Geotechnical Subsurface Data Report (GSDR), Revision 1

Roadway Alignments – I-77 Exit 26 – Scout Interchange
Blythewood, Richland County, South Carolina
SCDOT Project ID P042443
S&ME Project No. 23610178A

PREPARED FOR:
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June 6, 2024

June 6, 2024

RS&H, Inc
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Charlotte, North Carolina 28203

Attention: Mrs. Jennifer Farino, P.E.

Reference: **Geotechnical Subsurface Data Report (GSDR), Revision 1**
Roadway Alignments – I-77 Exit 26 – Scout Interchange
SCDOT Project ID P042443
Blythewood, Richland County, South Carolina
S&ME Project No. 23610178A

Dear Mrs. Farino:

The purpose of this report is to convey geotechnical information to RS&H and the South Carolina Department of Transportation (SCDOT) for use by a contractor and is typically used with traditional design build projects. Our services were performed in general accordance with the *Subcontract for Professional Services* between RS&H and S&ME, Inc. dated May 1, 2023, including the associated scope of services for geotechnical investigations in general accordance with the SCDOT *Geotechnical Design Manual* (GDM), dated January 2022.

S&ME, Inc. appreciates this opportunity to work with you as your geotechnical engineering consultant on this project. Please contact us at (803) 561-9024 if you have questions or need additional information regarding this report.

Sincerely,

S&ME, Inc.

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER No. 37844 MATTHEW FREDERICK COOKE 6-6-24

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SOUTH CAROLINA S&ME, INC. No. C00473 CERTIFICATE OF AUTHORIZATION

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1.0 Introduction

This report summarizes the results of the geotechnical investigation conducted for the proposed roadway alignment portions of the overall Interstate 77 Exit 26 – Scout Interchange project. The general vicinity of the roadway alignments are shown on the *Site Location Plan*, attached as Figure 1 in Appendix I. Our scope of work relevant to the roadway alignment portions of the project included:

- Visits to the site by geotechnical personnel,
- Coordinating clearing activities for drill rig access,
- Coordinating drilling activities,
- Performing geotechnical subsurface investigations,
- Conducting laboratory testing,
- Preparing this report conforming to Section 21 of the GDM.

2.0 Project Description

Our understanding of the project is based on review of the following plans provided by RS&H:

- Microstation file: P042443_DSN_LCS.dgn, dated June 12, 2023
- Google Earth kmz file: P042443_DSN_ALT03_LCS.kmz, dated September 11, 2023
- *Conceptual*
- *Roadway Plans Alternate 3,* prepared by RS&H, dated August 30, 2023
- *I-77 Interchange and Connection Roads Construct Bridge on Connector Road over I-77 and Community Road,* prepared by RS&H, dated December 11, 2023
- *I-77 Interchange and Connection Roads Construct Bridge on Ramp BA over I-77,* prepared by RS&H, dated December 11, 2023
- *I-77 Interchange and Connector Roads Construct US-21 Bridge over Palmetto Railroad/NSRR Spur*, prepared by RS&H, dated December 11, 2023
- *Proposed Plans* (preliminary Roadway Plans), prepared by RS&H, dated February 6, 2024

From our review of the provided information, we understand the proposed construction for this project consists of a new interchange, the widening of Interstate 77, the addition of a connector road, and multiple existing roadway realignments as summarized below:

- Connector Road (Station 113+50 to 183+50) – A roughly 7,000 linear foot roadway section that extends from a four-leg intersection north to tie into Community Road, as well as south, then east and crosses over I-77 via the Connector Road bridge over I-77 and extends to a three-leg intersection with Wilson Boulevard (US-21) Realignment.

  - The proposed roadway configuration to the north consists of three northbound travel lanes and three southbound travel lanes with both a right and left dedicated turn lane at the intersection.
  - The proposed roadway configuration to the south consists of three southbound travel lanes and four northbound travel lanes, with lanes also acting as left and right turn lanes.

- Upon turning east and approaching the overpass, the northbound and southbound travel lanes of the proposed roadway configuration converge to three eastbound and three westbound travel lanes.
- After crossing the overpass, the eastbound lanes of the proposed roadway configuration continue as three travel lanes, but with one also acting as a left turn lane, while the westbound lanes consist of four travel lanes, with one acting as a left turn lane.
- After extending east past the interchange ramp configuration, the proposed roadway configuration consists of two eastbound travel lanes and two westbound travel lanes until the intersection with Wilson Boulevard (US-21) Realignment, with one two-way left turn lane.

- Community Road (S-40-2885) Realignment (Station 94+00 to 127+59) – A roughly 3,360 linear foot roadway section that extends west as an access road into the site and east then south from a four-leg intersection to tie into existing Community Road to the south.

  - The proposed roadway configuration to the west consists of two westbound travel lanes and three eastbound travel lanes, with one also acting as a right-turn lane.
  - The proposed roadway configuration to the east consists of two eastbound travel lanes and four westbound travel lanes, with two also serving as a left and a right turn lane.
  - Upon turning south, the proposed roadway alignment passes beneath the Connector Road bridge over I-77 and then consists of two northbound and two southbound travel lanes, with one two-way left turn lane.

- Wilson Boulevard (US-21) Realignment (Station 679+87.94 to 727+51.38) – A roughly 4,760 linear foot roadway section that extends from existing Wilson Boulevard to the south, veers southwest, crosses over the proposed Norfolk Southern railroad via the proposed US-21 bridge over NSRR, then veers southeast and merges back into existing Wilson Boulevard. The proposed roadway configuration consists of one northbound and one southbound travel lane, with one two-way left turn lane with three-leg intersections with Connector Road and Farrow Road (SC-555) Realignment.

- Wilson Boulevard (US-21) (Station 720+46.38 to 721+51.38) – A roughly 105 linear foot roadway section north of the Wilson Boulevard realignment consisting of two travel lanes and one two-way turn lane.

- Farrow Road (SC-555) Realignment (Station 356+50 to 365+73.27) – A roughly 925 linear foot roadway section that extends west from existing Farrow Road to the three-leg intersection with Wilson Boulevard (US-21) Realignment. The proposed roadway configuration consists of two travel lanes and one left turn lane with center median.

- I-77 Northbound Widening (Station 1709+50 to 1807+00) – A roughly 9,750 linear foot roadway section that extends from roughly 5,500 feet north of the existing Wilson Boulevard interchange to roughly 1,400 feet south of the existing Blythewood Road interchange and passes under Connector Road bridge over I-77, Ramp BA bridge over I-77, and Palmetto Railways railroad bridge over I-77. The proposed improvements consist of widening sections of the existing two to three-lane I-77 to three to four lanes to accommodate new on and off ramps associated with the new interchange. The proposed roadway configuration will consist of three to four travel lanes, a grassed center median with associated drainage ditch, and outside shoulder.

- I-77 Southbound Widening (Station 1650+55.74 to 1766+00) – A roughly 11,550 linear foot roadway section that extends from roughly 5,650 feet south of the existing Blythewood Road interchange to roughly 950 feet north of the existing Wilson Boulevard interchange and passes under Connector Road bridge over I-77, Ramp BA bridge over I-77, and Palmetto Railways railroad bridge over I-77. The proposed improvements consist of widening sections of the existing two lane I-77 to three lanes to accommodate new on and off ramps associated with the new interchange. The proposed roadway configuration will consist of two to three travel lanes, a grassed center median with associated drainage ditch, and outside shoulder.

- I-77 Northbound Connector Road Eastbound Exit Ramp D (Station 1716+16.75 to 1732+79.23) – A roughly 1,670 linear foot roadway section consisting of a single travel lane extending from I-77 Northbound and merging onto Connector Road Eastbound.

- I-77 Northbound Connector Road Entrance Ramp A (Station 1730+60.79 to 1750+13.67) – A roughly 1,980 linear foot roadway section consisting of a single travel lane from Connector Road merging onto I-77 Northbound.

- I-77 Northbound Connector Road Westbound Exit Loop A (Station 1734+38 to 1744+46.45) – A roughly 1,000 linear foot roadway section consisting of a single travel lane extending from I-77 Northbound and merging onto Connector Road Westbound.

- I-77 Southbound Connector Road Exit Ramp BA (station 1728+59.76 to 1759+47.81) – A roughly 3,100 linear foot roadway section consisting of a single travel lane extending from I-77 Southbound to Connector Road. The roadway section crosses over I-77 via the proposed Ramp BA bridge over I-77. MSE retaining walls are planned to support the east and west side of the embankment in the northern portion of Exit Ramp BA west of I-77.

- I-77 Southbound Connector Road Entrance Ramp C (Station 1712+75.48 to 1731+70.67) – A roughly 1,895 linear foot roadway section consisting of two travel lanes for approximately 565 linear feet, then converging to one travel lane, from the Connector Road bridge over I-77 and merging onto I-77 Southbound. MSE retaining walls are planned to support the eastern and western sides of the embankment between the Connector Road Bridge and the tie-in of the Ramp to I-77.

3.0 Objective

The objective of this project was to explore the subsurface conditions along the proposed roadway alignments as they pertain to the proposed improvements, and in conjunction with field and laboratory testing, to provide geotechnical data to be utilized for project design.

4.0 Subsurface Exploration Work

As requested, representatives of S&ME were present at the above-referenced site between September 11 and November 17, 2023, to conduct field activities for the project. The exploration included the following:

- One hundred forty-one (141) Standard Penetration Test (SPT) borings – C-1 through C-10, C-13 through C-24, CN-1 through CN-5, CR-1 through CR-8, NB-1 through NB-32, R-1 through R-12, SB-12 through SB-32, W-35 through W-61, WR-2, WR-6 through WR-16, WR-26, and WR-27,
- Four (4) bulk samples – conducted at borings NB-8, NB-26, SB-20 and SB-30, and
- Two (2) undisturbed samples – conducted at offset boring W-39UD.

Testing was conducted at or near the proposed locations shown in the *Boring Location Plans,* Figures 2A through 2J provided in Appendix I. Testing locations were modified as necessary due to utilities, terrain, to minimize traffic control impacts, and to facilitate safe working conditions. Originally planned borings WR-1, C-11 and C-12 were removed from the scope, as access could not be obtained on to property owned by Dominion Energy. Originally planned borings WR-3 through WR-5 and WR-17 through WR-25 were removed from the scope due to changes in the proposed alignments during the project.

4.1 Test Locations

The test locations were initially established in the field by representatives of S&ME using our hand-held sub-meter GPS unit.

As-built survey of the testing locations was performed by CES Group Engineers, LLC (CES) under subcontract to RS&H. The approximate testing locations are shown on the *Boring Location Plans,* included as Figures 2A through 2J in Appendix I. A summary of testing locations, including coordinates, elevation, alignment, station and offset, are presented in Table 1, *Test Location Summary*, in Appendix II. Surveyed coordinates are tabulated in decimal degree latitude and longitude as well as South Carolina State Plan northing and easting.

5.0 Exploration Procedures

The subsurface exploration for this project to date has included SPT borings, bulk samples, and undisturbed samples (Shelby Tubes). The following sections summarize the general outline of each test. The field testing data is organized into appendices of this report as follows:

- Appendix III – Soil Test Boring Records
- Appendix VII – SPT Hammer Energy Reports

5.1 Encroachment Permit

S&ME applied for encroachment along the Community Road (S-40-2885), Interstate 77, and Wilson Boulevard (US-21) SCDOT right-of-ways on June 27, 2023, and received the approved encroachment permits No. 269262, No. 269263, and No. 269261 on July 25, 2023.

5.2 Traffic Control

Traffic control for the project was provided by Area Wide Protective (AWP), under subcontract to S&ME, for borings within the existing travel lanes of Wilson Boulevard and Farrow Road and along the existing shoulders of I-77 and Community Road. Traffic control was performed in accordance with applicable SCDOT Standard Drawings.

5.3 Site Clearing

Clearing was performed by Palmetto State Land Management, under subcontract to S&ME, using a skid steer-mounted forestry grinder to create drill rig access pathways to several of the boring locations located in overgrown fields and wooded areas. Trails of approximately 12 to 15 feet wide were cleared with trees chipped in-place. No attempt was made to stack or remove downed trees from the site. Care was taken to limit site disturbance during this process.

5.4 Standard Penetration Test (SPT) Borings

One hundred forty-one (141) soil test borings with SPT sampling were performed for the project using six (6) drill rigs during the final phase exploration, as follows.

Table 5-1 – S&ME Drilling Equipment Summary

Rig Make/Model	Serial No.	Carrier Type	Average SPT Energy Transfer Ratio (ETR), %
CME-550X	290593	ATV	91.6%
CME-550X	293193	ATV	87.6%
CME-45B	311524	Truck	84.2%
CME-750X	322938	ATV	81.6%
CME-550X	299403	ATV	91.0%
D-50 Turbo	316	Track	96.8%

SPT hammer energy measurements with a Pile Driving Analyzer (PDA) were performed by S&ME at off-site locations for the drill rigs used on the project in general accordance with ASTM D4633 *Standard Test Method for Energy Measurement for Dynamic Penetrometers*. The SPT Energy test results are provided in Appendix VII. The N-values indicated on the logs are field values and were not corrected for overburden stress, rod length, borehole diameter or hammer efficiency. Hammer energy ratios are provided on the individual soil test boring records in Appendix III.

