETS CONFORMING TO ASTM 443 OR FLEXIBLE GASKETS CONFORMING TO AASHTO M 198, UNLESS NOTED OTHERWISE.

2. ALL ROOF COLLECTORS SHALL BE PVC OR HDPE. SIZE SHALL BE AS CALLED OUT ON THIS SHEET. CONTRACTORS SHALL PROVIDE A WATERTIGHT CONNCECTION FROM ROOF DRAIN TO COLLECTOR WHERE ROOF DRAIN EXITS BUILDING FOUNDATION.

3. ALL PIPE ENTERING STORM SEWER STRUCTURES SHALL BE GROUTED TO ASSURE THE CONNECTION AT THE STRUCTURE IS WATER TIGHT.

4. ALL STORM SEWER MANHOLES AND INLETS SHALL BE PRECAST OR CAST IN PLACE AND MEET THE SPECIFICATIONS OF ASTM C478.

5. ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH THE PAVEMENT AND SHALL HAVE TRAFFIC BEARING LIDS.

6. ALL STORM SEWER MANHOLE LIDS SHALL BE LABELED "STORM SEWER". OR PER CITY STANDARDS.

7. ALL STORM DRAINAGE PIPE AND STRUCTURES SHALL BE CLEANED OF SILT, TRASH AND DEBRIS PRIOR TO DEMOBILIZATION FROM THE SITE.

8. CONTRACTOR IS TO BEGIN STORM DRAINAGE CONSTRUCTION FROM THE MOST DOWN STREAM POINT OF THE SYSTEM.

9. PIPE LENGTH AND SLOPES ARE APPROXIMATE. PIPE LENGTH ARE HORIZONTAL PROJECTIONS AND ARE MEASURED FROM THE MIDDLE OF THE STRUCTURE. DISTANCES ARE ROUNDED TO THE NEAREST WHOLE FOOT.

10. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING STORM STRUCTURES, PIPES AND UTILITIES PRIOR TO CONSTRUCTION. ANY DEVIATIONS OR CONFLICTS FROM THE LOCATIONS SHOWN SHALL BE REPORTED TO THE ENGINEER PRIOR TO CONSTRUCTION.

CAUTION NOTICE TO CONTRACTOR:

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NEW CLASSROOM ADDITION FOR

ASHVILLE HIGH SCHOOL

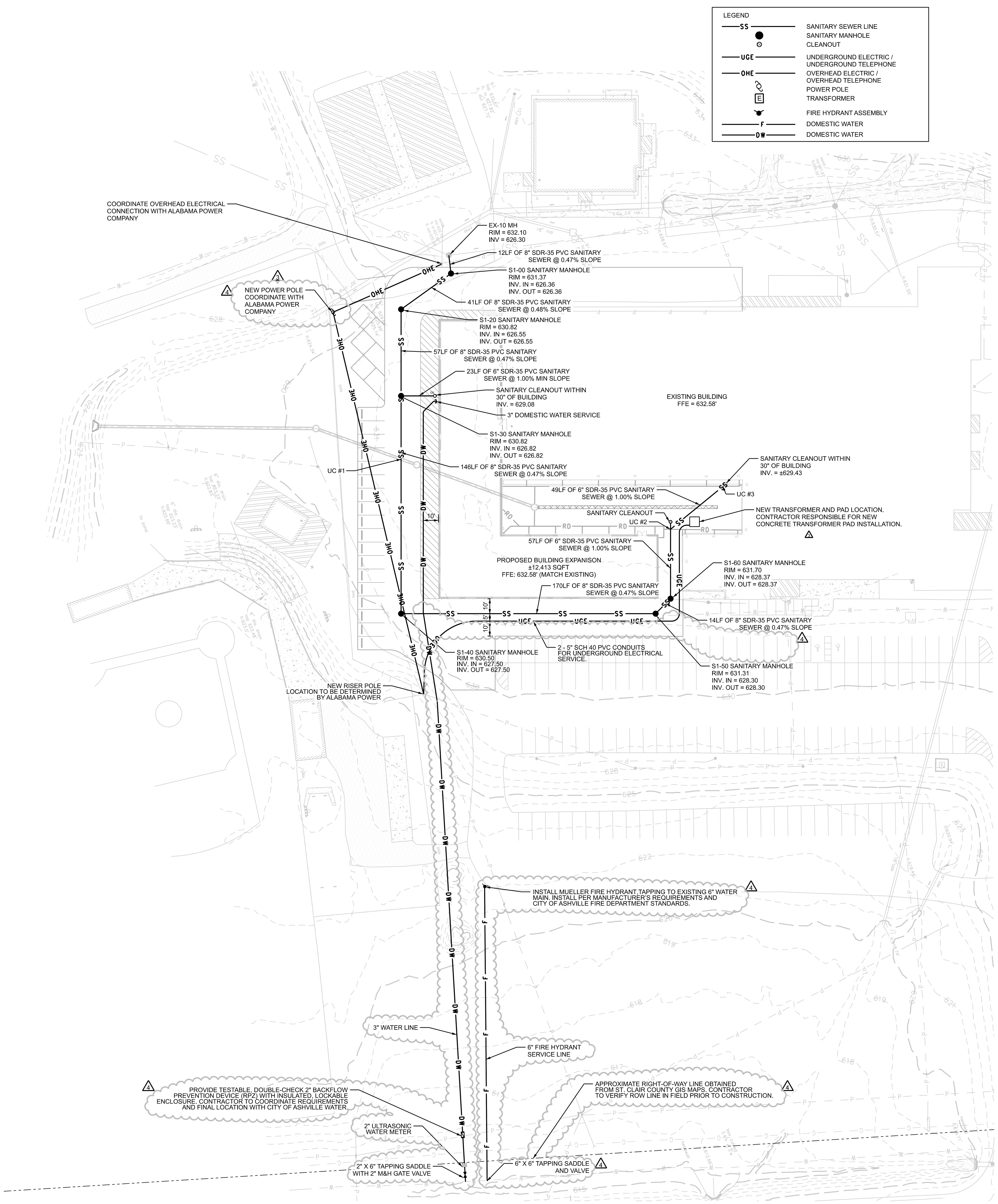
33125 US-231, ASHVILLE, AL 35953
ST. CLAIR COUNTY BOARD OF EDUCATION

