AUBURN

PEDESTRIAN BRIDGES, ABUTMENTS, AND GRADING FOR THE TOWN CREEK TRAIL EXTENSION

Addendum No. 1

July 31, 2026

The following, as clarifications, corrections, or changes to the Contract Documents, will be included into any agreement for the following project:

Pedestrian Bridges, Abutments, and Grading for the Town Creek Trail Extension

and must be taken into account in preparing and submitting a Bid for the work. No other provisions or conditions are waived or changed hereby.

Acknowledgement of receipt of this addendum is required to be included within the prospective Bidder's sealed bid submitted by 10:00 AM, local time, on Thursday, August 6, 2026.

General Comments:

1. The deadline for submitting questions shall be 12:00PM (noon) CST on Monday, August 3, 2026.
2. Sheet C-2 and C-2.1 of the construction drawings state that the bridges are to be provided by the Owner. This is incorrect. The Contractor shall be responsible for providing the bridges. The costs for design and fabrication shall be included in the bid price.
3. Page 9 of the Special Conditions (Bridge Specifications) states that the foundations shall be provided by the Owner. This is incorrect. The foundations, including abutments, pile caps, and helical piles shall all be constructed by the Contractor. The Contractor shall include the price for these items in the bid price.
4. Page 10 of the Special Conditions (Quality Control Section) states that the Bridge Manufacturer shall fabricate the bridges in a shop that has an AISC designation of Certified Bridge Fabricator – Advanced (Major) with Fracture Critical Endorsement and Complex Coating Endorsement (P1-Enclosed or P2-Covered). This is incorrect. The Bridge Manufacturer shall only be required to

fabricate the bridges in a shop that has an AISC designation of Certified Bridge Fabricator – Intermediate (IBR). The Fracture Critical Endorsement and Complex Coating Endorsement are not required for this project.

5. Sheet L2 shows a Live Stake Bid Alternate. This Bid Alternate is not included in the project scope and shall be disregarded.
6. The geotechnical report for the pedestrian bridges is provided as an attachment to this Addendum No. 1.
7. Requests for CAD files of the construction drawings can be made by emailing Katelyn Kasem with Foresite Group at kkasem@fg-inc.net. An electronic files agreement provided by Foresite Group must be signed and submitted to obtain the CAD files. The deadline for submitting these requests shall be 12:00PM (noon) CST on Monday, August 3, 2026.

_____

I acknowledge receipt of Addendum No. 1 to Pedestrian Bridges, Abutments, and Grading for the Town Creek Trail Extension

_____

(Name)

_____

(Date)

October 3, 2025

Mr. Jason Weckerly
FORESITE Group, LLC
3740 Davinci Ct, Suite 100
Peachtree Corners, GA 30092

Re : Geotechnical Subsurface Investigation (revised)
Mills Trail Pedestrian Bridge Abutments
Town Creek
Auburn, Alabama
Our Job No. A25114.00241.000

Dear Mr. Weckerly,

UES Professional Solutions 18, LLC. (UES), is pleased to provide this report of our subsurface investigation for the Mills Trail Pedestrian Bridge Abutments project. The scope of the field investigation included four soil test borings for the planned new pedestrian bridges (one bore at each abutment). The quantity and location of the test bores were taken in accordance with the authorized scope of work. The intent of this investigation was to provide recommendations for the planned pedestrian bridge foundations. This report has been prepared in accordance with generally accepted current standards of geotechnical engineering practices and no other warranties are expressed or implied.

Specific structural data for the planned bridge was not provided to us. The test bores were completed at the planned abutment locations as shown on the attached figure. Specific grading information was not provided to us. Our field personnel utilized the provided site plan, instructions, and a survey grade GPS to locate the site and test bores. The horizontal and vertical accuracy of the GPS can be variable due to atmospheric influences, tree canopies, and other obstructions. The bore locations should be considered approximate. The enclosed boring plan further describes the test bore locations.

Geologically, the site is located in the Inner Piedmont Provence and is underlain by the Auburn Gneiss Formation, a member of the Opelika Complex, formed in the Precambrian to Paleozoic Period. Typically, this formation yields fine grained biotite-oligoclase gneiss intermixed with coarse grained muscovite-biotite schist. The upper sections of this formation have weathered leaving a residuum consisting of various combinations of clay, silt and sand.

The project consists of two pedestrian crossings, one over Town Creek and one over a tributary to Town Creek. The sites are a mixture of densely wooded areas with mature trees and open areas of utility easement with grass vegetation and gravel roadways.

The local terrain is described as moderately sloping with steep slopes at the creek banks. Surface drainage was described as good. Surface water is expected to flow over the site and discharge into the well-defined creek and drainage channels within or adjacent to the sites. There were no significant areas of ponded surface water located near the test bore locations during the field testing.

Below 6” of organic topsoil, the test bore penetrated in-situ earth composed of cohesive silty clay (sections with mica and gravel), silty clayey sand, sandy clay (sections with trace roots), clayey sand (sections with mica and trace organics), sandy silt (sections with mica), and non-cohesive silty sand. Laboratory analyses confirmed “SM”, “CL”, “SC-SM”, and “ML” Unified Soil Classifications of the predominate silty sand, sandy clay, silty clayey sand, and sandy silt with plasticity indices of 3, 7, and 13. The penetration resistance values, “N”, ranged from 4 to 100 blows per foot indicating consistencies of soft to very hard in the predominate silt and clay earth and relative densities of loose to very dense in the predominate sand earth. Moisture tests indicated water contents ranging from 6.4 and 25.2%. Test bores B-1, B-2, and B-3 were terminated in on hard rock at depths of 26, 26, and 22.5' below ground surface (bgs), respectively. Test bore B-4 was terminated at a depth of 30' bgs.

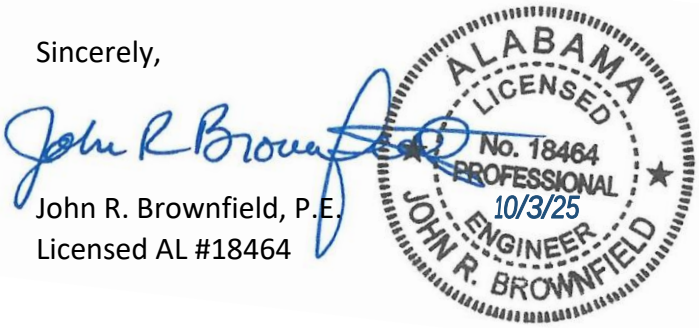
Test bore B-4 indicated groundwater during drilling at a depth of 28.5’ bgs. One hour following drilling, test bores B-3 and B-4 indicated groundwater at depths of 17.6 and 25.5’ bgs, respectively. One hour following drilling, the test bore had caved to depths ranging from 18.2 to 27.5’ bgs preventing the measurement of groundwater below these depths.

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

The test bores indicated low strength soils in the first 6.5’ below the ground surface. Shallow spread foundations should be designed to bear in the in-situ soil (compacted as required) exhibiting minimum “N” values 7 at depths of approximately 7’ bgs or deeper. A shallow spread foundation may be designed to bear in the in-situ soil exhibiting minimum “N” values of 7 using a net allowable soil bearing pressure of up to 1,500 pounds per square foot. These recommended minimum depths and maximum bearing pressures assume that the abutment foundations will be protected from being undermined by scour.

We appreciate the opportunity to provide the requested geotechnical services. Please contact our office if you have any questions or if we can be of any further assistance.

Sincerely,



John R. Brownfield, P.E.
Licensed AL #18464

Report Distribution: 1 – Mr. Mr. Jason Weckerly (email)
1 – Ms. Katelyn Kasem (email)

1.0 Recommendations – Shallow Foundations

1.1 Maximum Net Allowable Soil Bearing Pressures

1,500 pounds per square foot in the in-situ earth (compacted as required) with “N” values of 7 or greater.

Note: Foundations should bear at a minimum depth of 7’ below grade. However, scour conditions at proposed foundation depths have not been considered or evaluated, and these recommendations assume that the abutment foundations will not be undermined by scour. All slopes adjacent to bridge abutments should be protected from erosion using suitable erosion protection.