Soil test borings with SPT sampling were performed using mud rotary and hollow-stem auger drilling techniques. The borings were performed to termination depths ranging from approximately 8.8 to 99.4 feet below the existing ground surface.

Table 5-2 – SPT Boring Summary

Boring No.	Alignment	Purpose
C- 1	Community Road Realignment	Culvert
C- 2	Community Road Realignment	Culvert
C- 3	Connector Road	Culvert
C- 4	Connector Road	Culvert
C- 5	Connector Road	Culvert
C- 6	Connector Road	Culvert
C- 7	Connector Road	Culvert
C- 8	Connector Road	Culvert
C- 9	Wilson Blvd / US-21 Realignment	Culvert
C-10	Wilson Blvd / US-21 Realignment	Culvert
C-13	I-77 Northbound Widening	Culvert
C-14	I-77 Southbound Widening	Culvert
C-15	I-77 Northbound Widening	Culvert
C-16	I-77 Southbound Widening	Culvert
C-17	I-77 Northbound Widening	Culvert
C-18	I-77 Southbound Widening	Culvert
C-19	Community Road Realignment	Culvert
C-20	Community Road Realignment	Culvert
C-21	Wilson Blvd / US-21 Realignment	Culvert
C-22	Wilson Blvd / US-21 Realignment	Culvert
C-23	I-77 NB Connector Rd EB Exit Ramp D	Culvert
C-24	I-77 NB Connector Rd EB Exit Ramp D	Culvert
CN-1	Connector Road	Roadway
CN-2	Connector Road	Roadway
CN-3	Connector Road	Roadway
CN-4	Connector Road	Roadway
CN-5	Connector Road	Roadway
CR-1	Community Road Realignment	Roadway
CR-2	Community Road Realignment	Roadway
CR-3	Connector Road	Roadway
CR-4	Community Road Realignment	Roadway
CR-5	Community Road Realignment	Roadway
CR-6	Community Road Realignment (Connector Road Alignment)	Roadway
CR-7	Community Road Realignment (Connector Road Alignment)	Roadway
CR-8	Community Road Realignment (Connector Road Alignment)	Roadway
NB- 1	I-77 Northbound Widening	Roadway

Boring No.	Alignment	Purpose
NB- 2	I-77 Northbound Widening	Roadway
NB- 3	I-77 Northbound Widening	Roadway
NB- 4	I-77 Northbound Widening	Roadway
NB- 5	I-77 Northbound Widening	Roadway
NB- 6	I-77 Northbound Widening	Roadway
NB- 7	I-77 Northbound Widening	Roadway
NB- 8	I-77 Northbound Widening	Roadway
NB- 9	I-77 Northbound Widening	Roadway
NB-10	I-77 Northbound Widening	Roadway
NB-11	I-77 Northbound Widening	Roadway
NB-12	I-77 Northbound Widening	Roadway
NB-13	I-77 Northbound Widening	Roadway
NB-14	I-77 Northbound Widening	Roadway
NB-15	I-77 Northbound Widening	Roadway
NB-16	I-77 Northbound Widening	Roadway
NB-17	I-77 Northbound Widening	Roadway
NB-18	I-77 Northbound Widening	Roadway
NB-19	I-77 Northbound Widening	Roadway
NB-20	I-77 Northbound Widening	Roadway
NB-21	I-77 Northbound Widening	Roadway
NB-22	I-77 Northbound Widening	Roadway
NB-23	I-77 Northbound Widening	Roadway
NB-24	I-77 Northbound Widening	Roadway
NB-25	I-77 Northbound Widening	Roadway
NB-26	I-77 Northbound Widening	Roadway
NB-27	I-77 Northbound Widening	Roadway
NB-28	I-77 Northbound Widening	Roadway
NB-29	I-77 Northbound Widening	Roadway
NB-30	I-77 Northbound Widening	Roadway
NB-31	I-77 Northbound Widening	Roadway
NB-32	I-77 Northbound Widening	Roadway
R- 1	I-77 NB Connector Rd EB Exit Ramp D	Roadway
R- 2	I-77 NB Connector Rd EB Exit Ramp D	Roadway
R- 3	I-77 NB Connector Rd Entrance Ramp A	Roadway
R- 4	I-77 NB Connector Rd Entrance Ramp A	Roadway
R- 5	I-77 NB Connector Rd Entrance Ramp A	Roadway
R- 6	I-77 NB Connector Rd WB Exit Loop A	Roadway
R- 7	I-77 NB Connector Rd WB Exit Loop A	Roadway

Boring No.	Alignment	Purpose
R- 8	I-77 SB Connector Rd Exit Ramp BA	Roadway
R- 9	I-77 SB Connector Rd Exit Ramp BA	Roadway
R-10	I-77 SB Connector Rd Exit Ramp BA	Roadway
R-11	I-77 SB Connector Rd Entrance Ramp C	Roadway
R-12	I-77 SB Connector Rd Entrance Ramp C	Roadway
SB-12	I-77 Southbound Widening	Roadway
SB-13	I-77 Southbound Widening	Roadway
SB-14	I-77 Southbound Widening	Roadway
SB-15	I-77 Southbound Widening	Roadway
SB-16	I-77 Southbound Widening	Roadway
SB-17	I-77 Southbound Widening	Roadway
SB-18	I-77 Southbound Widening	Roadway
SB-19	I-77 Southbound Widening	Roadway
SB-20	I-77 Southbound Widening	Roadway
SB-21	I-77 Southbound Widening	Roadway
SB-22	I-77 Southbound Widening	Roadway
SB-23	I-77 Southbound Widening	Roadway
SB-24	I-77 Southbound Widening	Roadway
SB-25	I-77 Southbound Widening	Roadway
SB-26	I-77 Southbound Widening	Roadway
SB-27	I-77 Southbound Widening	Roadway
SB-28	I-77 Southbound Widening	Roadway
SB-29	I-77 Southbound Widening	Roadway
SB-30	I-77 Southbound Widening	Roadway
SB-31	I-77 Southbound Widening	Roadway
SB-32	I-77 Southbound Widening	Roadway
W-35	I-77 SB Connector Rd Exit Ramp BA	Retaining Wall
W-36	I-77 SB Connector Rd Exit Ramp BA	Retaining Wall
W-37	I-77 SB Connector Rd Exit Ramp BA	Retaining Wall
W-38	I-77 SB Connector Rd Exit Ramp BA	Retaining Wall
W-39	I-77 SB Connector Rd Exit Ramp BA	Retaining Wall
W-40	I-77 SB Connector Rd Exit Ramp BA	Retaining Wall
W-41	I-77 SB Connector Rd Exit Ramp BA	Retaining Wall
W-42	I-77 SB Connector Rd Exit Ramp BA	Retaining Wall
W-43	I-77 SB Connector Rd Exit Ramp BA	Retaining Wall
W-44	I-77 SB Connector Rd Exit Ramp BA	Retaining Wall
W-45	I-77 SB Connector Rd Entrance Ramp C	Retaining Wall
W-46	I-77 SB Connector Rd Entrance Ramp C	Retaining Wall

Boring No.	Alignment	Purpose
W-47	I-77 SB Connector Rd Entrance Ramp C	Retaining Wall
W-48	I-77 SB Connector Rd Entrance Ramp C	Retaining Wall
W-49	I-77 SB Connector Rd Entrance Ramp C	Retaining Wall
W-50	I-77 SB Connector Rd Entrance Ramp C	Retaining Wall
W-51	I-77 SB Connector Rd Entrance Ramp C	Retaining Wall
W-52	I-77 SB Connector Rd Entrance Ramp C	Retaining Wall
W-53	I-77 SB Connector Rd Entrance Ramp C	Retaining Wall
W-54	I-77 SB Connector Rd Entrance Ramp C	Retaining Wall
W-55	I-77 SB Connector Rd Entrance Ramp C	Retaining Wall
W-56	I-77 SB Connector Rd Entrance Ramp C	Retaining Wall
W-57	I-77 SB Connector Rd Entrance Ramp C	Retaining Wall
W-58	I-77 SB Connector Rd Entrance Ramp C	Retaining Wall
W-59	I-77 SB Connector Rd Entrance Ramp C	Retaining Wall
W-60	I-77 SB Connector Rd Entrance Ramp C	Retaining Wall
W-61	I-77 SB Connector Rd Entrance Ramp C	Retaining Wall
WR- 2	Wilson Blvd / US-21 Realignment	Roadway
WR- 6	Wilson Blvd / US-21 Realignment	Roadway
WR- 7	Wilson Blvd / US-21 Realignment	Roadway
WR- 8	Wilson Blvd / US-21 Realignment	Roadway
WR- 9	Wilson Blvd / US-21 Realignment	Roadway
WR-10	Wilson Blvd / US-21 Realignment	Roadway
WR-11	Wilson Blvd / US-21 Realignment	Roadway
WR-12	Farrow Rd / SC-555 Realignment	Roadway
WR-13	Wilson Blvd / US-21 Realignment	Roadway
WR-14	Farrow Rd / SC-555 Realignment	Roadway
WR-15	Farrow Rd / SC-555 Realignment	Roadway
WR-16	Wilson Blvd / US-21 Realignment	Roadway
WR-26	Wilson Blvd / US-21 Widening	Roadway
WR-27	Wilson Blvd / US-21 Widening	Roadway

Soil sampling and penetration testing were performed in general accordance with ASTM D1586 *Standard Test Method for Penetration Test and Split Barrel Sampling of Soils*. SPT was performed continuously in the upper 10 feet in each culvert, roadway, and retaining wall boring, followed by approximate 5-foot centers, thereafter. The split-barrel sampler was opened at the drill site and sloughed material was identified and separated from the recovered sample. The recovered sample was visually described and classified by S&ME's rig geologist or engineer. A selected portion of the sample was placed in a sealed moisture-proof container. Where materials changed over the sample drive length, a sample of each material was retained. The containers were labeled and transported to the S&ME Columbia Office at the end of each workday.

Water level measurements were attempted immediately after completion of drilling and, where feasible, were repeated after a period of roughly 24 hours. We note that due to the use of drilling fluid additives in mud rotary borings, the water level readings recorded in the soil borings may not accurately reflect the ground water conditions at the site. Ground water readings were conducted in general accordance with ASTM D4750 *Standard Test Method for Determining Subsurface Liquid Levels in a Borehole or Monitoring Well (Observation Well)*.

After ground water measurements were complete, the borings were backfilled with bentonite chips, auger cuttings, or clean fill to within 20 feet of the existing ground surface then abandoned with Portland cement/bentonite grout to the existing ground surface. Borings that penetrated existing pavements were patched with commercially available asphalt cold patch. Grout quantities were recorded, and grout logs are available upon request.

5.5 Bulk Samples

Four (4) bulk samples were obtained from the site adjacent to Borings NB-8, NB-26, SB-20, and SB-30. The representative bulk samples of near-surface soils were obtained by randomly taking shovel loads of auger cutting spoils from borings until a sample of 75 to 100 pounds was obtained. The samples were placed in plastic buckets and marked with appropriate descriptive information.

5.6 Undisturbed Samples (Shelby Tubes)

Two (2) relatively undisturbed (UD) samples, or Shelby Tubes, were attempted and recovered in a companion off-set boring, W-39UD adjacent to boring location W-39, located along the northern portion of a proposed MSE retaining wall associated with the I-77 Southbound Connector Road Exit Ramp BA. Sampling was performed in general accordance with ASTM D1587 *Standard Practice for Thin-Walled Tube Sampling of Fine Grained Soils for Geotechnical Purposes*. Shelby tube sample depths were selected by S&ME upon review of the SPT logs and assigned accordingly.

Shelby Tubes provide sufficiently intact samples for quantitative laboratory testing. Samples were obtained by pushing a 3-inch outer diameter, 16-guage, steel tube into the soil at the desired sampling intervals in hollow stem augered boreholes adjacent to the original SPT location. The tube, together with the encased soil, was carefully removed from the ground and length of the recovered soil measured. The ends of the tube were sealed with microcrystalline wax and labeled with applicable project information before being transported to our laboratory. Shelby tube samples were transported and stored in general accordance with ASTM D4220 for Group C samples.

6.0 Classification of Recovered Soil Samples

Recovered split-spoon and bulk samples were initially classified in general accordance with ASTM D2488 *Standard Practice for Description and Identification of Soils (Visual-Manual Method)*. After laboratory testing was completed, provisional field classifications were revised as necessary to provide a soil description that generally follows the terminology given by ASTM D2487 *Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)* and AASHTO M145 *Recommended Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes*.