SHEET TITLE:

STORM DRAINAGE PLAN

PROJ. MGR.: R. VERNON
DRAWN: SAB
DATE: 09/08/2025
REVISIONS
4 ADDENDUM 4

JOB NO. 24-106
SHEET NO.
C-4.0



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SCALE IN FEET
1" = 30'

SANITARY SEWER NOTES

1. REFERENCE GENERAL NOTES AND ARCHITECTURAL/PLUMBING PLANS.
2. DIMENSIONS SHOWN ARE TO THE CENTERLINE OF PIPE OR TO CENTERLINE OF MANHOLE.
3. ALL CLEANOUTS SHALL BE A SHALL BE FLUSH WITH EXISTING/PROPOSED GRADE ELEVATIONS.
4. SANITARY SEWER LINES SHALL BE TESTED IN ACCORDANCE WITH THE CITY OF ASHVILLE WATER AND SEWER REQUIREMENTS.
5. CONTRACTOR SHALL REFER TO ARCHITECT'S PLANS AND SPECIFICATIONS FOR ACTUAL LOCATION OF ALL BUILDING ENTRANCES, TO INCLUDE SANITARY SEWER SERVICE, DOMESTIC & IRRIGATION SERVICE, ELECTRICAL TELEPHONE & GAS SERVICE. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES SUCH THAT PROPER DEPTHS ARE ACHIEVED, AS WELL AS COORDINATING WITH THE APPROPRIATE UTILITIES AS TO LOCATION AND SCHEDULING OF TIE-INS/CONNECTIONS TO THEIR FACILITIES.

POWER NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL SCHEDULE 40 GRAY PVC UNDERGROUND CONDUIT ASSOCIATED WITH POWER AND TELEPHONE DISTRIBUTION AND SERVICE.
2. CONTRACTOR IS RESPONSIBLE FOR INSTALLING ANY PULL BOXES FOR POWER AND UTILITY CONSTRUCTION.
3. ALL BENDS FOR POWER AND TELEPHONE CONDUITS (HORIZONTAL AND VERTICAL) SHALL BE LONG SWEEPING ELLS.
4. POWER CONDUITS SHALL BE INSTALLED WITH A MINIMUM OF 4 FEET OF COVER FROM FINISHED GRADE TO TOP OF THE CONDUIT.
5. A MINIMUM OF 1 FOOT OF HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN POWER AND TELEPHONE CONDUITS.
6. THE MINIMUM SPACING BETWEEN PRIMARY AND SPARE CONDUITS IS THE DIAMETER OF THE CONDUITS.
7. ALL CONDUITS SHALL BE PROVIDED WITH PULL STRING.
8. THE BUILDING ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR PULLING ALL SECONDARY CONDUCTORS AS WELL AS MAKING THE ASSOCIATED SECONDARY TERMINATIONS WITHIN THE TRANSFORMER. UNLESS OTHERWISE NOTED.