1.2 Settlement

The shallow spread foundations will be subjected to total long-term settlements of less than 1", with differential settlements of less than 1/2".

1.3 Preparation and Acceptance of Foundation Bearing Levels

If the bearing level of the soil is disturbed during the excavation process, the disturbed soil should be compacted to 98% standard density with a mechanical/remote type compactor. Soils that fail to compact to the specified requirements will need to be undercut to a firm level and backfilled with lean concrete (mud sill). All foundation excavations should be examined by a qualified geotechnical consultant prior to the installation of the reinforcement and/or concrete for the foundation or mud sill. All unacceptable conditions should be corrected in accordance with the geotechnical consultant's recommendations.

1.4 Foundation Construction

The foundation concrete should be placed as expediently as possible following excavation and acceptance of the foundation bearing levels. The groundwater levels are expected to fluctuate with weather conditions and creek levels. In order to protect the foundation bearing level, consideration should be given to placing a mud mat or mud sill consisting of non-reinforced concrete over the approved bearing surface. A minimum 4” thick mud sill should be used to protect the bearing surface. The use of thicker mud sills is acceptable when required.

2.0 General Recommendations

2.1 Vertical Cuts

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

2.2 Cut and Fill Slopes

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

2.3 Quality Control

A qualified geotechnical and construction materials testing consultant should provide the following services.

2.3.1 Verify the bearing conditions for the shallow spread foundations.

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

3.0 General Comments

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

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

The comments of this report are based upon our interpretation of the construction information supplied by others, the data collected at the 4 test bores, and our visual examination of the site. The evaluation of subsurface conditions based on the 4 test bores taken with this study requires a significant amount of interpolation. Improper site preparation, extremes in climatic conditions, significant changes in location, grades, time, etc., can each affect ground water, surface, and subsurface conditions. If conditions are encountered as the construction advances which vary significantly from those described by this report, we should be contacted for supplemental comment.

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

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

4.0 Recommendations – Site Retaining Walls

4.1 Lateral Earth Pressures

The following table provides lateral earth pressures for walls which are free to rotate.

Material	Wet Unit Weight (pcf)	"Active" Earth Pressure Coefficient (Ka)	Lateral Earth Pressure (psf per foot of depth)*
Off-Site Free Draining Clean Coarse Sand	115	0.29	33.4
Graded No. 57	105	0.27	28.4
Native Earth	135	0.36	48.6

The following table provides lateral earth pressures for abutment walls which are restrained against rotation.

Material	Wet Unit Weight (pcf)	"At Rest" Earth Pressure Coefficient (Ko)	Lateral Earth Pressure (psf per foot of depth)*
Off-Site Free Draining Clean Coarse Sand	115	0.46	52.9
Graded No. 57 or No. 67 Stone	105	0.43	45.2
Native Earth	135	0.53	71.6

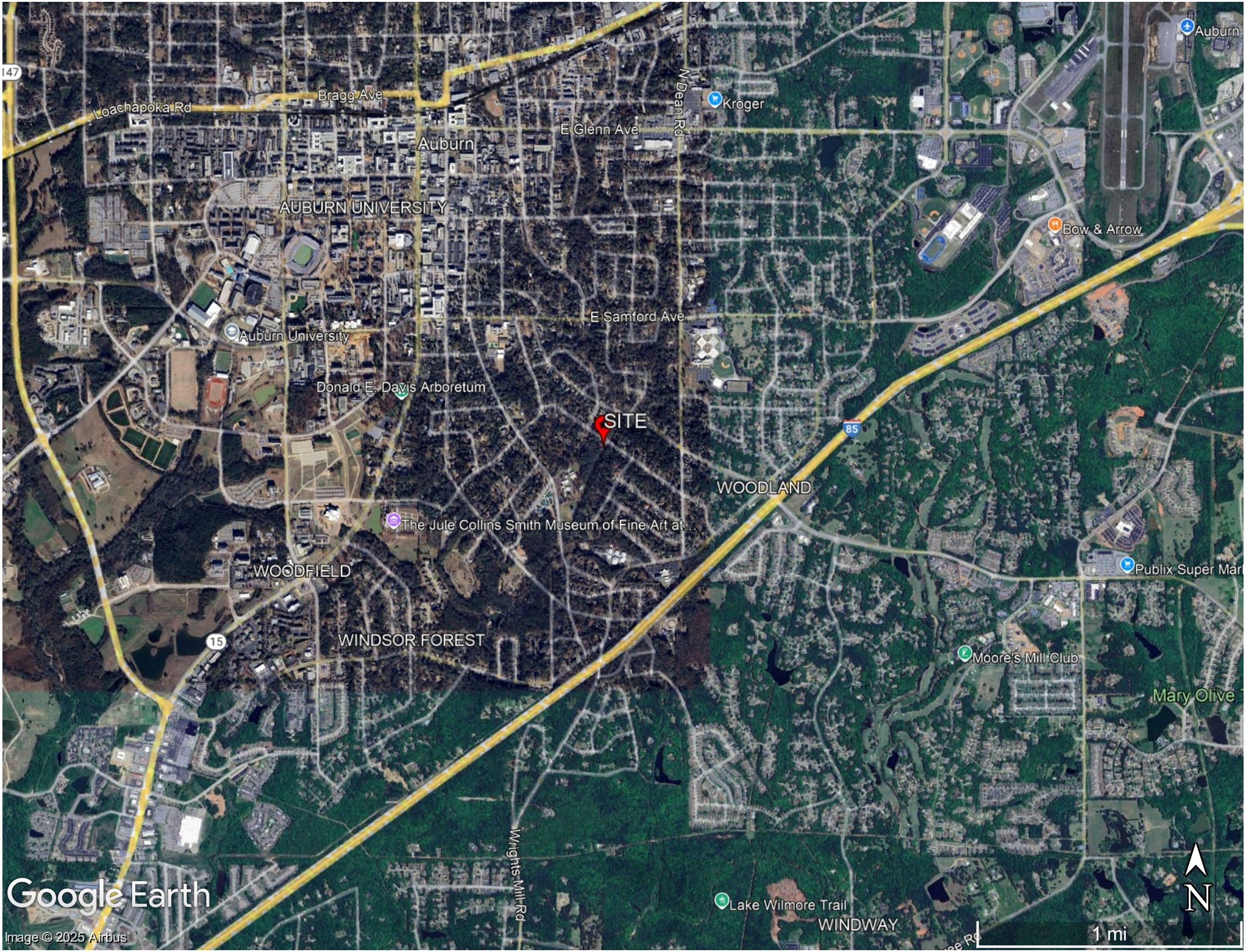
*Note: These pressures do not include lateral pressures introduced from adjacent equipment or other extraneous sources. In order to utilize the lateral earth pressure for coarse sand or graded stone fill, the fill should be sloped from the wall foundation at 1(H):1(V) or flatter. Please note that the higher lateral pressures for the native soil should be used for design for walls with limited backfill zones. A coefficient of friction 0.4 may be used between the retaining wall foundation and the native soil to resist sliding. The project structural engineer should note the type of backfill material to be used on the structural drawings to satisfy the design criteria.

4.2 Wall Backfill

Develop as “engineered fill”, 98% of the ASTM D-698 standard density in structural areas and 92% standard density in non-structural areas. Place fill using hand directed compaction equipment. Do not use heavy construction equipment adjacent to walls unless the walls are adequately braced to withstand the lateral pressures imposed by such loadings. The final 18" of fill along the site retaining walls should consist of the less permeable native soil or select fill material to prevent large volumes of water from permeating the backfill zone.

4.3 Wall Drainage

Weep holes should be provided in the site retaining walls to facilitate drainage. Place minimum 2" diameter weep holes at minimum spacings of 6' on center along the face of the wall near the base. Use filter fabric to prevent clogging of the weep holes. Fill material placed against the weep holes should consist of a coarse free draining sand or graded stone.