Interpreted subsurface conditions encountered by the SPT borings are shown on the boring records in Appendix III. These records represent our interpretation of the subsurface conditions based on the test data. Stratification lines on the boring records represent approximate boundaries between soil types; however, the actual transition may be gradual, and the thicknesses of the strata will vary across the site. The soil samples will be retained at our laboratory for a period of seven years, or until completion of substructure installation, whichever is earlier.

7.0 Laboratory Physical Tests

Index property testing consisting of Atterberg limits, particle-size distribution, percent finer #200 sieve, and natural moisture content tests was performed on split-spoon samples, bulk samples, and undisturbed samples to assist in classifying the soils. Additionally, standard Proctor moisture-density and California Bearing Ratio testing was performed on bulk samples. Finally, one-dimensional consolidation and consolidated undrained triaxial shear testing was performed on selected undisturbed samples.

The testing was performed in general accordance with ASTM or AASHTO test procedures as follows:

- Atterberg limits – ASTM D4318
- Particle-size distribution –ASTM D6913
- Percent-finer 200 sieve – ASTM D1140
- Natural moisture content – ASTM D2216
- Standard Proctor moisture-density – ASTM D698
- California Bearing Ratio – ASTM D1883
- One-dimensional consolidation – ASTM D2435
- Consolidated undrained triaxial shear – ASTM D4767

Tables summarizing the laboratory test results are provided in Appendix II as follows:

- gINT Summary of Laboratory Test Results
- Table 2: Bulk Samples – Laboratory Classification & Strength Testing Summary
- Table 3: Undisturbed Samples – Laboratory Classification & Consolidation Testing Summary
- Table 4: Undisturbed Samples – Laboratory Classification & Shear Strength Testing Summary

The laboratory test data sheets are organized into appendices of this report as summarized below:

- Appendix IV – Laboratory Test Data Sheets – Split-Spoon Samples (includes gINT Index Properties vs. Depth, Grain Size Distribution, and Atterberg Limits Results)
- Appendix V – Laboratory Test Data Sheets – Bulk Samples
- Appendix VI – Laboratory Test Data Sheets – Undisturbed Samples

Electronic data files, including gINT project files are included as Appendix VIII.

8.0 Closing

This data report has been prepared in general accordance with procedures in SCDOT GDM Chapter 21 and with generally applicable standards of our practice in this geographic area at the time this report was prepared. No other warranty, express or implied, is made. The Geotechnical Engineer of Record for the project must review the data submitted in this report and develop their own interpretation of the testing results as they apply to design.

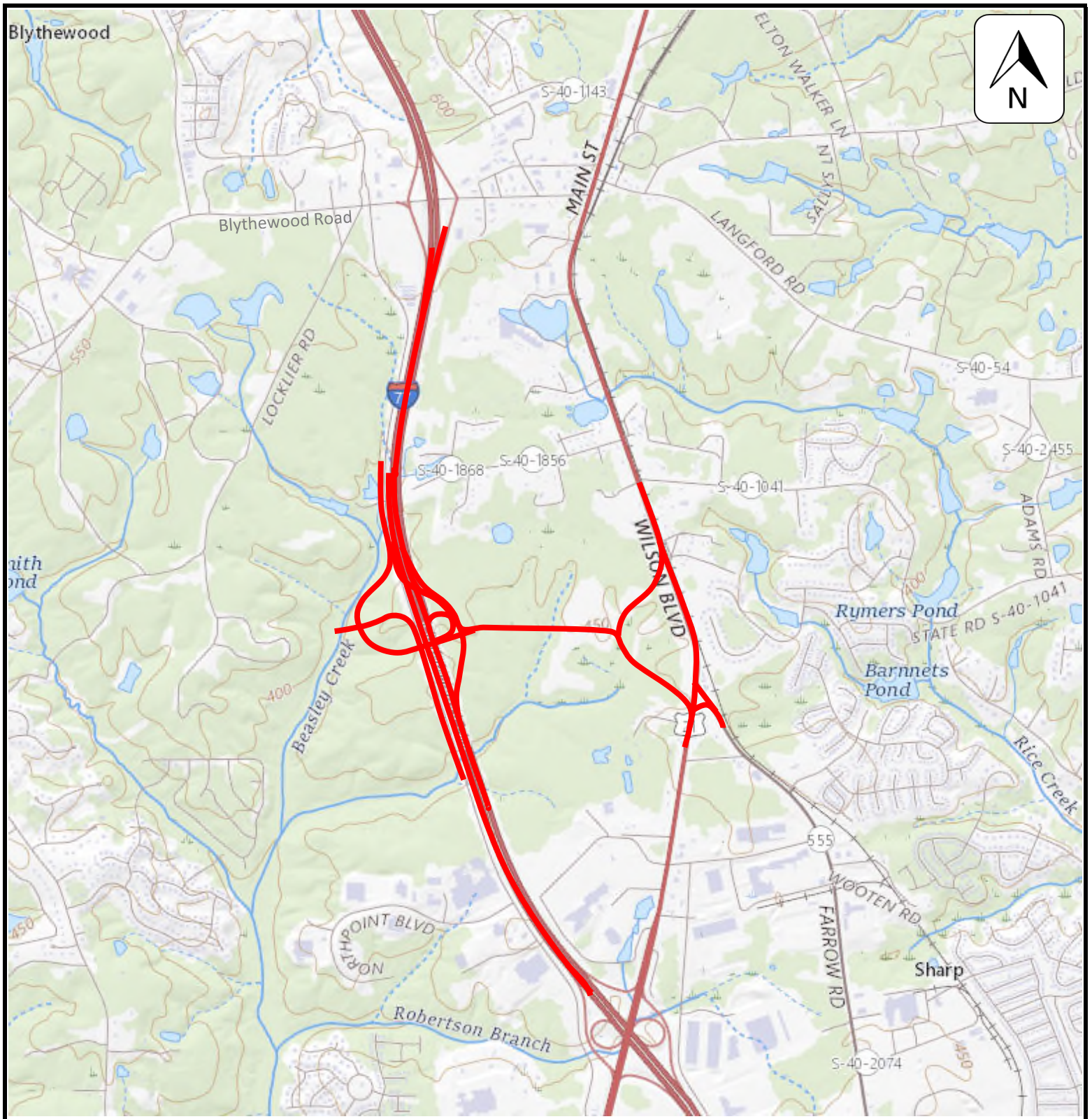
We relied on project information given to us to develop our exploration program. If project information described in this report is not accurate, or if it changes during project development, we should be notified of the changes.

This report presents data from a limited field exploration program. Subsurface conditions will vary widely between explored areas. Some variations may not become evident until further exploration or construction. If conditions are encountered which appear different than those described in our report, we should be notified. This report should not be construed to represent subsurface conditions for the entire site.

Unless specifically noted otherwise, our field exploration program did not include an assessment of regulatory compliance, environmental conditions or pollutants or presence of any biological materials (mold, fungi, bacteria). If there is a concern about these items, other studies should be performed.

Appendices

Appendix I – Figures

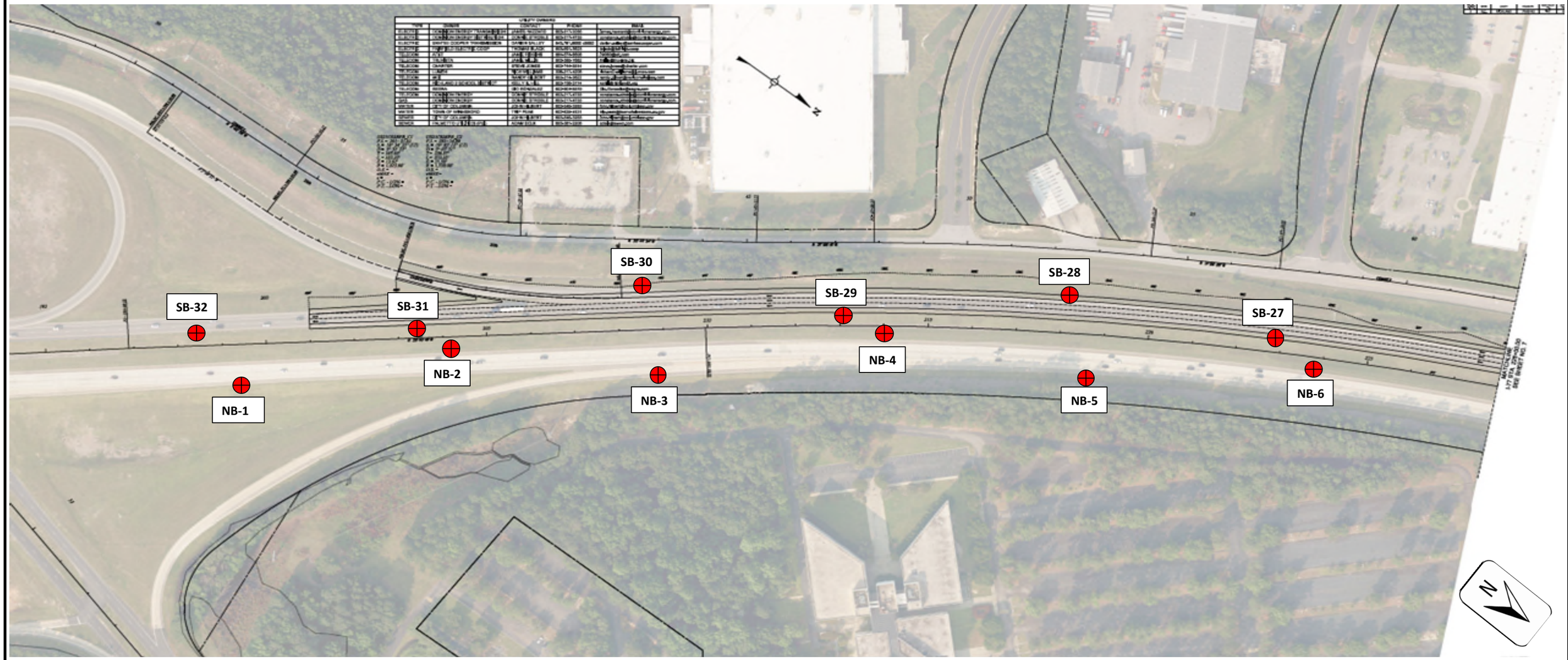


SOURCE: USGS National Map

Legend: Approximate Roadway Alignment Location

SITE LOCATION PLAN

JOB NAME:	Roadway Alignments I-77 Exit 26 - Scout Interchange		FIGURE NO.
CITY, STATE:	Blythewood, Richland County, South Carolina		1
S&ME PROJECT NO.:	23610178A		
SCALE:	NTS	CHECKED BY: JPL	
DATE:	1/22/2024	DRAWN BY: HMS	

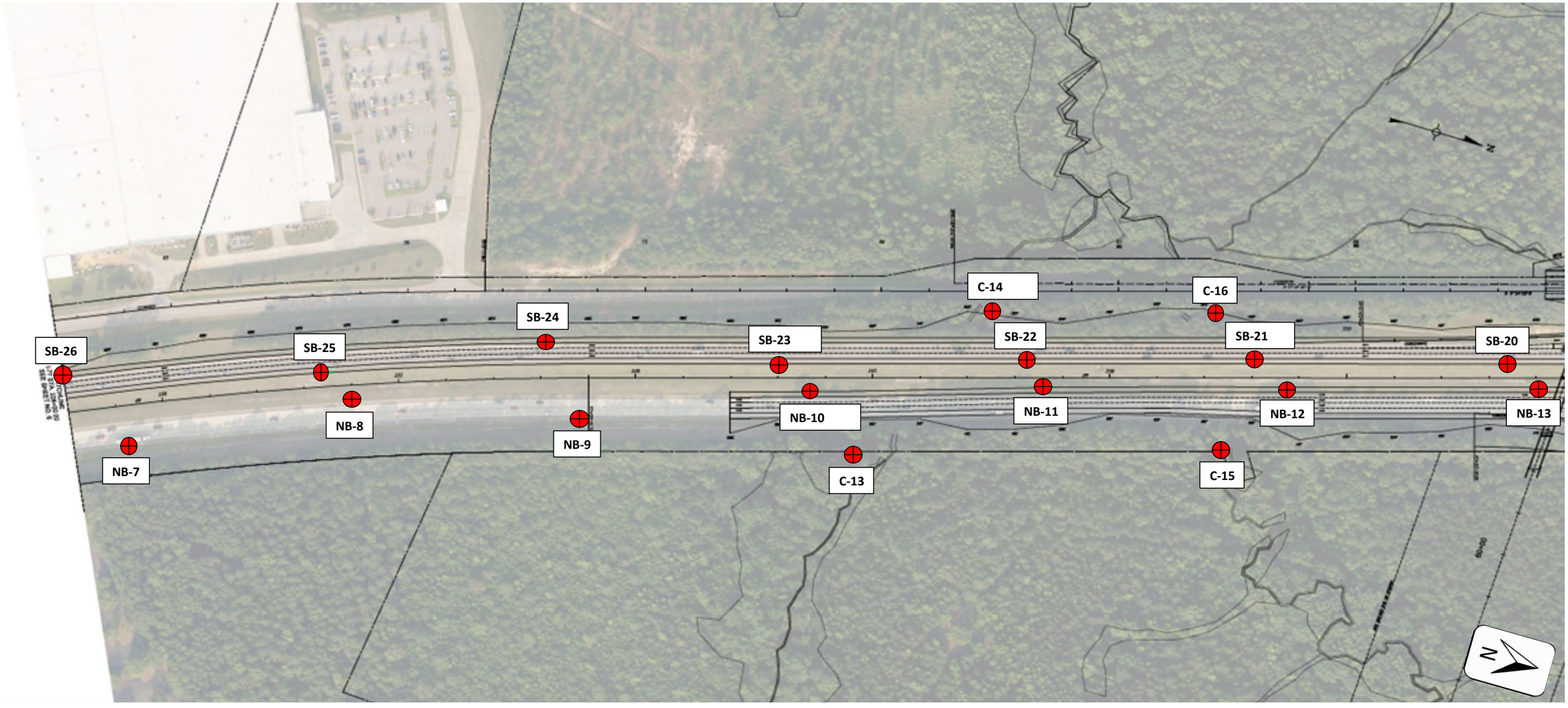


SPT Soil Test Boring - Approximate Location

SOURCE: Conceptual Roadway Plans Alternate 3, prepared by RS&H, dated August 30, 2023.