WATER NOTES

1. REFERENCE GENERAL NOTES.
2. ALL DOMESTIC LEADS TO BUILDING SHALL END WHERE NOTED ON PLAN AND SHALL BE PROVIDED WITH A TEMPORARY PLUGS AT END (FOR OTHERS TO REMOVE AND EXTEND AS NECESSARY). COORDINATE EXTENSION OF WATER LINE WITH PROJECT PLUMBING CONTRACTOR.
3. DIMENSIONS SHOWN ARE TO CENTERLINE OF PIPE OR FITTING.
4. SITE CONTRACTOR SHALL COORDINATE TAPS WITH CITY OF ASHVILLE WATER AND SEWER. CONTRACTOR IS RESPONSIBLE FOR ALL CHARGES, FEES ETC. ASSOCIATED WITH WATER CONNECTION. CONTRACTOR SHALL PROVIDE AND INSTALL DOMESTIC SERVICE PER CITY OF ASHVILLE WATER AND SEWER.
5. THE CONTRACTOR SHALL COORDINATE ALL UTILITY INSPECTIONS WITH THE GOVERNING AUTHORITIES PRIOR TO COVERING TRENCHES DURING INSTALLATION.
6. CONTRACTOR SHALL MAINTAIN A 24" HORIZONTAL AND 18" VERTICAL SEPARATION BETWEEN WATER SERVICE AND OTHER UTILITIES, EXCEPT FOR SANITARY SEWER. POTABLE WATER PIPING SHALL BE LAID AT LEAST TEN FEET HORIZONTALLY FROM SANITARY SEWER LINES. THE DISTANCE SHALL BE MEASURED FROM EDGE OF PIPE TO EDGE OF PIPE. WHERE CROSSINGS ARE NECESSARY, CASE ONE OF THE PIPES WITH A CONTINUOUS PIPE OF SUFFICIENT LENGTH, LOCATED SUCH THAT A MINIMUM FIVE (5)-FOOT SEPARATION EXISTS BETWEEN EACH END OF THE CASING PIPE AND THE UNCASED PIPE. POTABLE WATER PIPING CROSSING SANITARY SEWER LINES SHALL BE LAID TO PROVIDE MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE OUTSIDE OF THE POTABLE WATER PIPING AND THE OUTSIDE OF THE SEWER LINE. THE 18 INCH SEPARATION SHALL APPLY WHETHER THE POTABLE WATER PIPING IS OVER OR UNDER THE SEWER LINE. LAY POTABLE WATER PIPING AT CROSSINGS OF SEWER LINES SO A FULL LENGTH OF PIPE IS CENTERED ON THE SEWER LINE WHENEVER POSSIBLE.
7. CONTRACTOR SHALL REFER TO ARCHITECT'S PLANS AND SPECIFICATIONS FOR ACTUAL LOCATION OF ALL BUILDING ENTRANCES, TO INCLUDE SANITARY SEWER SERVICE, DOMESTIC & IRRIGATION SERVICE, ELECTRICAL TELEPHONE & GAS SERVICE. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES SUCH THAT PROPER DEPTHS ARE ACHIEVED, AS WELL AS COORDINATING WITH THE APPROPRIATE UTILITIES AS TO LOCATION AND SCHEDULING OF TIE-INS/CONNECTIONS TO THEIR FACILITIES.
8. INSPECTION WILL BE BY CITY OF ASHVILLE INSPECTOR. NOTIFY CITY OF ASHVILLE WATER AND SEWER A MINIMUM OF 24 HOURS PRIOR TO ANY WORK ON SERVICE LINES.
9. DOMESTIC WATER LINE SHALL BE SDR-21 PVC OR TYPE K COPPER CONFORMING WITH ASTM B88 PROVIDE WITH SOLDER JOINTS CONFORMING WITH ASME B16.18 OR ASME B16.22.
10. ALL WATER TAPS SHALL BE PROVIDED WITH GATE VALVE PER CITY OF ASHVILLE WATER AND SEWER REQUIREMENTS.
11. FIRE LINES FOR FIRE HYDRANTS SHALL BE EITHER:
   A) DUCTILE IRON
   B) C900 PVC