Auburn
Kroger
Bragg Ave
Loachapoka Rd
E Glenn Ave
N Dean Rd
Auburn
AUBURN UNIVERSITY
Bow & Arrow
E Samford Ave
Auburn University
Donald E. Davis Arboretum
SITE
85
WOODLAND
The Jule Collins Smith Museum of Fine Art at...
Publix Super Mar
WOODFIELD
15
WINDSOR FOREST
Moore's Mill Club
Mary Olive
Wrights Mill Rd
Lake Wilmore Trail
WINDWAY
Google Earth
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Heard Ave
Sherwood Dr
Auburn Kiwanis Scout Hut
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B-3
Heard Ave
B-1
B-2
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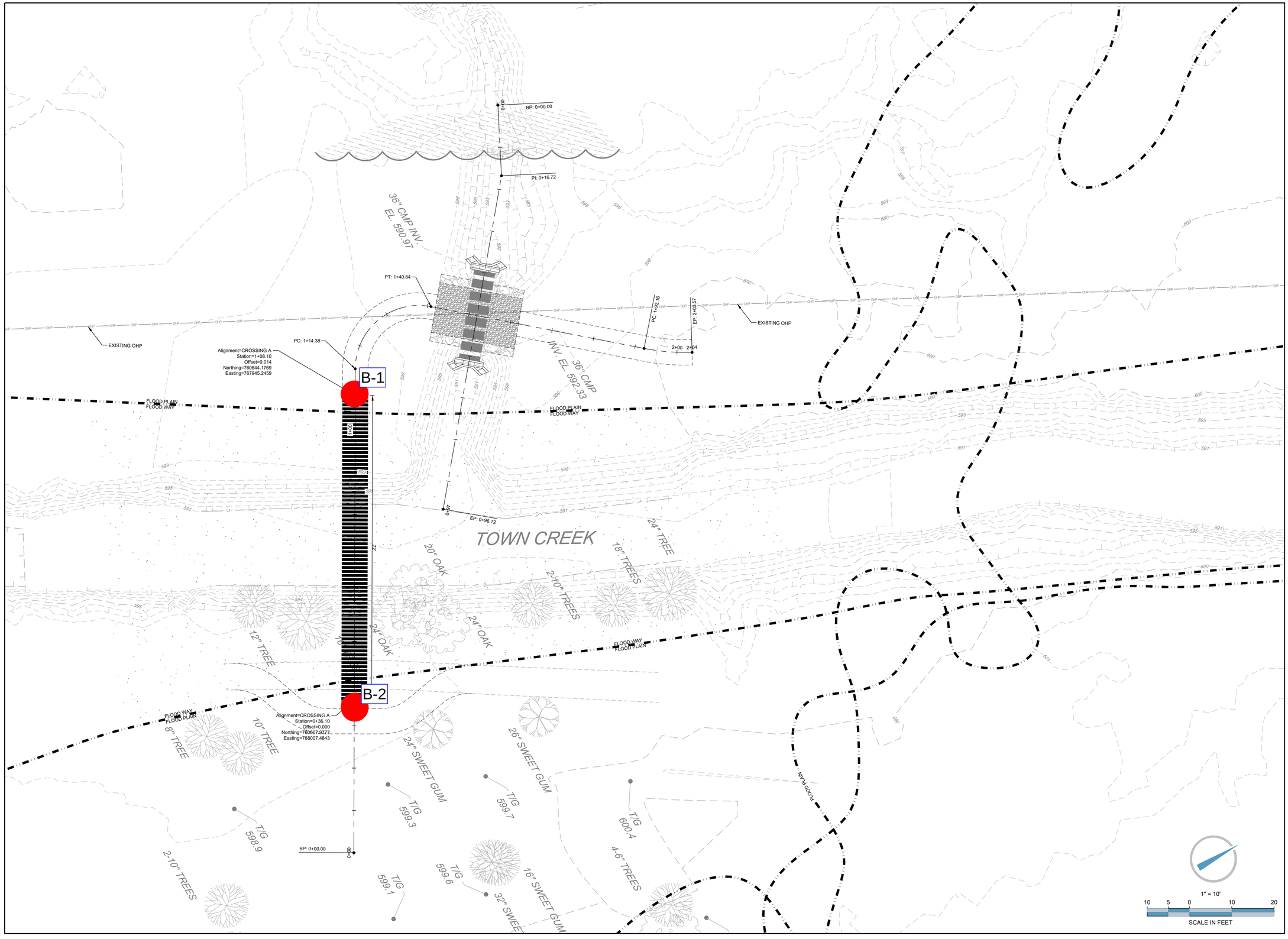


ENGINEER:

FORESITE group

Foresite Group, LLC
2301 Ogletree Village Lane
Suite 200
Auburn, AL 36830

o | 334.887.6064
f | 334.887.6024
w | www.foresitegroup.net

DEVELOPER:

CITY OF AUBURN
DEVELOPMENT SERVICES
171 NORTH ROSS ST.,
AUBURN, AL 36830
(334) 501-3000

CONTACT: BRANDY EZELLE

PROJECT:

MILLS TRAIL - DRAINAGE RESTORATION & CROSSING

HEARD AVENUE, MOORES MILL TRAILS
AUBURN, AL
PIN# 23346
PARCEL #:SEC.32 T19N RG.26E. <########>

SEAL:

REVISIONS DATE

PROJECT MANAGER:	CE
DRAWING BY:	SS
JURISDICTION:	AUBURN, AL
DATE:	09/02/2025
SCALE:	1" = 10'

TITLE:

GRADING & DRAINAGE PLAN

SHEET NUMBER:

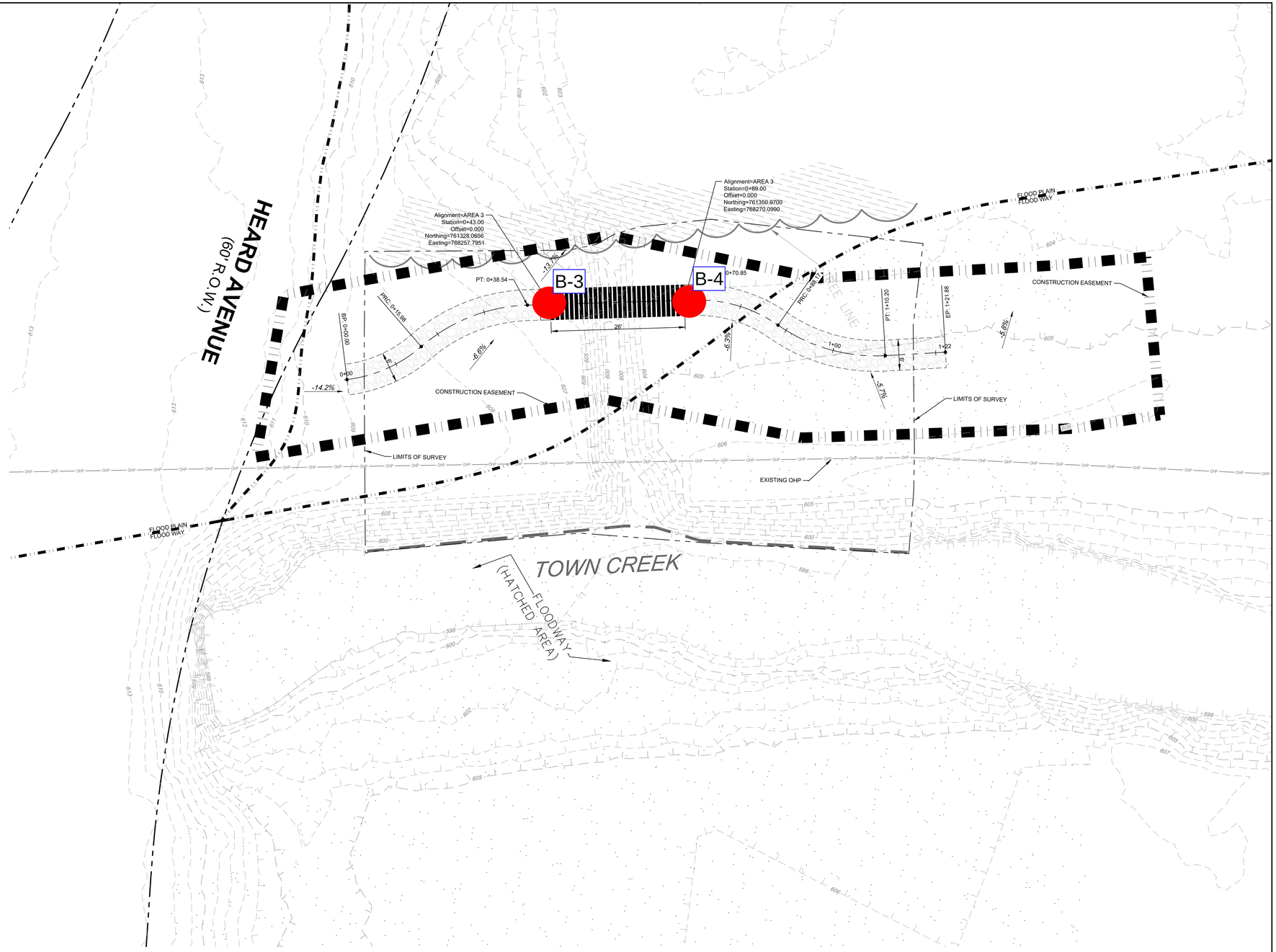
C-2

COMMENTS:
NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER: 063.026

Sheet Scale: 1:1

Y:\SHARED\PROJECTS\063-CITY OF AUBURN\003.035 MILLS TRAIL, CIVIL, GISCAD\CIVIL\C-2 GRADING & DRAINAGE PLAN.DWG By: KATELYN KASEM



1" = 10'

10 5 0 10 20

SCALE IN FEET

ENGINEER:

FORESITE group

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Auburn, AL 36830

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PROJECT MANAGER:	CE
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JURISDICTION:	AUBURN, AL
DATE:	09/02/2025
SCALE:	1" = 10'
TITLE:	

GRADING & DRAINAGE PLAN

SHEET NUMBER:

C-2.1

COMMENTS: NOT RELEASED FOR CONSTRUCTION

JOB/FILE NUMBER: 063.026

Sheet Scale: 1:1

By: KATELYN KASEM

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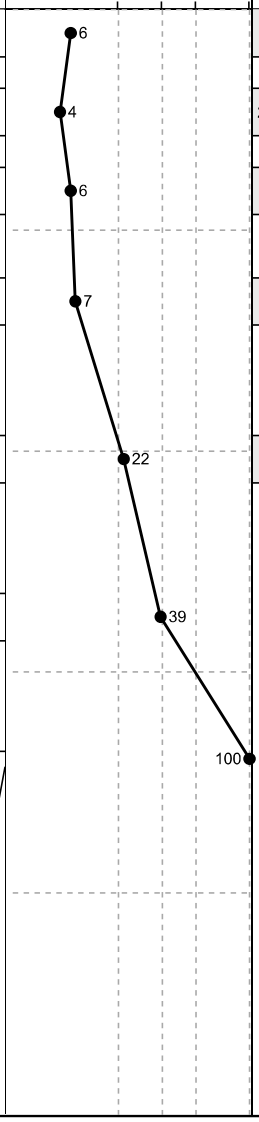
SOIL BORING NUMBER: B-1

PROJECT NAME Mills Trail Crossing Abutments
PROJECT NUMBER A25114.00241.000
DATE COMPLETED 09/16/2025
PROJECT LOCATION 807 Wrights Mill Rd, Auburn, AL
DRILLING CONTRACTOR Southeast
LOGGED BY UES
DRILLING METHOD Hollow Stem Auger
ELEVATION 600.00'
CAVE IN 22.6'
INITIAL GW N/A
1 HR GW N/A

Depth (ft)	Elevation (ft)	USCS	Materials Description	Sample Number	Blow Counts (N-Value)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	Fines Content (%)
	600	SC	**TOPSOIL**: 6", brown clayey sand		3-3-3 (6)	13.60			
			0.5 Loose, tan, clayey SAND (SC) 2.5						
			Loose, gray, silty clayey SAND (SC)		1-2-2 (4)	25.20			
5	595				1-3-3 (6)	13.80			
			8.5						
		ML	Firm, tan-gray, sandy SILT (ML), with mica		1-3-4 (7)	17.80	36	7	51.30
10	590								
			13.5						
			Very stiff to hard, gray, sandy SILT (ML), with mica		5-9-13 (22)	12.40			
15	585								
					18-19-20 (39)				
20	580								
			23.5						
		CL	Very hard, gray, silty CLAY (CL), with mica		100 (100)				
25	575		26.0						
			auger refusal on hard rock						
30	570								

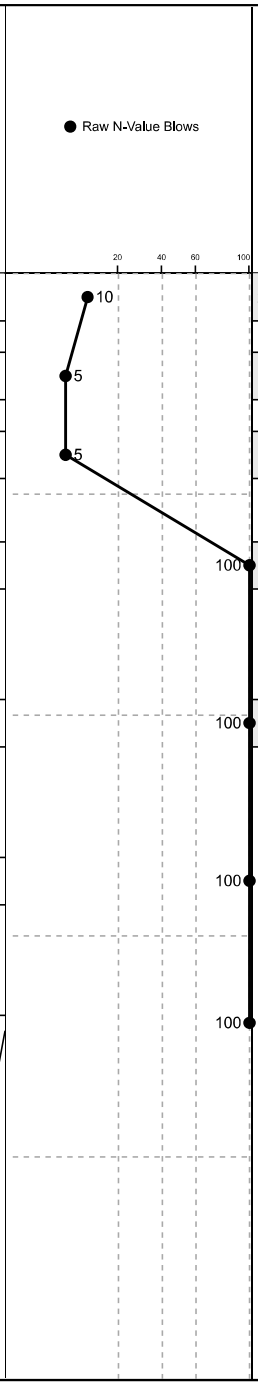


Notes:

SOIL BORING NUMBER: B-2

PROJECT NAME Mills Trail Crossing Abutments
PROJECT NUMBER A25114.00241.000
DATE COMPLETED 09/16/2025
PROJECT LOCATION 807 Wrights Mill Rd, Auburn, AL
DRILLING CONTRACTOR Southeast
LOGGED BY UES
DRILLING METHOD Hollow Stem Auger
ELEVATION 598.70'
CAVE IN 22.6'
INITIAL GW N/A
1 HR GW N/A

Depth (ft)	Elevation (ft)	USCS	Materials Description	Sample Number	Blow Counts (N-Value)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	Fines Content (%)
	598.7		**TOPSOIL**: 6" 0.5		5-5-5 (10)	22.10			
		CL	Firm, tan, silty CLAY (CL) 2.5		1-2-3 (5)	9.90			
	595	SM	Loose, tan, silty SAND (SM) 5.0		1-2-3 (5)	13.50	19	3	41.40
5			Loose, gray, silty SAND (SM) 8.5		100 (100)	12.30			
	590	ML	Very hard, gray, sandy SILT (ML), with mica 13.5		100 (100)	6.40			
10									
	585	SM	Very dense, gray, silty SAND (SM)		100 (100)				
15									
	580				100 (100)				
20									
	575				100 (100)				
25			26.0						
			auger refusal on hard rock						
30	570								
	565								