BORING LOCATION PLAN

JOB NAME:	Roadway Alignments I-77 Exit 26 - Scout Interchange		FIGURE NO.
CITY, STATE:	Blythewood, Richland County, South Carolina		2A
S&ME JOB NO.:	23610178A		
SCALE: NTS		CHECKED BY: JPL	
DATE: 1/22/2024		DRAWN BY: HMS	

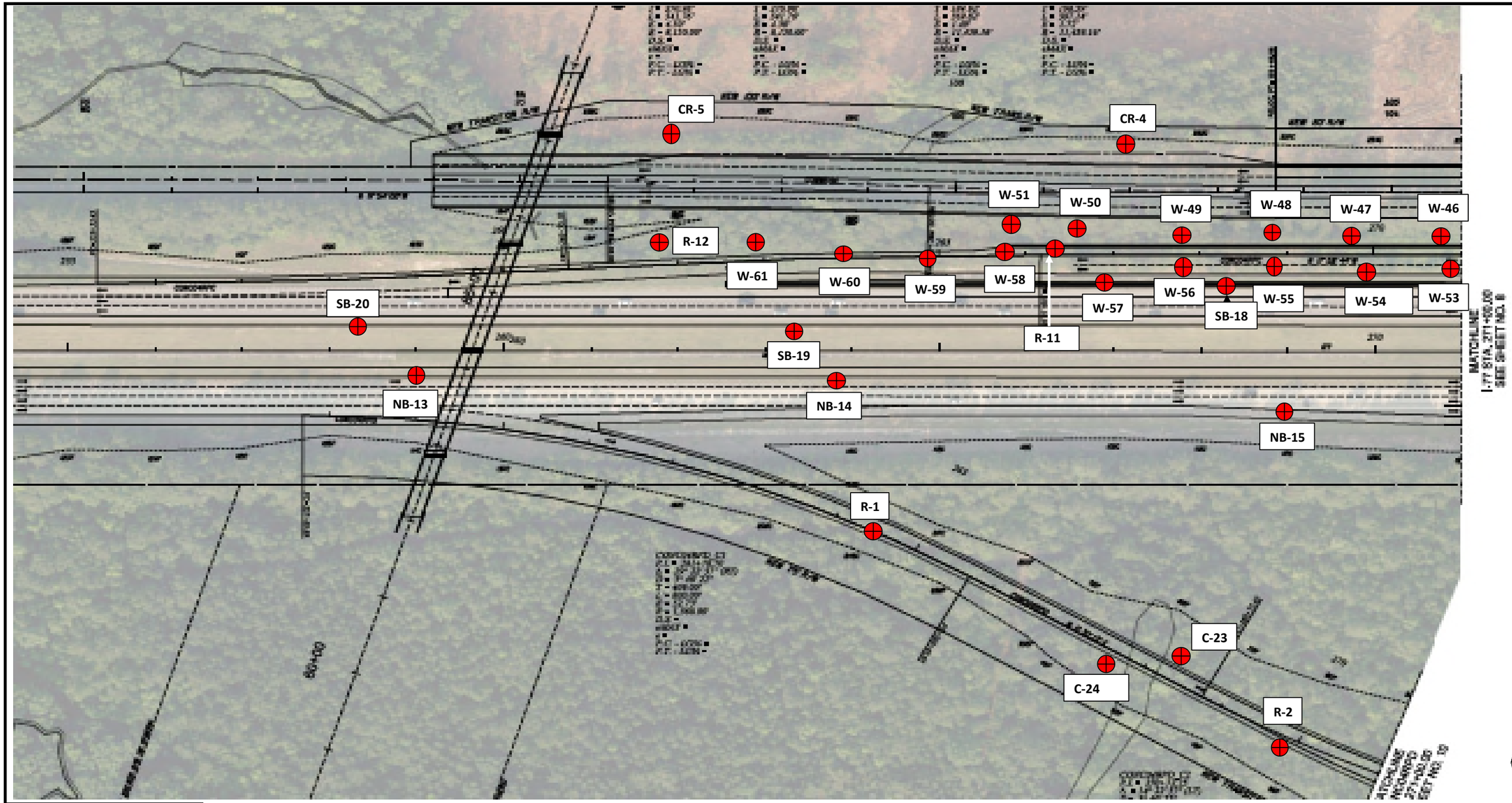


SPT Soil Test Boring - Approximate Location

SOURCE: Conceptual Roadway Plans Alternate 3, prepared by RS&H, dated August 30, 2023.

BORING LOCATION PLAN

JOB NAME:	Roadway Alignments I-77 Exit 26 - Scout Interchange		FIGURE NO.
CITY, STATE:	Blythewood, Richland County, South Carolina		2B
S&ME JOB NO.:	23610178A		
SCALE: NTS		CHECKED BY: JPL	
DATE: 1/22/2024		DRAWN BY: HMS	

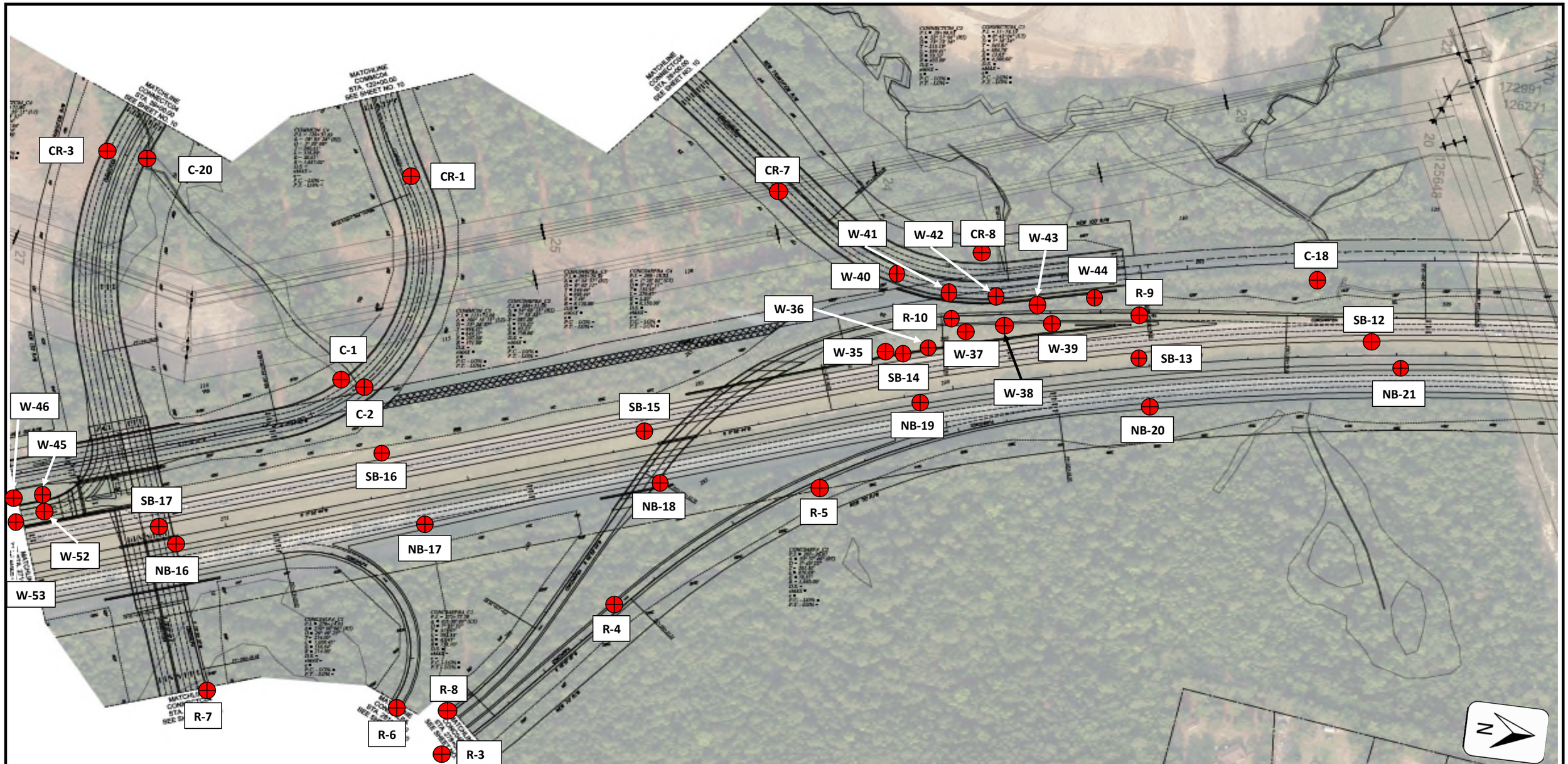


SPT Soil Test Boring - Approximate Location

SOURCE: Conceptual Roadway Plans Alternate 3, prepared by RS&H, dated August 30, 2023.

BORING LOCATION PLAN

JOB NAME:	Roadway Alignments I-77 Exit 26 - Scout Interchange		FIGURE NO.
CITY, STATE:	Blythewood, Richland County, South Carolina		2C
S&ME JOB NO.:	23610178A		
SCALE: NTS		CHECKED BY: JPL	
DATE: 1/22/2024		DRAWN BY: RZZ	

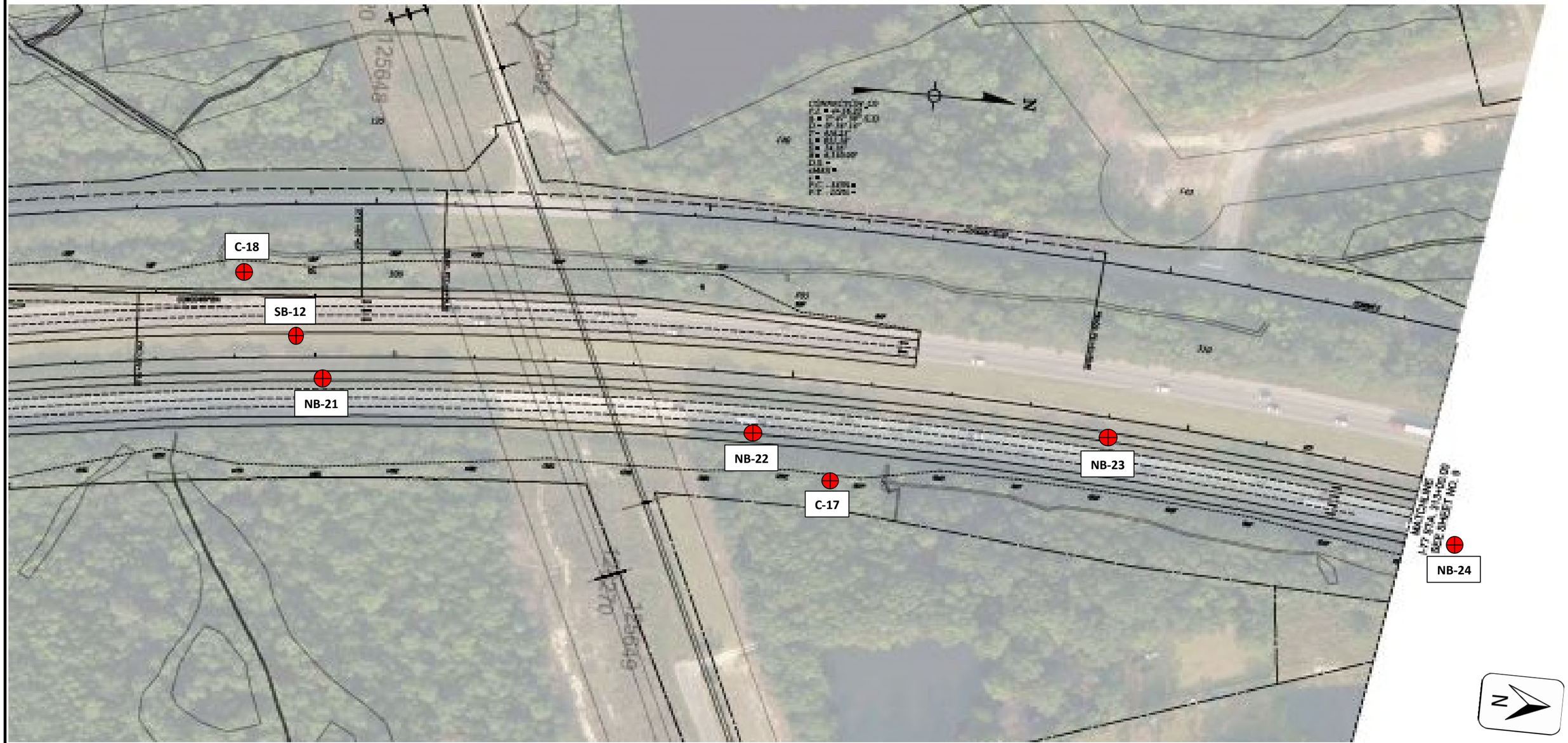


SPT Soil Test Boring - Approximate Location

SOURCE: Conceptual Roadway Plans Alternate 3, prepared by RS&H, dated August 30, 2023.