UTILITY CONFLICTS

UC #1:	8" SANITARY TOP = ±627.67
	8" SANITARY BOTTOM = ±627.00
	18" X 28.50" ARCH STORM TOP = ±625.27
	18" X 28.50" ARCH STORM BOTTOM = ±623.77
UC #2:	6" SANITARY TOP = ±629.48
	6" SANITARY BOTTOM = ±628.98
	6" STORM TOP = ±628.86
	6" STORM BOTTOM = ±628.36
UC #3:	6" SANITARY TOP = ±629.90
	6" SANITARY BOTTOM = ±629.40
	6" STORM TOP = ±629.20
	6" STORM BOTTOM = ±628.70

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NEW CLASSROOM ADDITION FOR
ASHVILLE HIGH SCHOOL
33125 US-231, ASHVILLE, AL 35953
ST. CLAIR COUNTY BOARD OF EDUCATION

SHEET TITLE:
UTILITY PLAN

LICENSED PROFESSIONAL ENGINEER No. 55231 WILLIAM DAVID DAILEY
2025-09-08

PROJ. MGR.: R. VERNON
DRAWN: SAB
DATE: 09/08/2025
REVISIONS
4 ADDENDUM 4

JOB NO. 24-106
SHEET NO:
C-5.0

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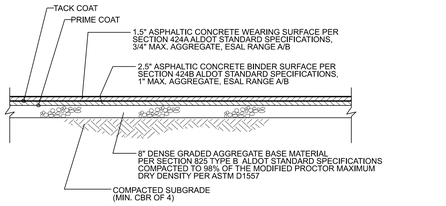
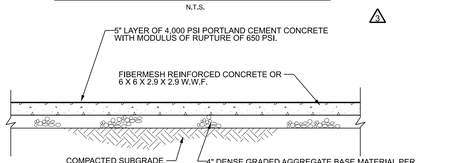


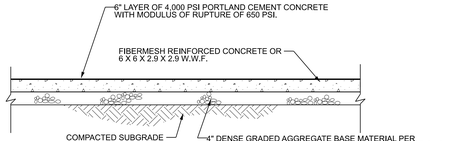
HEAVY-DUTY ASPHALT PAVING SECTION

N.T.S.



SIDEWALK SECTION

N.T.S.

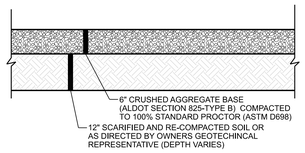


DUMPSTER PAD AND HEAVY DUTY PAVING SECTION

N.T.S.

PAVEMENT SECTION NOTES:

1. THE COMPACTION, QUALITY AND GRADATION OF THE GAB CRUSHED STONE BASE WILL DIRECTLY AFFECT THE QUALITY AND LIFE OF THE PAVEMENT SECTION. CONSEQUENTLY, WE RECOMMEND A MINIMUM COMPACTION OF 98 PERCENT OF THE MAXIMUM DRY DENSITY FOR THE GAB CRUSHED STONE MATERIAL AS DETERMINED BY EITHER THE MODIFIED PROCTOR COMPACTION TEST (ASTM D 1557, METHOD D) OR THE MODIFIED AASHTO (T-180).
2. A SOIL ENGINEERING TECHNICIAN WORKING UNDER THE DIRECTION OF A GEOTECHNICAL ENGINEER SHOULD OBSERVE PLACEMENT AND COMPACTION OF THE BASE COURSE MATERIAL AND PERFORM DENSITY TESTS TO CONFIRM THAT THE MATERIAL HAS BEEN PLACED IN ACCORDANCE WITH CONTOUR'S RECOMMENDATIONS.
3. THE CONCRETE PAVEMENT SHOULD HAVE THE MINIMUM THICKNESS LISTED ABOVE. THE PAVEMENT SHOULD INCLUDE TEMPERATURE REINFORCEMENT AND HAVE A MAXIMUM JOINT SPACING AS RECOMMENDED BY ACI 330. THE CONCRETE PAVEMENT SHOULD HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 POUNDS PER INCH (PSI) WITH A MODULUS RUPTURE OF 630 PSI. PLACING THE 4-INCH CRUSHED STONE BASE COURSE BENEATH THE PAVEMENT WILL PREVENT THE PUMPING OF THE SOIL FINES THROUGH THE CONSTRUCTION JOINTS.