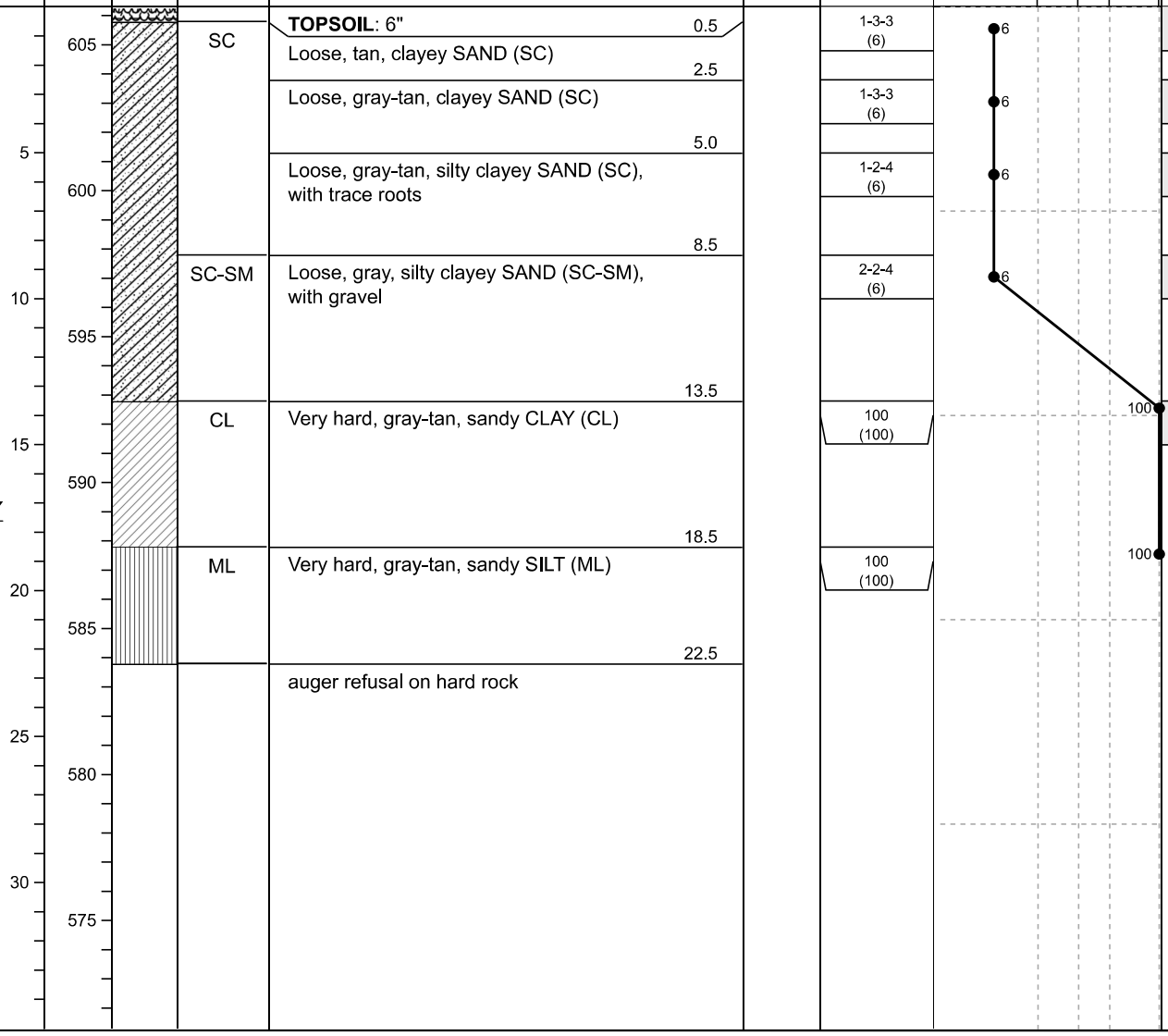


Notes: -

SOIL BORING NUMBER: B-3

PROJECT NAME Mills Trail Crossing Abutments
PROJECT NUMBER A25114.00241.000
DATE COMPLETED 09/16/2025
PROJECT LOCATION 807 Wrights Mill Rd, Auburn, AL
DRILLING CONTRACTOR Southeast
LOGGED BY UES
DRILLING METHOD Hollow Stem Auger
ELEVATION 606.30'
CAVE IN 18.2'
INITIAL GW N/A
1 HR GW 17.6'

Depth (ft)	Elevation (ft)	USCS	Materials Description	Sample Number	Blow Counts (N-Value)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	Fines Content (%)
	606.3								
		SC	**TOPSOIL**: 6" 0.5		1-3-3 (6)	11.50			
	605		Loose, tan, clayey SAND (SC) 2.5						
			Loose, gray-tan, clayey SAND (SC)		1-3-3 (6)	11.00			
5			5.0						
	600		Loose, gray-tan, silty clayey SAND (SC), with trace roots		1-2-4 (6)	13.70			
			8.5						
		SC-SM	Loose, gray, silty clayey SAND (SC-SM), with gravel		2-2-4 (6)	17.90	24	7	27.20
10	595								
			13.5						
		CL	Very hard, gray-tan, sandy CLAY (CL)		100 (100)	15.50			
15	590								
			18.5						
		ML	Very hard, gray-tan, sandy SILT (ML)		100 (100)				
20	585								
			22.5						
			auger refusal on hard rock						
25	580								
30	575								

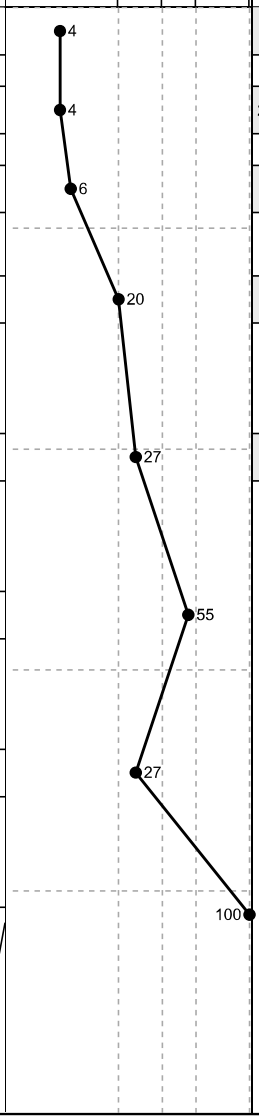


Notes: -

SOIL BORING NUMBER: B-4

PROJECT NAME Mills Trail Crossing Abutments
PROJECT NUMBER A25114.00241.000
DATE COMPLETED 09/16/2025
PROJECT LOCATION 807 Wrights Mill Rd, Auburn, AL
DRILLING CONTRACTOR Southeast
LOGGED BY UES
DRILLING METHOD Hollow Stem Auger
ELEVATION 604.20'
CAVE IN 27.5'
INITIAL GW 25.5'
1 HR GW 25.5'

Depth (ft)	Elevation (ft)	USCS	Materials Description	Sample Number	Blow Counts (N-Value)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	Fines Content (%)
	604.2		**TOPSOIL**: 6" 1.5		1-2-2 (4)	12.20			
		CL	Soft, tan, sandy CLAY (CL), with trace roots 5.0		1-2-2 (4)	24.30			
5	600	SC	Loose, brown-gray, clayey SAND (SC), with mica and trace organics 8.5		1-2-4 (6)	14.70			
10	595	CL	Very stiff, gray-tan, sandy CLAY (CL) 13.5		6-8-12 (20)	13.80	37	13	61.60
15	590	ML	Very stiff, gray-tan, sandy SILT (ML) 18.5		7-21-6 (27)	11.00			
20	585	CL	Very hard, tan-gray, sandy CLAY (CL) 23.0		13-25-30 (55)				
25 ▼	580	SC	Very firm, gray-tan, silty clayey SAND (SC) 28.5		12-12-15 (27)				
▽ 30	575		Very dense, red-brown, clayey SAND (SC) 30.0		100 (100)				
	570		boring terminated						



Notes: -

650 Oliver Road
Montgomery, AL 36117

334.213.5647
www.teamues.com

Soil Classification Test

Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4318

Laboratory ID# 5110

Report Date: 09/23/2025

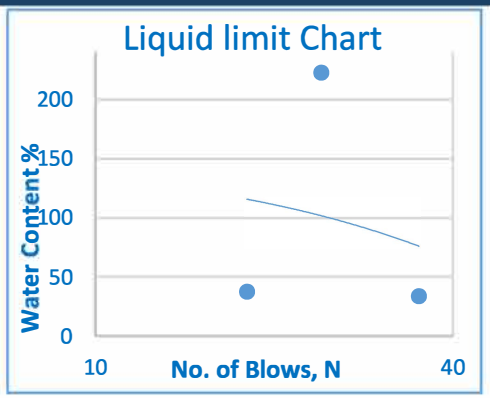
Project Name:	GEO-Mills Trail Crossing Abutments	**Project Number:**	A25114.00241.000
Client Name:	Foresite Group, LLC	**Sample Number:**	N/A
Location:	B-1	**Depth (ft):**	8.5-10