BORING LOCATION PLAN

JOB NAME:	Roadway Alignments I-77 Exit 26 - Scout Interchange		FIGURE NO.
CITY, STATE:	Blythewood, Richland County, South Carolina		2D
S&ME JOB NO.:	23610178A		
SCALE: NTS		CHECKED BY: JPL	
DATE: 1/22/2024		DRAWN BY: RZZ	



SPT Soil Test Boring - Approximate Location

SOURCE: Conceptual Roadway Plans Alternate 3, prepared by RS&H, dated August 30, 2023.

BORING LOCATION PLAN

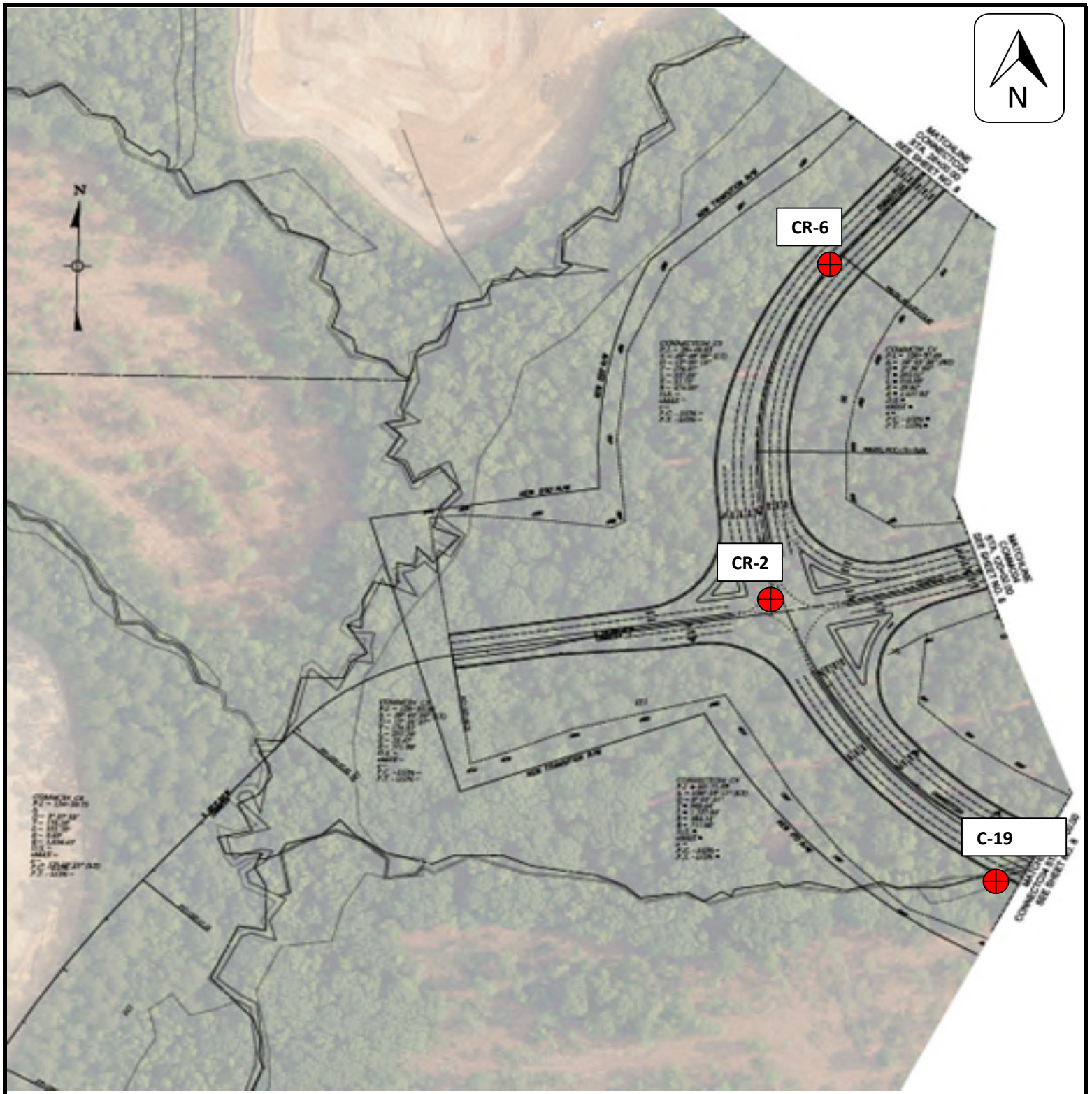
JOB NAME:	Roadway Alignments I-77 Exit 26 - Scout Interchange		FIGURE NO.
CITY, STATE:	Blythewood, Richland County, South Carolina		2E
S&ME JOB NO.:	23610178A		
SCALE: NTS		CHECKED BY: JPL	
DATE: 1/22/2024		DRAWN BY: RZZ	

SPT Soil Test Boring - Approximate Location

SOURCE: Conceptual Roadway Plans Alternate 3, prepared by RS&H, dated August 30, 2023.

BORING LOCATION PLAN

JOB NAME:	Roadway Alignments I-77 Exit 26 - Scout Interchange		FIGURE NO.
CITY, STATE:	Blythewood, Richland County, South Carolina		2F
S&ME JOB NO.:	23610178A		
SCALE: NTS		CHECKED BY: JPL	
DATE: 1/22/2024		DRAWN BY: HMS	

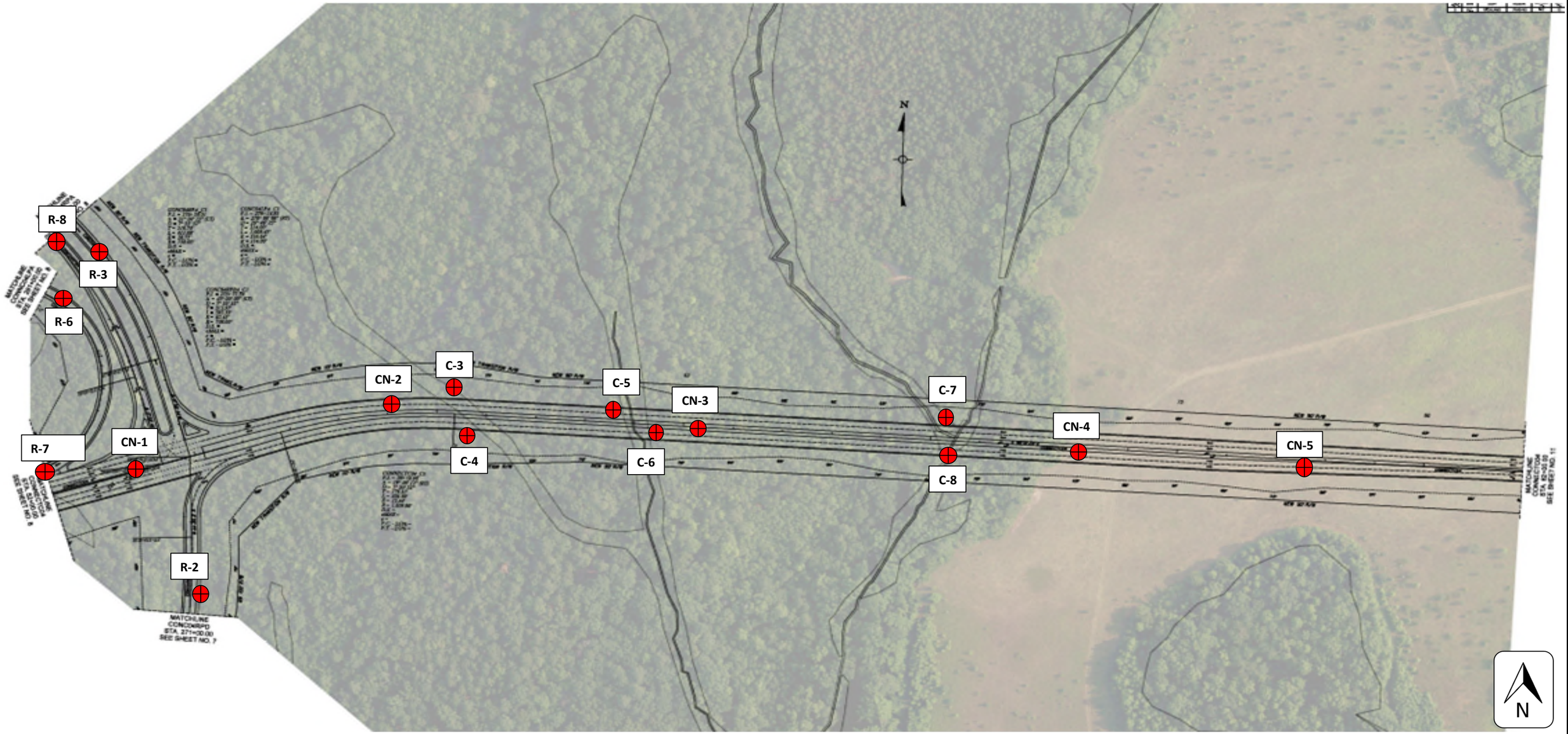


SPT Soil Test Boring - Approximate Location

SOURCE: Conceptual Roadway Plans Alternate 3, prepared by RS&H, dated August 30, 2023.

BORING LOCATION PLAN

JOB NAME:	Roadway Alignments I-77 Exit 26 - Scout Interchange		FIGURE NO.
CITY, STATE:	Blythewood, Richland County, South Carolina		2G
S&ME PROJECT NO.:	23610178A		
SCALE: NTS		CHECKED BY: JPL	
DATE: 1/22/2024		DRAWN BY: RZZ	

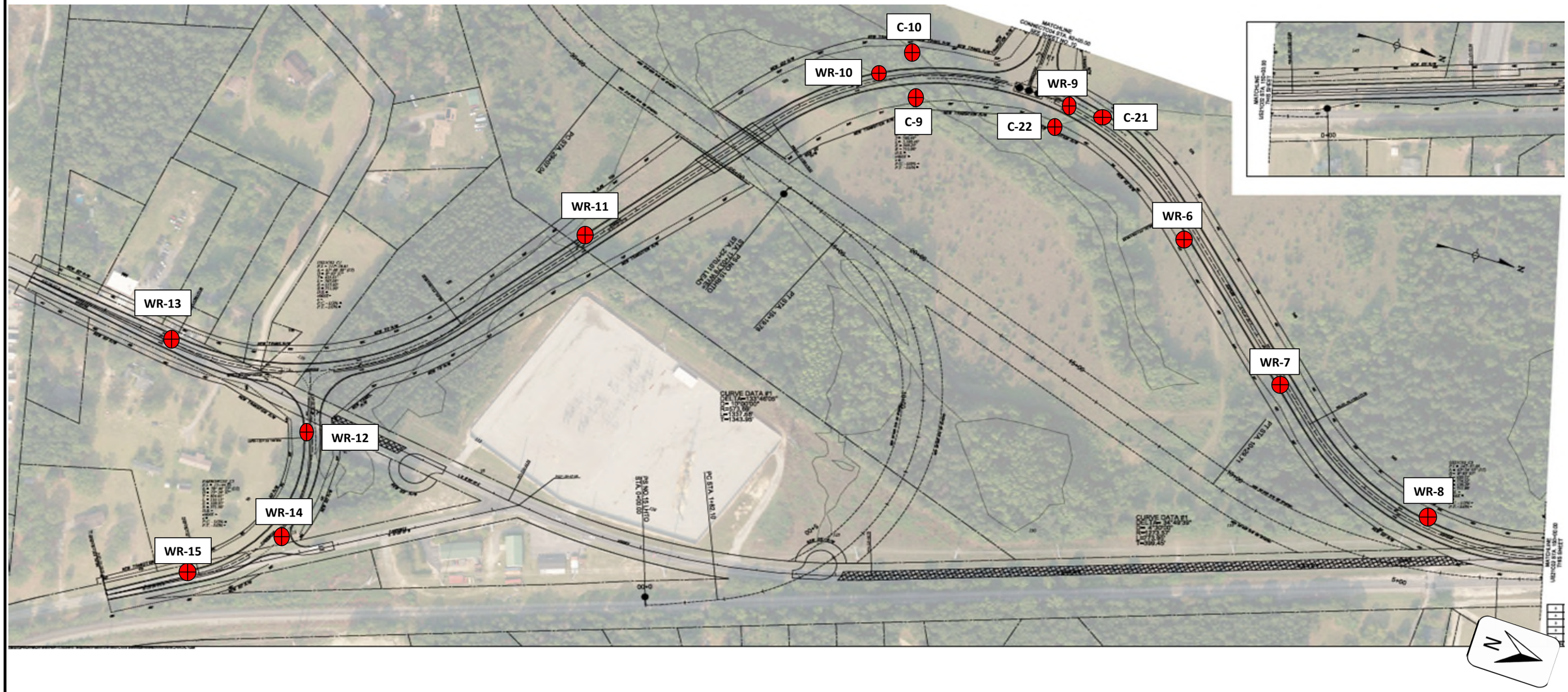


SPT Soil Test Boring - Approximate Location

SOURCE: Conceptual Roadway Plans Alternate 3, prepared by RS&H, dated August 30, 2023.