STANDARD GRAVEL PAVING SECTION

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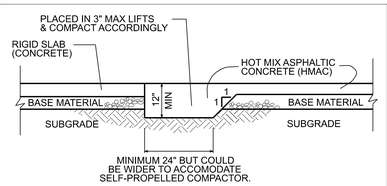

TYPICAL ASPHALT TO CONCRETE TRANSITION

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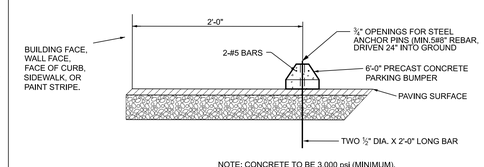

NOTE: CONCRETE TO BE 3,000 psi (MINIMUM).

PRECAST CONCRETE BUMPER BLOCK

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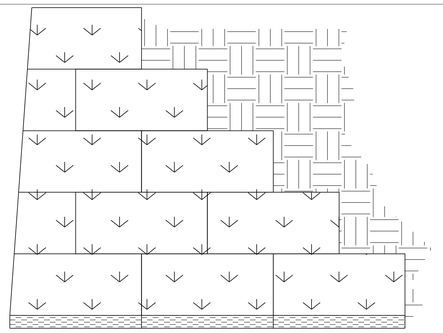
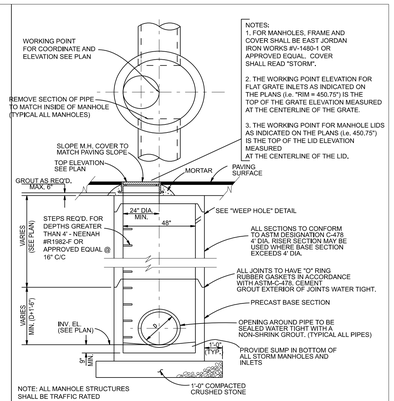


NOTES:
1. FIRST ROW OF SOD TO BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PARALLEL TO AND BUTTING TIGHTLY AGAINST EASCH OTHE. STAGGER STRIPS IN A BRICK-LIKE PATTERN.
2. INSTALL STRIPS OF SOD WITH THE LONGEST DIMENSION PERPENDICULAR TO THE SLOPE.
3. SECURE SOD WITH PEGS OR STAPLES ON SLOPES GREATER THAN 3:1, IN GRASS SWALES, AND ANYWHERE EROSION MAY BE A PROBLEM.

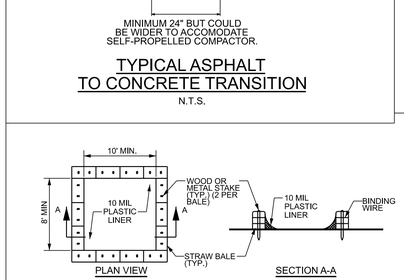
TYPICAL INSTALLATION OF GRASS SOD



NOTES:
1. FOR MANHOLES, FRAME AND COVER SHALL BE EAST JORDAN IRON WORKS #V-1480-1 OR APPROVED EQUAL. COVER SHALL READ "STORM".
2. THE WORKING POINT ELEVATION FOR FLAT GRATE INLETS AS INDICATED ON THE PLANS (i.e. "RIM = 450.75") IS THE TOP OF THE GRATE ELEVATION MEASURED AT THE CENTERLINE OF THE GRATE.
3. THE WORKING POINT FOR MANHOLE LIDS AS INDICATED ON THE PLANS (i.e. 450.75") IS THE TOP OF THE LID ELEVATION MEASURED AT THE CENTERLINE OF THE LID.

PRECAST STORM MANHOLE/INLET

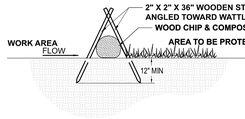
N.T.S.