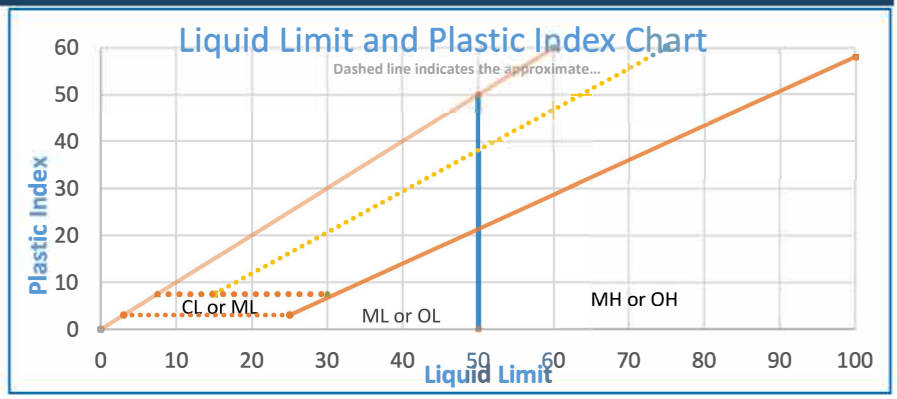
Material Classification

Material Color Description: Tan Gray **Moisture content:** N/A **Organic content:** N/A

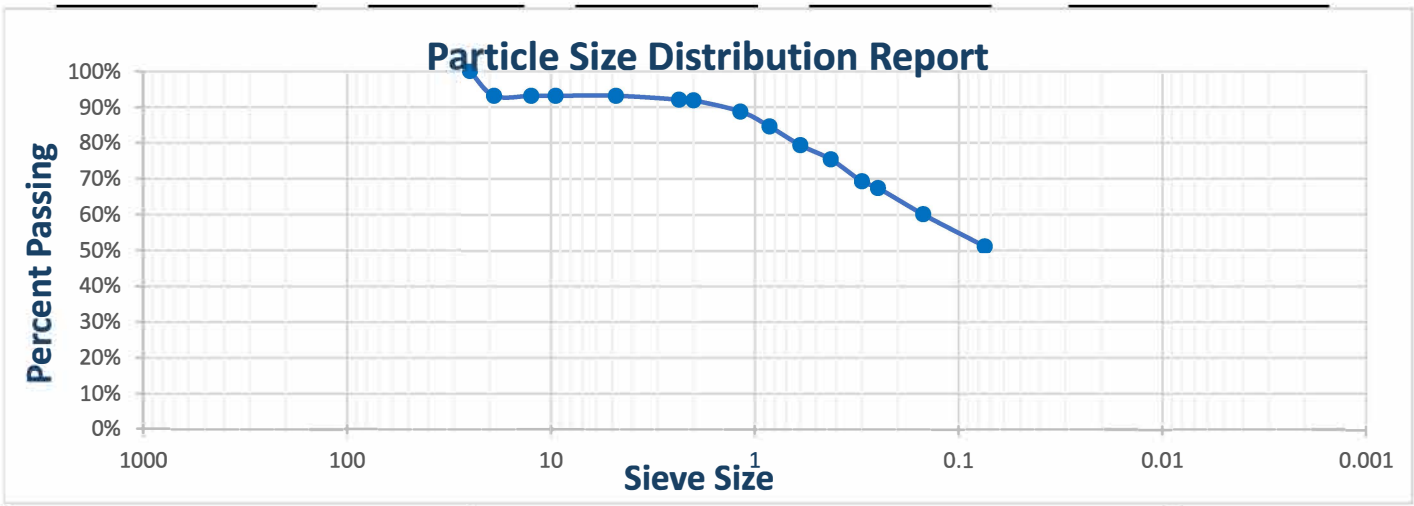
Classification USCS: ML-Sandy Silt **AASHTO:** A-7

Test Results





Liquid Limit Method	Liquid Limit	Plastic Limit	Plastic Index	Material retained on #40 Sieve
Multi Point	36.00	29	7	24.56 %



Gravel		Sand			Silts and Clays
Coarse	Fine	Coarse	Medium	Fine	Passing the
3" to 3/4"	3/4" to #4	#4 to #10	#10 to #40	#40 to #200	#200
0.0%	0.0%	1.3%	16.4%	24.1%	51.3%

Performed By	Reviewed By	Reviewed Date
Dylan Campbell	**Alfred Frazier**	**10/1/2025**

650 Oliver Road
Montgomery, AL 36117

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Soil Classification Test

Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4318

Laboratory ID# 5111

Report Date: 09/23/2025

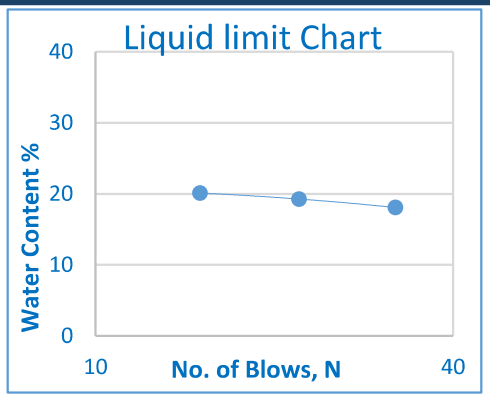
Project Name:	GEO-Mills Trail Crossing Abutments	**Project Number:**	A25114.00241.000
Client Name:	Foresite Group, LLC	**Sample Number:**	N/A
Location:	B-2	**Depth (ft):**	5-6.5

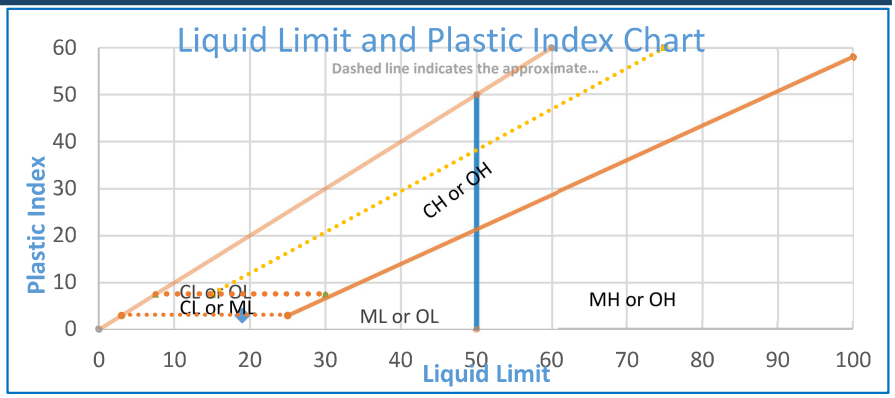
Material Classification

Material Color Description: Gray **Moisture content:** N/A **Organic content:** N/A

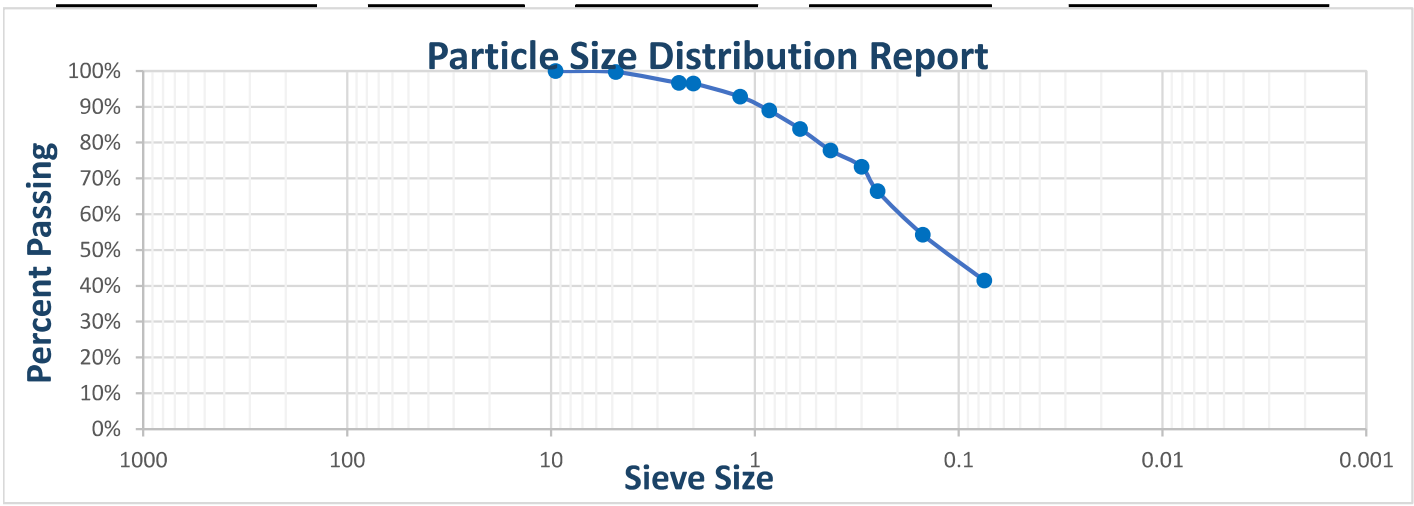
Classification USCS: SM - silty Sand **AASHTO:** A-4