BORING LOCATION PLAN

JOB NAME:	Roadway Alignments I-77 Exit 26 - Scout Interchange		FIGURE NO.
CITY, STATE:	Blythewood, Richland County, South Carolina		2H
S&ME JOB NO.:	23610178A		
SCALE:	NTS	CHECKED BY: JPL	
DATE:	1/22/2024	DRAWN BY: RZZ	

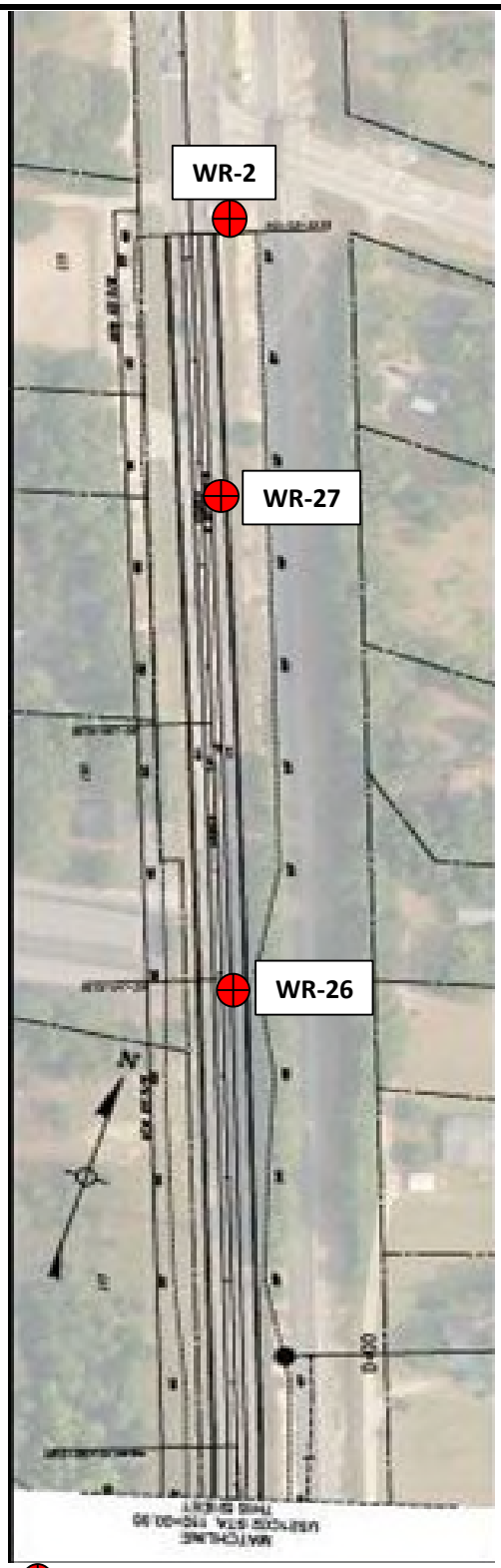


SPT Soil Test Boring - Approximate Location

SOURCE: Conceptual Roadway Plans Alternate 3, prepared by RS&H, dated August 30, 2023.

BORING LOCATION PLAN

JOB NAME:	Roadway Alignments I-77 Exit 26 - Scout Interchange		FIGURE NO.
CITY, STATE:	Blythewood, Richland County, South Carolina		2I
S&ME JOB NO.:	23610178A		
SCALE: NTS		CHECKED BY: JPL	
DATE: 1/22/2024		DRAWN BY: RZZ	



SPT Soil Test Boring - Approximate Location

SOURCE: Conceptual Roadway Plans Alternate 3, prepared by RS&H, dated August 30, 2023.

BORING LOCATION PLAN

JOB NAME:	Roadway Alignments I-77 Exit 26 - Scout Interchange		FIGURE NO.
CITY, STATE:	Blythewood, Richland County, South Carolina		2J
S&ME PROJECT NO.:	23610178A		
SCALE: NTS		CHECKED BY: JPL	
DATE: 1/22/2024		DRAWN BY: RZZ	

Appendix II – Tables

Table 1: Boring Location Summary

Test ID	SC State Plane Northing (ft.)	SC State Plane Easting (ft.)	Latitude (degrees)	Longitude (degrees)	Elevation (ft-NAVD88)	Alignment	Route	Station	Offset (ft)
C- 1	858216.29	2004581.49	34.192141	-80.984849	450.0	Community Road Realignment	Community Rd	112+90.48	-40.7
C- 2	858246.43	2004580.19	34.192224	-80.984853	449.6	Community Road Realignment	Community Rd	113+14.60	-20.2
C- 3	858216.65	2006105.87	34.192142	-80.979808	445.8	Connector Road	Connector Rd	160+46.81	-52.1
C- 4	858116.61	2006152.06	34.191867	-80.979655	444.9	Connector Road	Connector Rd	160+96.05	46.5
C- 5	858173.88	2006419.16	34.192024	-80.978772	440.6	Connector Road	Connector Rd	163+61.27	-19.0
C- 6	858135.85	2006502.01	34.191919	-80.978498	438.7	Connector Road	Connector Rd	164+45.25	16.5
C- 7	858187.81	2007112.01	34.192062	-80.976481	435.4	Connector Road	Connector Rd	170+53.36	-54.1
C- 8	858091.46	2007123.66	34.191797	-80.976443	433.6	Connector Road	Connector Rd	170+67.96	41.8
C- 9	857819.36	2008518.45	34.191048	-80.971831	441.5	Wilson Blvd / US-21 Realignment	US-21	704+84.81	61.2
C-10	857744.54	2008388.36	34.190843	-80.972261	438.9	Wilson Blvd / US-21 Realignment	US-21	704+68.50	-87.9
C-13	855218.77	2006076.86	34.183904	-80.979906	407.4	I-77 Northbound Widening	I-77N	1703+10.52	238.6
C-14	855347.88	2005629.54	34.184259	-80.981385	394.9	I-77 Southbound Widening	I-77S	1705+70.92	-147.4
C-15	855947.35	2005814.98	34.185906	-80.980771	395.0	I-77 Northbound Widening	I-77N	1710+84.32	213.4
C-16	855819.66	2005465.92	34.185556	-80.981926	399.2	I-77 Southbound Widening	I-77S	1710+70.16	-158.0
C-17	861030.06	2004416.12	34.199873	-80.985394	461.2	I-77 Northbound Widening	I-77N	1764+32.95	159.0
C-18	860164.50	2004156.19	34.197495	-80.986254	428.5	I-77 Southbound Widening	I-77S	1755+85.04	-157.1
C-19	857725.35	2003985.65	34.190793	-80.986819	418.8	Community Road Realignment	Community Rd	138+75.47	63.0
C-20	857794.08	2004128.30	34.190981	-80.986347	422.5	Community Road Realignment	Community Rd	139+78.63	-57.1
C-21	858288.36	2008414.79	34.192337	-80.972173	448.4	Wilson Blvd / US-21 Realignment	US-21	709+81.27	-23.8
C-22	858187.73	2008474.80	34.192061	-80.971975	444.5	Wilson Blvd / US-21 Realignment	US-21	708+95.52	58.4
C-23	857470.51	2005510.35	34.190092	-80.981778	447.4	I-77 NB Connector Rd EB Exit Ramp D	Ramp D	1726+79.74	-28.3
C-24	857372.09	2005538.32	34.189821	-80.981685	446.6	I-77 NB Connector Rd EB Exit Ramp D	Ramp D	1725+87.94	16.9
CN-1	858025.41	2005467.52	34.191616	-80.981919	454.7	Connector Road	Connector Rd	153+90.42	1.5
CN-2	858177.45	2005958.05	34.192034	-80.980297	452.6	Connector Road	Connector Rd	159+02.06	-16.9
CN-3	858145.06	2006607.52	34.191945	-80.978149	446.0	Connector Road	Connector Rd	165+50.42	4.1
CN-4	858113.78	2007345.97	34.191858	-80.975708	449.2	Connector Road	Connector Rd	172+89.48	12.7
CN-5	858095.86	2007873.06	34.191809	-80.973965	449.2	Connector Road	Connector Rd	178+16.87	14.4
CR-1	858315.99	2004115.79	34.192415	-80.986389	459.4	Community Road Realignment	Community Rd	118+20.09	22.8
CR-2	858154.68	2003672.60	34.191972	-80.987854	436.1	Community Road Realignment	Community Rd	122+97.44	7.0
CR-3	857702.82	2004121.79	34.190731	-80.986369	431.0	Connector Road	Connector Rd	140+01.64	31.5
CR-4	857195.63	2004900.57	34.189337	-80.983794	458.2	Community Road Realignment	Community Rd	101+94.88	-74.2
CR-5	856708.25	2005054.18	34.187997	-80.983286	450.8	Community Road Realignment	Community Rd	96+86.19	-61.8
CR-6	858692.75	2003731.63	34.193451	-80.987659	420.8	Community Road Realignment	Community Rd	127+97.34	-1.9
CR-7	859047.09	2004056.60	34.194424	-80.986584	442.7	Community Road Realignment	Community Rd	123+22.19	-34.6
CR-8	859496.79	2004147.60	34.195660	-80.986283	423.2	Community Road Realignment	Community Rd	118+68.50	7.7
NB- 1	851309.32	2008179.04	34.173161	-80.972959	430.7	I-77 Northbound Widening	I-77N	1657+58.80	100.1
NB- 2	851633.47	2007808.93	34.174052	-80.974182	433.0	I-77 Northbound Widening	I-77N	1662+45.11	25.5
NB- 3	852060.72	2007571.47	34.175226	-80.974967	433.9	I-77 Northbound Widening	I-77N	1667+24.91	118.9
NB- 4	852403.25	2007185.87	34.176167	-80.976241	437.4	I-77 Northbound Widening	I-77N	1672+37.41	29.8
NB- 5	852844.97	2006963.34	34.177381	-80.976977	437.3	I-77 Northbound Widening	I-77N	1677+31.51	98.1
NB- 6	853224.15	2006656.21	34.178423	-80.977992	440.8	I-77 Northbound Widening	I-77N	1682+18.88	30.1
NB- 7	853714.72	2006474.44	34.179771	-80.978592	437.2	I-77 Northbound Widening	I-77N	1687+42.59	92.7
NB- 8	854130.89	2006225.65	34.180915	-80.979415	435.0	I-77 Northbound Widening	I-77N	1692+27.33	29.8
NB- 9	854633.07	2006111.76	34.182295	-80.979791	428.7	I-77 Northbound Widening	I-77N	1697+42.47	91.7