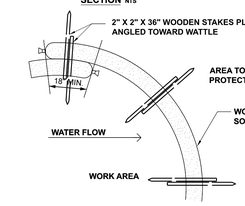
NOTES:
1. WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF.
2. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.
3. TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE MAINTAINED TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM FREEBOARD OF 4 IN. FOR ABOVE GRADE FACILITIES, MAINTAINING TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD INCLUDE REMOVING AND DISPOSING OF HARDENED CONCRETE AND RETURNING THE FACILITIES TO A FUNCTIONAL CONDITION.
4. WASHOUT FACILITIES MUST BE CLEANED, OR NEW FACILITIES MUST BE CONSTRUCTED AND READY FOR USE ONCE THE WASHOUT IS 75% FULL.
5. WASHOUT PIT MAY NOT BE LOCATED WITHIN 50' OF SURFACE WATER.

CONCRETE WASHOUT PIT

N.T.S.



SECTION NTS



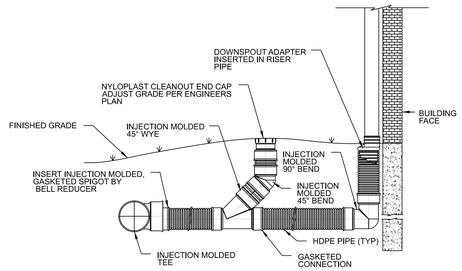
PLAN NTS

NOTES:
1. FABRIC SOCK WITH COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS.
2. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

WOOD CHIP & COMPOST SOCK (WATTLE) SEDIMENT CONTROL

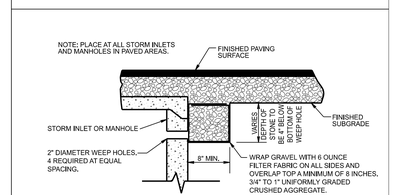
NTS

SB SEDIMENT BARRIER (WATTLE)



ROOF DRAIN LATERAL DETAIL

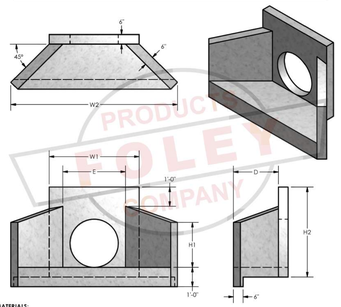
N.T.S.



STORM INLET & MANHOLE WEEP HOLE DETAIL

N.T.S.

HEADWALL SIZE	W1	W2	H1	H2	D	E	TONS	BLOCKS
12"	2'-5"	3'-9"	0'-7"	2'-5"	1'-5"	1'-0"	0.55	N/A
15", 18"	3'-2"	4'-9"	1'-3"	3'-2"	1'-2"	1'-9"	0.92	1
24"	4'-2"	6'-2"	2'-0"	4'-2"	1'-8"	2'-9"	1.73	3
30", 36"	4'-8"	8'-8"	2'-4"	4'-8"	2'-4"	3'-3"	1.92	3
42", 48"	5'-8"	10'-11"	3'-6"	5'-9"	3'-0"	4'-3"	3.33	4
54", 60"	6'-5"	12'-6"	4'-0"	6'-5"	3'-5"	5'-0"	3.77	7
66", 72"	8'-5"	13'-5"	5'-7"	8'-0"	3'-0"	7'-0"	5.30	9
78", 84", 90", 96"	10'-2"	15'-10"	4'-0"	9'-0"	3'-4"	8'-4"	7.31	11