Test Results





Liquid Limit Method	Liquid Limit	Plastic Limit	Plastic Index	Material retained on #40 Sieve
Multi Point	19.00	16	3	22.16 %



Gravel		Sand			Silts and Clays
Coarse	Fine	Coarse	Medium	Fine	Passing the #200
3" to 3/4"	3/4" to #4	#4 to #10	#10 to #40	#40 to #200	
0.0%	0.3%	3.2%	18.7%	36.4%	41.4%

Performed By	Reviewed By	Reviewed Date
Dylan Campbell	**Alfred Frazier**	**10/1/2025**

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Soil Classification Test

Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4318

Laboratory ID# 5112

Report Date: 09/23/2025

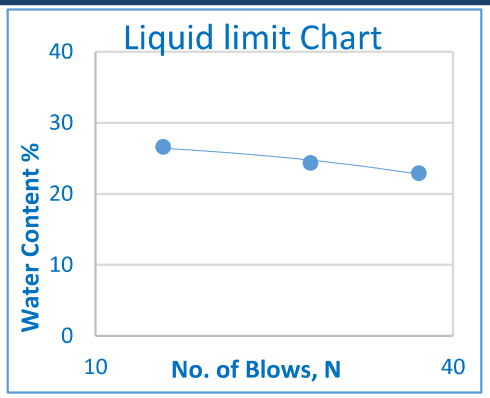
Project Name:	GEO-Mills Trail Crossing Abutments	**Project Number:**	A25114.00241.000
Client Name:	Foresite Group, LLC	**Sample Number:**	N/A
Location:	B-3	**Depth (ft):**	8.5-10

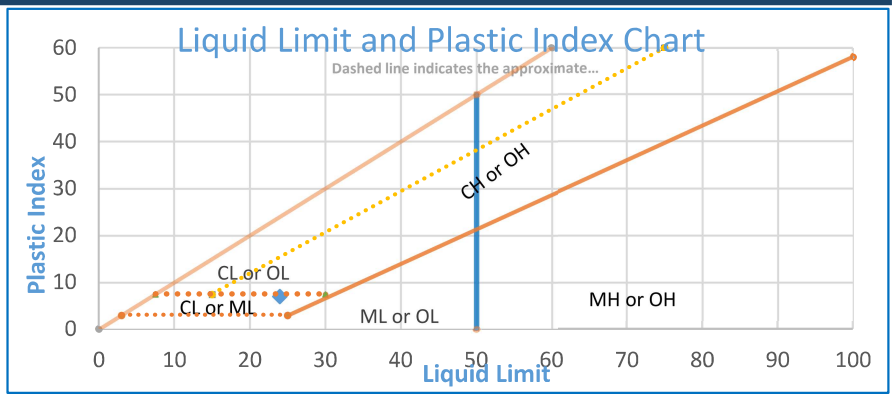
Material Classification

Material Color Description: Gray **Moisture content:** N/A **Organic content:** N/A

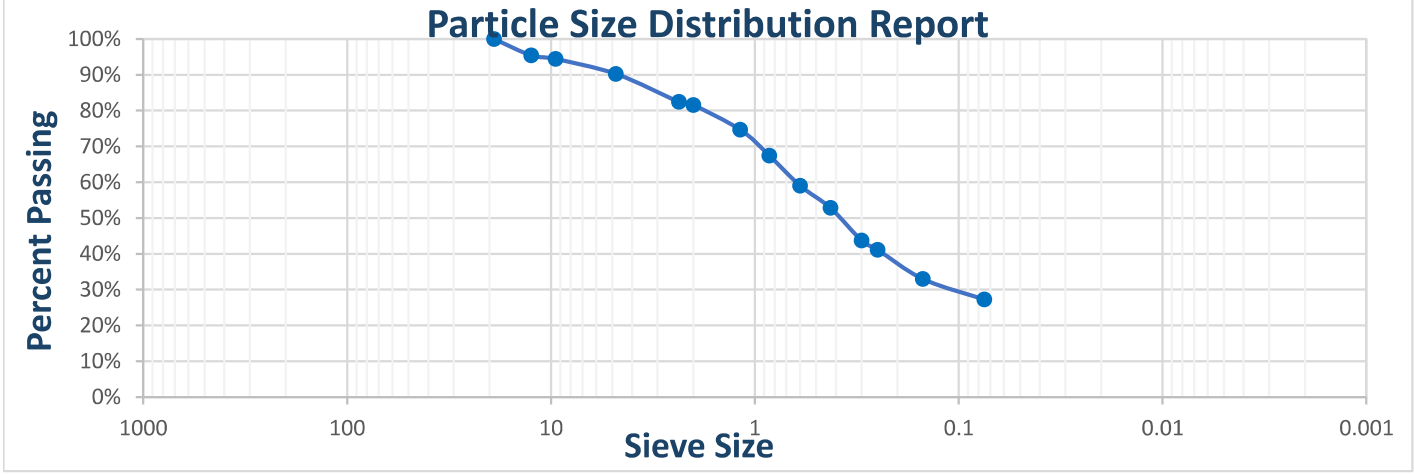
Classification USCS: SC-SM - silty, clayey Sand **AASHTO:** A-2-4

Test Results





Liquid Limit Method	Liquid Limit	Plastic Limit	Plastic Index	Material retained on #40 Sieve
Multi Point	24.00	17	7	47.19 %



Gravel		Sand			Silts and Clays
Coarse	Fine	Coarse	Medium	Fine	Passing the #200
3" to 3/4"	3/4" to #4	#4 to #10	#10 to #40	#40 to #200	
0.0%	9.8%	8.7%	28.8%	25.6%	27.2%

Performed By	Reviewed By	Reviewed Date
Dylan Campbell	**Alfred Frazier**	**10/1/2025**

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Soil Classification Test

Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4318

Laboratory ID# 5113

Report Date: 09/23/2025

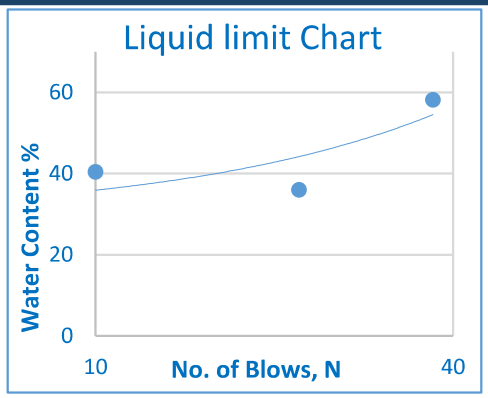
Project Name:	GEO-Mills Trail Crossing Abutments	**Project Number:**	A25114.00241.000
Client Name:	Foresite Group, LLC	**Sample Number:**	N/A
Location:	B-4	**Depth (ft):**	8.5-10

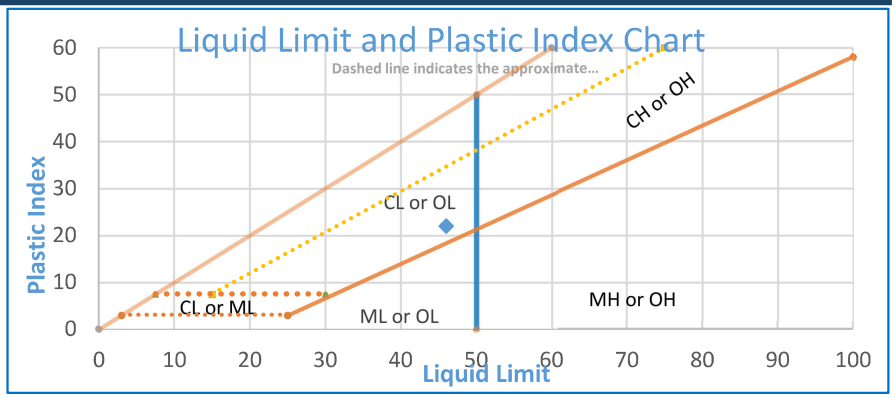
Material Classification

Material Color Description: Gray Tan **Moisture content:** N/A **Organic content:** N/A