Table 1: Boring Location Summary

Test ID	SC State Plane Northing (ft.)	SC State Plane Easting (ft.)	Latitude (degrees)	Longitude (degrees)	Elevation (ft-NAVD88)	Alignment	Route	Station	Offset (ft)
NB-10	855084.46	2005901.13	34.183535	-80.980487	425.4	I-77 Northbound Widening	I-77N	1702+36.75	30.1
NB-11	855549.04	2005748.40	34.184812	-80.980992	421.4	I-77 Northbound Widening	I-77N	1707+25.79	27.6
NB-12	856025.90	2005595.78	34.186122	-80.981496	424.3	I-77 Northbound Widening	I-77N	1712+26.47	29.0
NB-13	856517.80	2005438.57	34.187474	-80.982016	434.5	I-77 Northbound Widening	I-77N	1717+42.88	30.7
NB-14	856968.69	2005295.93	34.188713	-80.982487	445.2	I-77 Northbound Widening	I-77N	1722+15.79	33.6
NB-15	857478.16	2005186.24	34.190113	-80.982849	454.5	I-77 Northbound Widening	I-77N	1727+34.30	85.9
NB-16	857931.10	2004980.44	34.191358	-80.983530	457.9	I-77 Northbound Widening	I-77N	1732+28.58	29.3
NB-17	858418.09	2004882.53	34.192696	-80.983853	454.3	I-77 Northbound Widening	I-77N	1737+22.08	85.9
NB-18	858889.92	2004728.25	34.193992	-80.984363	449.9	I-77 Northbound Widening	I-77N	1742+18.49	84.2
NB-19	859370.62	2004517.78	34.195313	-80.985059	444.5	I-77 Northbound Widening	I-77N	1747+41.43	29.7
NB-20	859871.28	2004448.58	34.196689	-80.985287	439.6	I-77 Northbound Widening	I-77N	1752+49.24	82.3
NB-21	860343.14	2004322.90	34.197985	-80.985703	445.3	I-77 Northbound Widening	I-77N	1757+39.79	30.6
NB-22	860876.11	2004338.87	34.199450	-80.985650	454.5	I-77 Northbound Widening	I-77N	1762+76.04	81.0
NB-23	861346.12	2004297.73	34.200741	-80.985786	465.4	I-77 Northbound Widening	I-77N	1767+49.63	28.9
NB-24	861837.11	2004408.50	34.202090	-80.985419	473.4	I-77 Northbound Widening	I-77N	1772+54.96	85.7
NB-25	862336.74	2004443.80	34.203463	-80.985302	485.0	I-77 Northbound Widening	I-77N	1777+55.81	27.0
NB-26	862847.75	2004608.87	34.204867	-80.984756	492.3	I-77 Northbound Widening	I-77N	1782+89.52	86.5
NB-27	863298.17	2004643.14	34.206105	-80.984642	496.7	I-77 Northbound Widening	I-77N	1787+37.69	30.0
NB-28	863776.27	2004795.80	34.207419	-80.984137	500.5	I-77 Northbound Widening	I-77N	1792+36.67	83.9
NB-29	864309.39	2004850.52	34.208883	-80.983956	504.0	I-77 Northbound Widening	I-77N	1797+69.95	30.8
NB-30	864898.02	2005010.61	34.210501	-80.983426	510.9	I-77 Northbound Widening	I-77N	1803+73.26	83.7
NB-31	865295.69	2004995.19	34.211593	-80.983477	511.1	I-77 Northbound Widening	I-77N	1807+63.71	29.3
NB-32	865773.35	2005061.00	34.212906	-80.983259	516.2	I-77 Northbound Widening	I-77N	1812+38.20	84.1
R- 1	857075.91	2005463.86	34.189007	-80.981932	448.3	I-77 NB Connector Rd EB Exit Ramp D	Ramp D	1722+83.56	-6.6
R- 2	857604.19	2005582.03	34.190459	-80.981541	451.1	I-77 NB Connector Rd EB Exit Ramp D	Ramp D	1728+23.75	18.6
R- 3	858494.79	2005376.57	34.192906	-80.982219	458.6	I-77 NB Connector Rd Entrance Ramp A	Ramp A	1735+42.63	-7.9
R- 4	858812.02	2005002.77	34.193778	-80.983455	465.3	I-77 NB Connector Rd Entrance Ramp A	Ramp A	1740+35.3	-21.3
R- 5	859212.66	2004717.31	34.194879	-80.984399	456.3	I-77 NB Connector Rd Entrance Ramp A	Ramp A	1745+27.56	22.7
R- 6	858401.76	2005289.02	34.192651	-80.982509	463.2	I-77 NB Connector Rd WB Exit Loop A	Ramp A	1739+54.94	-2.2
R- 7	858024.04	2005272.44	34.191613	-80.982564	453.5	I-77 NB Connector Rd WB Exit Loop A	Ramp A	1744+16.42	1.1
R- 8	858507.95	2005282.09	34.192942	-80.982532	459.8	I-77 SB Connector Rd Exit Ramp BA	Ramp BA	1733+90.33	-11.0
R- 9	859811.27	2004265.07	34.196524	-80.985894	440.1	I-77 SB Connector Rd Exit Ramp BA	Ramp BA	1752+16.82	45.2
R-10	859432.34	2004312.56	34.195483	-80.985737	447.5	I-77 SB Connector Rd Exit Ramp BA	Ramp BA	1748+21.22	70.6
R-11	857153.94	2005063.93	34.189222	-80.983254	455.6	I-77 SB Connector Rd Entrance Ramp C	Ramp C	1724+64.07	-14.2
R-12	856729.21	2005196.59	34.188055	-80.982816	431.9	I-77 SB Connector Rd Entrance Ramp C	Ramp C	1720+19.86	-23.3
SB-12	860299.64	2004266.15	34.197866	-80.985890	445.0	I-77 Southbound Widening	I-77S	1757+03.08	-30.8
SB-13	859822.39	2004346.76	34.196555	-80.985624	440.9	I-77 Southbound Widening	I-77S	1752+21.38	-27.2
SB-14	859312.81	2004418.70	34.195154	-80.985386	447.1	I-77 Southbound Widening	I-77S	1747+14.29	-81.7
SB-15	858853.05	2004619.58	34.193891	-80.984722	449.9	I-77 Southbound Widening	I-77S	1742+16.82	-30.5
SB-16	858325.86	2004734.76	34.192442	-80.984342	456.0	I-77 Southbound Widening	I-77S	1736+79.75	-83.0
SB-17	857885.69	2004931.25	34.191233	-80.983692	458.1	I-77 Southbound Widening	I-77S	1732+00.49	-31.4
SB-18	857361.53	2005045.55	34.189792	-80.983315	454.3	I-77 Southbound Widening	I-77S	1726+66.58	-83.8
SB-19	856905.89	2005250.70	34.188540	-80.982637	443.8	I-77 Southbound Widening	I-77S	1721+69.94	-28.7
SB-20	856426.61	2005404.68	34.187223	-80.982128	432.6	I-77 Southbound Widening	I-77S	1716+66.53	-29.6

Table 1: Boring Location Summary

Test ID	SC State Plane Northing (ft.)	SC State Plane Easting (ft.)	Latitude (degrees)	Longitude (degrees)	Elevation (ft-NAVD88)	Alignment	Route	Station	Offset (ft)
SB-21	855949.46	2005559.16	34.185912	-80.981617	423.4	I-77 Southbound Widening	I-77S	1711+65.00	-29.3
SB-22	855475.73	2005710.03	34.184611	-80.981119	422.0	I-77 Southbound Widening	I-77S	1706+67.83	-31.4
SB-23	854989.10	2005871.38	34.183273	-80.980585	425.9	I-77 Southbound Widening	I-77S	1701+55.17	-27.6
SB-24	854494.62	2005977.17	34.181915	-80.980236	432.8	I-77 Southbound Widening	I-77S	1696+52.80	-79.2
SB-25	854047.35	2006194.77	34.180685	-80.979517	435.0	I-77 Southbound Widening	I-77S	1691+61.29	-29.9
SB-26	853565.03	2006352.52	34.179360	-80.978996	442.0	I-77 Southbound Widening	I-77S	1686+60.06	-81.8
SB-27	853144.27	2006633.56	34.178204	-80.978067	440.2	I-77 Southbound Widening	I-77S	1681+60.39	-28.9
SB-28	852701.03	2006840.76	34.176986	-80.977382	440.7	I-77 Southbound Widening	I-77S	1676+77.57	-83.1
SB-29	852307.20	2007187.57	34.175903	-80.976236	436.3	I-77 Southbound Widening	I-77S	1671+59.48	-26.4
SB-30	851903.42	2007416.16	34.174794	-80.975480	434.8	I-77 Southbound Widening	I-77S	1667+04.55	-101.2
SB-31	851544.86	2007812.69	34.173808	-80.974170	432.7	I-77 Southbound Widening	I-77S	1661+74.89	-28.6
SB-32	851163.42	2008130.92	34.172760	-80.973118	431.2	I-77 Southbound Widening	I-77S	1656+78.14	-30.7
W-35	859280.70	2004409.98	34.195066	-80.985415	443.8	I-77 SB Connector Rd Exit Ramp BA	Ramp BA	1746+21.01	108.8
W-36	859381.34	2004383.55	34.195343	-80.985503	445.4	I-77 SB Connector Rd Exit Ramp BA	Ramp BA	1747+42.52	124.8
W-37	859460.38	2004344.58	34.195560	-80.985631	443.8	I-77 SB Connector Rd Exit Ramp BA	Ramp BA	1748+44.6	107.8
W-38	859540.93	2004316.44	34.195781	-80.985724	442.4	I-77 SB Connector Rd Exit Ramp BA	Ramp BA	1749+40.73	90.7
W-39	859649.81	2004297.08	34.196080	-80.985788	440.6	I-77 SB Connector Rd Exit Ramp BA	Ramp BA	1750+54.8	74.3
W-40	859336.52	2004218.88	34.195220	-80.986047	436.6	I-77 SB Connector Rd Exit Ramp BA	Ramp BA	1747+53.03	-45.6
W-41	859408.23	2004272.13	34.195417	-80.985871	441.5	I-77 SB Connector Rd Exit Ramp BA	Ramp BA	1748+06.37	25.6
W-42	859533.43	2004262.17	34.195761	-80.985904	434.6	I-77 SB Connector Rd Exit Ramp BA	Ramp BA	1749+36.95	36.0
W-43	859619.73	2004265.47	34.195998	-80.985893	444.8	I-77 SB Connector Rd Exit Ramp BA	Ramp BA	1750+25.31	42.1
W-44	859722.81	2004234.55	34.196281	-80.985995	432.6	I-77 SB Connector Rd Exit Ramp BA	Ramp BA	1751+28.93	13.1
W-45	857642.40	2004890.97	34.190564	-80.983826	466.3	I-77 SB Connector Rd Entrance Ramp C	Ramp C	1729+82.05	-28.6
W-46	857582.84	2004909.44	34.190401	-80.983765	465.9	I-77 SB Connector Rd Entrance Ramp C	Ramp C	1729+19.69	-29.3
W-47	857484.31	2004945.93	34.190130	-80.983644	464.7	I-77 SB Connector Rd Entrance Ramp C	Ramp C	1728+14.72	-24.9
W-48	857403.12	2004967.74	34.189907	-80.983572	463.0	I-77 SB Connector Rd Entrance Ramp C	Ramp C	1727+30.75	-29.1
W-49	857308.00	2005000.59	34.189645	-80.983463	459.2	I-77 SB Connector Rd Entrance Ramp C	Ramp C	1726+30.14	-27.1
W-50	857205.37	2005028.15	34.189363	-80.983372	457.5	I-77 SB Connector Rd Entrance Ramp C	Ramp C	1725+24.01	-32.4
W-51	857105.91	2005058.00	34.189090	-80.983274	454.4	I-77 SB Connector Rd Entrance Ramp C	Ramp C	1724+20.18	-34.6
W-52	857648.05	2004933.62	34.190580	-80.983685	456.0	I-77 SB Connector Rd Entrance Ramp C	Ramp C	1729+74.31	13.8
W-53	857599.70	2004951.91	34.190447	-80.983624	454.5	I-77 SB Connector Rd Entrance Ramp C	Ramp C	1729+22.68	16.3
W-54	857504.90	2004982.54	34.190186	-80.983523	453.4	I-77 SB Connector Rd Entrance Ramp C	Ramp C	1728+23.05	16.3
W-55	857416.25	2005008.28	34.189943	-80.983438	453.2	I-77 SB Connector Rd Entrance Ramp C	Ramp C	1727+30.78	13.5
W-56	857321.29	2005038.24	34.189682	-80.983339	451.7	I-77 SB Connector Rd Entrance Ramp C	Ramp C	1726+31.21	12.8
W-57	857229.90	2005088.10	34.189431	-80.983174	451.8	I-77 SB Connector Rd Entrance Ramp C	Ramp C	1725+28.92	32.2
W-58	857119.59	2005081.36	34.189128	-80.983196	453.7	I-77 SB Connector Rd Entrance Ramp C	Ramp C	1724+26.03	-8.2
W-59	857038.07	2005113.57	34.188904	-80.983090	450.8	I-77 SB Connector Rd Entrance Ramp C	Ramp C	1723+38.55	-2.6
W-60	856938.91	2005142.64	34.188631	-80.982994	440.5	I-77 SB Connector Rd Entrance Ramp C	Ramp C	1722+35.30	-5.6
W-61	856824.76	2005172.38	34.188318	-80.982896	434.5	I-77 SB Connector Rd Entrance Ramp C	Ramp C	1721+17.78	-14.2
WR- 2	860868.14	2008824.18	34.199425	-80.970817	479.2	Wilson Blvd / US-21 Realignment	US-21	731+94.21	17.1
WR- 6	858609.21	2008680.07	34.193219	-80.971296	451.9	Wilson Blvd / US-21 Realignment	US-21	713+96.74	27.2
WR- 7	858951.71	2008981.50	34.194159	-80.970299	456.3	Wilson Blvd / US-21 Realignment	US-21	718+52.97	23.3
WR- 8	859441.63	2009203.99	34.195505	-80.969563	464.5	Wilson Blvd / US-21 Realignment	US-21	724+03.39	-26.6
WR- 9	858206.47	2008421.09	34.192112	-80.972152	446.5	Wilson Blvd / US-21 Realignment	US-21	709+04.47	2.2