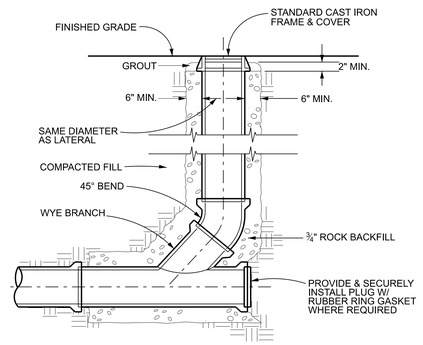


MATERIALS:
CONCRETE: 4,000 PSI, TYPE II/ II CEMENT

NOTES:
SEE PAGE 3.4 FOR HEADWALL SIZING

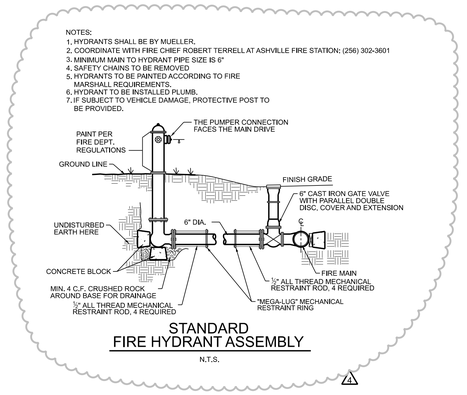
PARTS SHOWN:
30" HEADWALL FOR Ø18" RCP

PRODUCTS FOLEY COMPANY | REINFORCED CONCRETE PIPE | HEADWALLS | 3.5



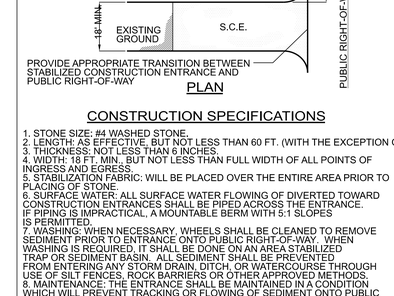
STANDARD CLEANOUT

N.T.S.



STANDARD FIRE HYDRANT ASSEMBLY

N.T.S.

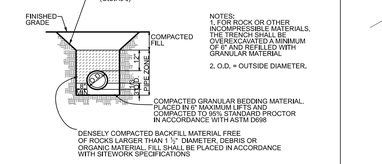


CONSTRUCTION SPECIFICATIONS

1. STONE SIZE: #4 WASHED STONE.
2. LENGTH: AS EFFECTIVE, BUT NOT LESS THAN 60 FT. (WITH THE EXCEPTION OF
3. THICKNESS: NOT LESS THAN 6 INCHES.
4. WIDTH: 18 FT. MIN., BUT NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS AND EGRESS.
5. STABILIZATION FABRIC: WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER: ALL SURFACE WATER FLOWING OF DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES IS PERMITTED.
7. WASHING: WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE THROUGH USE OF SILT FENCES, ROCK BARRIERS OR OTHER APPROVED METHODS.
8. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

CEP STABILIZED CONSTRUCTION ENTRANCE

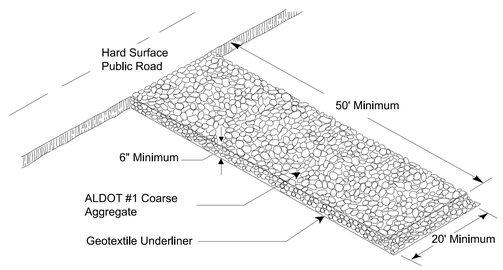
N.T.S.



NOTES:
1. FOR ROCK OR OTHER UNSUITABLE MATERIALS, THE TRENCH SHALL BE OVEREXCAVATED A MINIMUM OF 6" AND REFILLED WITH GRANULAR MATERIAL.
2. O.D. = OUTSIDE DIAMETER.

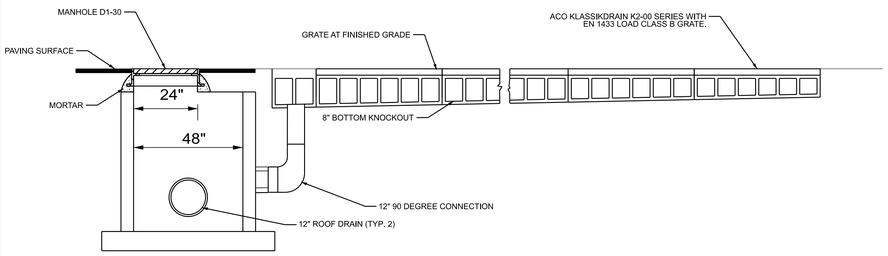
PIPE (RCP) BEDDING DETAIL

N.T.S.



CONSTRUCTION EXIT PAD

CEP



TRENCH DRAIN/ROOF DRAIN COLLECTOR DETAIL

N.T.S.

CAUTION NOTICE TO CONTRACTOR:

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL AT LEAST 48 HOURS BEFORE ANY SITE DISTURBANCE OR EXCAVATION TO REQUEST FIELD LOCATION OF UTILITIES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

ALABAMA 811 Know what's below. Call before you dig.

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SHEET TITLE: SECTION AND DETAILS

ALABAMA LICENSED No. 35251 PROFESSIONAL ENGINEER 09-09-25 WILLIAM DAVID DRILLEN

PROJ. MGR.: R. VERNON
DRAWN: SAB
DATE: 09/08/2025
REVISIONS
1 ADDENDUM 4

JOB NO. 24-106
SHEET NO: C-7.0

0 1" 2"