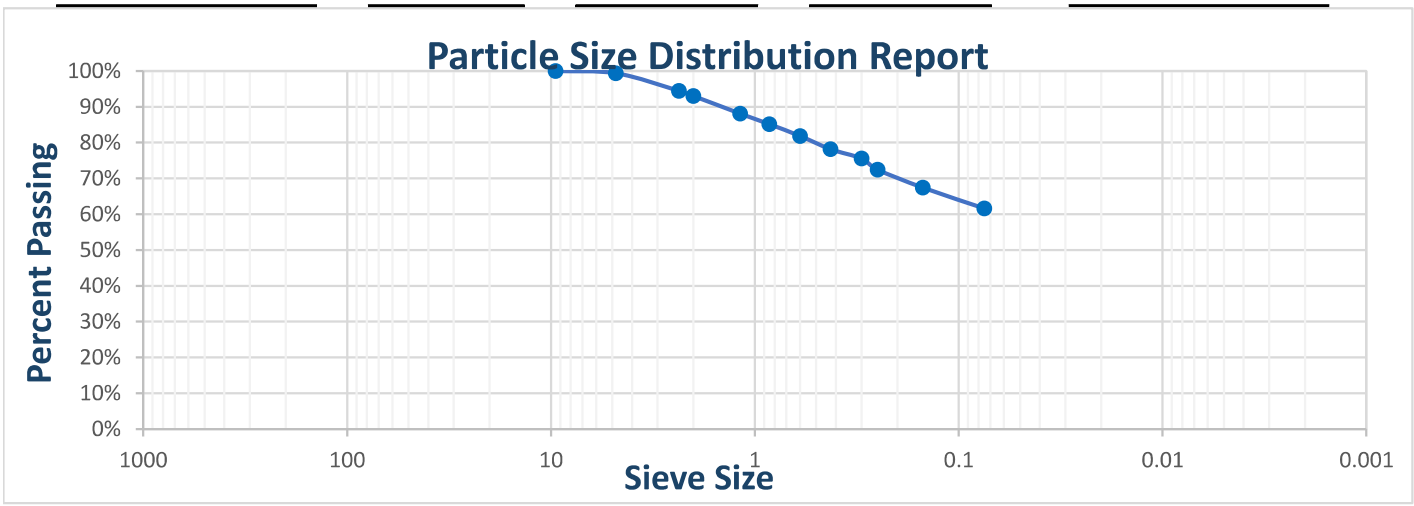
Classification USCS: CL - Sandy Lean Clay **AASHTO:** A-7

Test Results





Liquid Limit Method	Liquid Limit	Plastic Limit	Plastic Index	Material retained on #40 Sieve
Multi Point	37.00	24	13	21.81 %



Gravel		Sand			Silts and Clays
Coarse	Fine	Coarse	Medium	Fine	Passing the #200
3" to 3/4"	3/4" to #4	#4 to #10	#10 to #40	#40 to #200	
0.0%	0.6%	6.4%	14.8%	16.6%	61.6%

Performed By	Reviewed By	Reviewed Date
Dylan Campbell	**Alfred Frazier**	**10/1/2025**

INVESTIGATIVE FIELD PROCEDURES

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

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

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

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

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

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

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

NOTES AND REFERENCES

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

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

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

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

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

Laboratory Test References

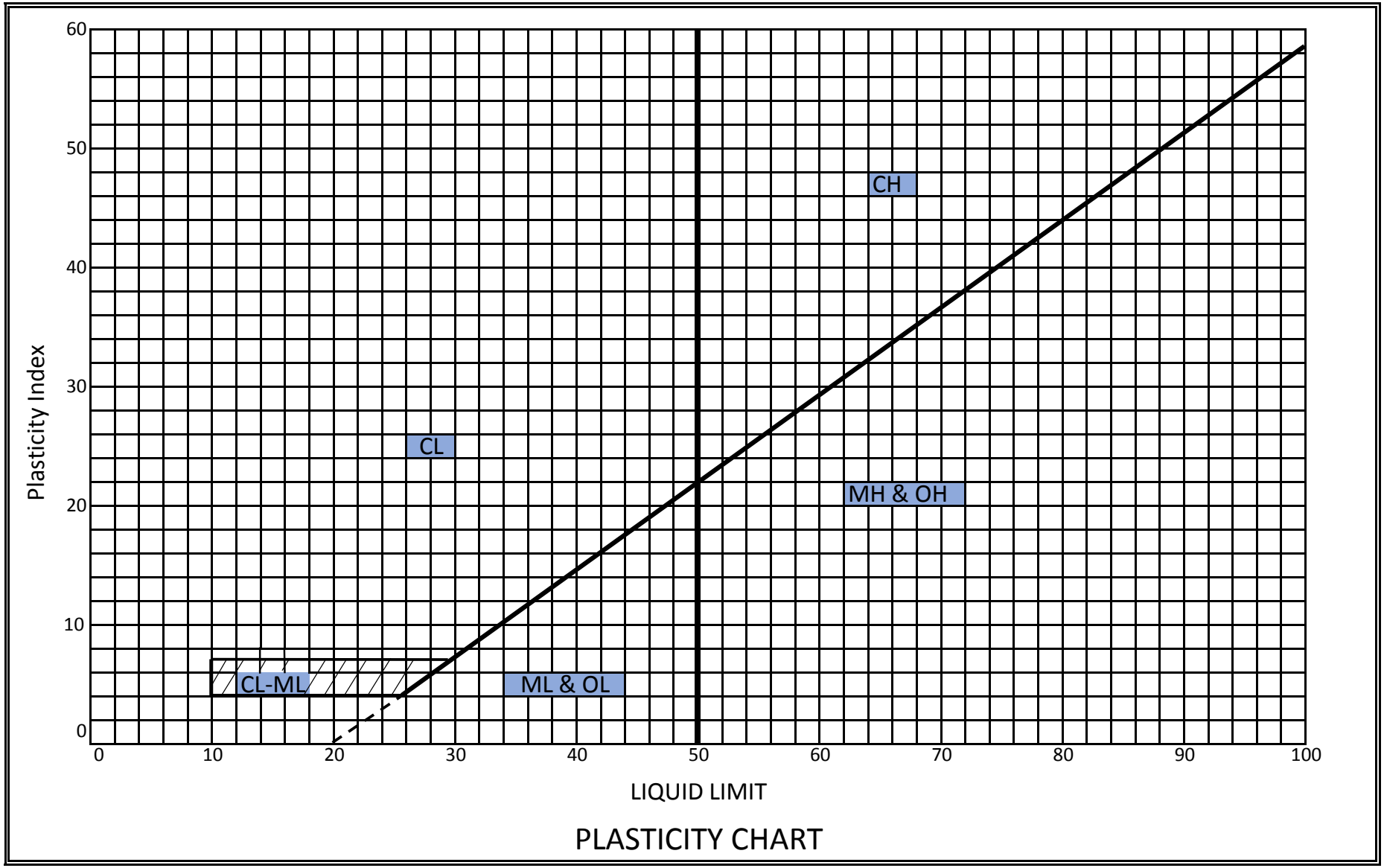
Test	**Reference**
Moisture Content	ASTM D-854
Particle Size Analysis	ASTM D-421,422,1140
Atterberg Limit	ASTM D-423, 424
Specific Gravity	ASTM D-2216
Compaction Test	ASTM D-698, 1557
California Bearing Ratio Test	AASHTO T-193
Triaxial Shear Test	ASTM D-2850
Unconfined Compression Test	ASTM D-2166
Consolidation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

The Unified Soil Classification System

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

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

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



PLASTICITY CHART