Table 1: Boring Location Summary

Test ID	SC State Plane Northing (ft.)	SC State Plane Easting (ft.)	Latitude (degrees)	Longitude (degrees)	Elevation (ft-NAVD88)	Alignment	Route	Station	Offset (ft)
WR-10	857701.36	2008490.02	34.190724	-80.971925	440.2	Wilson Blvd / US-21 Realignment	US-21	703+89.21	-17.4
WR-11	857152.95	2009133.66	34.189217	-80.969797	445.4	Wilson Blvd / US-21 Realignment	US-21	695+44.72	-12.0
WR-12	856650.63	2009848.59	34.187836	-80.967434	446.1	Farrow Rd / SC-555 Realignment	SC-555	18+65.13	-8.5
WR-13	856241.98	2009716.38	34.186713	-80.967871	451.7	Wilson Blvd / US-21 Realignment	US-21	683+78.49	-7.5
WR-14	856674.59	2010140.81	34.187902	-80.966468	448.9	Farrow Rd / SC-555 Realignment	SC-555	15+70.11	19.6
WR-15	856481.68	2010311.04	34.187371	-80.965905	450.0	Farrow Rd / SC-555 Realignment	SC-555	13+13.69	-8.1
WR-16	855694.99	2009628.75	34.185210	-80.968162	450.3	Wilson Blvd / US-21 Realignment	US-21	678+24.52	-9.4
WR-26	860201.35	2009060.09	34.197593	-80.970038	474.5	Wilson Blvd / US-21 Widening	US-21	724+87.08	9.7
WR-27	860665.54	2008895.13	34.198869	-80.970583	478.7	Wilson Blvd / US-21 Widening	US-21	729+79.57	13.7

Notes: As-built coordinates and elevation provided by CES.
NA = NOT AVAILABLE

Table 2: Bulk Samples – Laboratory Classification & Strength Testing Summary

Boring Number	Sample Number	Sample Depth (ft)	Atterberg Limits		Percent Finer #200 (%)	Soil Classification		Max. Dry Density (pcf)	Optimum Moisture (%)	% Compaction	Corrected CBR Value at 0.1 in.
			LL	PI		AASHTO	USCS				
NB-8	BS-1	0 - 10	43	22	49.8	A-7-6(7)	SC	119.6	12.3	95.4	1.2
										97.2	1.3
NB-26	BS-2	0 - 10	NP	NP	19.0	A-2-4	SM	125.3	9.4	98.2	18.5
										99.6	29.0
SB-20	BS-3	0 - 10	49	14	65.2	A-7-5(9)	ML	112.2	11.5	95.0	0.5
										97.5	0.6
SB-30	BS-4	0 - 10	40	21	39.2	A-6(3)	SC	118.5	12.2	97.0	9.0

Table 3: Undisturbed Samples - Laboratory Classification & Consolidation Testing Summary

Boring Number	Sample Number	Sample Depth (ft)	Atterberg Limits		Percent Finer #200 (%)	USCS	AASHTO	Specific Gravity	Initial Void Ratio	Final Void Ratio	Initial Dry Unit Weight (pcf)	Initial Moisture Content (%)
			LL	PI								
W-39	UD-3	6 - 8	21	5	55.0	CL-ML	A-4(0)	2.65	0.386	0.281	119.4	8.5

TNP = Test Not Performed

Table 4: Undisturbed Samples - Laboratory Classification & Shear Strength Testing Summary

Boring Number	Sample Number	Sample Depth (ft)	Test Type	Atterberg Limits		Percent Finer #200 (%)	Organic Matter Content (%)	USCS	AASHTO	Specific Gravity	Test Specimen Number	Initial Dry Unit Weight (pcf)	Initial Moisture Content (%)	Shear Strength Parameters			
														Total		Effective	
				LL	PI									c (ksf)	ϕ (degrees)	c' (ksf)	ϕ' (degrees)
W-39	UD-4	8-10	ASTM D4767	24	6	71	TNP	CL-ML	A-4(2)	2.65	1	108.9	18.3	0.388	25.4	0.345	32.9
											2	107.6	19.7				
											3	113	15.9				

NP = Non-plastic
TNP = Test Not Performed

SUMMARY OF LABORATORY RESULTS

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
C- 1	0.0				4.75	48		8.0			
C- 1	8.0	29	16	13	0.075	47	SC	11.9			
C- 1	18.5	45	35	10	0.075	78	ML	32.7			
C- 2	0.0				9.5	49		6.9			
C- 2	4.0	35	23	12	0.075	44	SC	15.4			
C- 2	8.0				4.75	37		12.9			
C- 3	0.0				0.075	28		8.4			
C- 3	2.0	38	20	18	0.075	42	SC	10.8			
C- 3	13.5	45	33	12	0.075	49	SM	18.4			
C- 4	0.0				9.5	26		7.0			
C- 4	2.0	29	22	7	0.075	49	SC-SM	11.4			
C- 4	13.5	26	17	9	0.075	23	SC	16.4			
C- 5	0.0				9.5	16		4.6			
C- 5	2.0	37	18	19	0.075	25	SC	7.6			
C- 5	6.0	33	17	16	0.075	77	CL	13.1			
C- 6	0.0				9.5	28		6.3			
C- 6	4.0	25	15	10	0.075	68	CL	13.2			
C- 6	8.0	19	11	8	0.075	38	SC	10.7			
C- 7	0.0				9.5	26		12.6			
C- 7	2.0	20	12	8	0.075	67	CL	11.2			
C- 7	8.0	25	14	11	0.075	22	SC	13.4			
C- 8	0.0				9.5	11		8.9			
C- 8	2.0				0.075	29		18.6			
C- 8	4.0	28	20	8	0.075	29	SC	17.8			
C- 9	0.0				4.75	20		9.9			
C- 9	2.0	NP	NP	NP	0.075	24	SM	10.7			
C- 9	8.0	NP	NP	NP	0.075	12		16.8			
C- 9	18.5				0.075	14		15.4			
C-10	0.0				0.075	39		98.3			
C-10	4.0				4.75	5		16.8			
C-10	8.0				4.75	11		20.4			
C-10	18.5	35	23	12	0.075	16	SC	18.7			
C-13	0.0				0.075	14		43.1			
C-13	2.0	NP	NP	NP	0.075	8		30.7			
C-13	4.0				0.075	4		19.3			
C-14	2.0				9.5	37		10.5			
C-15	2.0				9.5	65		19.8			
C-15	8.0	69	33	36	0.075	80	CH	29.9			
C-16	2.0	28	15	13	0.075	46	SC	7.5			
C-16	8.0				0.075	36		7.4			
C-17	2.0	36	27	9	0.075	73	ML	13.4			
C-17	8.0	37	29	8	0.075	47	SM	14.0			
C-18	0.0	28	22	6	0.075	35	SC-SM	7.1			

SUMMARY OF LABORATORY RESULTS

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
C-18	4.0				0.075	33		12.8			
C-19	2.0	19	15	4	0.075	31	SC-SM	13.7			
C-19	13.5	53	34	19	0.075	70	MH	25.8			
C-19	18.5	67	32	35	0.075	79	CH	29.0			
C-20	2.0	21	17	4	9.5	33	SC-SM	14.1			
C-20	13.5	56	38	18	0.075	92	MH	37.8			
C-21	0.0				4.75	26		13.4			
C-21	4.0	27	16	11	0.075	22	SC	16.4			
C-22	2.0	30	14	16	0.075	27	SC	14.7			
C-23	0.0				9.5	14		5.0			
C-23	2.0	35	20	15	0.075	38	SC	15.4			
C-23	8.0	36	20	16	0.075	84	CL	16.7			
C-24	0.0				9.5	16		2.8			
C-24	4.0	30	18	12	0.075	84	CL	17.9			
C-24	8.0	27	18	9	0.075	24	SC	12.1			
CN-1	0.0				9.5	37		3.4			
CN-1	4.0	24	16	8	0.075	38	SC	12.6			
CN-1	8.0	42	31	11	0.075	78	ML	21.9			
CN-2	0.0				9.5	22		5.7			
CN-2	4.0	31	17	14	0.075	57	CL	12.7			
CN-2	13.5				0.075	13		15.1			
CN-3	0.0				4.75	14		5.3			
CN-3	4.0	36	21	15	0.075	24	SC	15.6			
CN-3	13.5	51	31	20	0.075	21	SM	20.0			
CN-4	2.0				9.5	13		6.1			
CN-5	0.0				9.5	16		7.8			
CN-5	4.0	54	26	28	0.075	31	SC	16.1			
CR-1	0.0				19	14		8.7			
CR-2	0.0				9.5	11		5.8			
CR-2	2.0	40	20	20	0.075	30	SC	13.7			
CR-2	8.0	50	36	14	0.075	66	MH	32.1			
CR-3	0.0				9.5	44		8.8			
CR-3	2.0	55	33	22	0.075	71	MH	23.4			
CR-3	18.5	52	34	18	0.075	76	MH	29.7			
CR-4	0.0				9.5	29		4.8			
CR-5	0.0	39	27	12	0.075	63	ML	20.4			
CR-6	2.0	69	31	38	0.075	88	CH	30.7			
CR-6	8.0	46	35	11	0.075	71	ML	32.9			
CR-7	0.0				9.5	67		19.8			
CR-7	2.0	37	29	8	0.075	63	ML	16.9			
CR-7	8.0	45	31	14	0.075	58	ML	24.1			
CR-8	0.0	24	18	6	9.5	51	CL-ML	7.2			
NB- 1	0.0				9.5	22		7.3			

SUMMARY OF LABORATORY RESULTS

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
NB- 2	0.0	22	14	8	0.075	25	SC	8.9			
NB- 3	2.0	54	23	31	0.075	37	SC	14.4			
NB- 4	0.0				0.075	13		2.8			
NB- 5	0.0				9.5	23		7.0			
NB- 6	0.0	NP	NP	NP	0.075	14	SM	8.9			
NB- 7	0.0				4.75	67		17.2			
NB- 8	0.0	NP	NP	NP	9.5	11	SW-SM	6.3			
NB- 9	0.0				9.5	14		5.9			
NB-10	0.0	NP	NP	NP	9.5	19	SM	5.4			
NB-11	0.0				4.75	45		11.7			
NB-12	0.0	33	16	17	0.075	58	CL	10.9			
NB-13	2.0	49	32	17	0.075	85	ML	15.2			
NB-14	2.0	31	15	16	0.075	28	SC	8.4			
NB-15	0.0				9.5	24		6.4			
NB-16	2.0	27	14	13	0.075	45	SC	9.4			
NB-17	0.0				0.075	33		4.4			
NB-18	0.0	21	13	8	0.075	27	SC	6.7			
NB-19	0.0				0.075	34		5.6			
NB-20	2.0	34	25	9	0.075	53	ML	13.9			
NB-21	0.0				0.075	31		5.0			
NB-22	2.0	35	24	11	0.075	53	CL	10.2			
NB-23	0.0	21	15	6	0.075	18	SC-SM	4.4			
NB-24	0.0				0.075	36		8.1			
NB-25	0.0				0.075	14		3.5			
NB-26	0.0				0.075	14		5.1			
NB-27	0.0	NP	NP	NP	0.075	17	SM	6.8			
NB-28	0.0				0.075	16		6.9			
NB-29	0.0				0.075	19		4.3			
NB-30	0.0				0.075	12		12.8			
NB-31	0.0	NP	NP	NP	0.075	15	SM	5.3			
NB-32	0.0				0.075	13		1.0			
R- 1	0.0	NP	NP	NP	4.75	27	SM	5.0			
R- 2	2.0	34	20	14	0.075	38	SC	8.8			
R- 2	6.0	40	24	16	0.075	70	CL	18.5			
R- 2	13.5	34	18	16	9.5	21	SC	13.6			
R- 3	0.0				9.5	35		5.7			
R- 3	2.0	45	24	21	0.075	47	SC	12.5			
R- 4	0.0	36	19	17	0.075	42	SC	9.5			
R- 4	6.0	36	16	20	0.075	92	CL	17.3			
R- 4	13.5				9.5	21		11.5			
R- 5	0.0				9.5	39		4.3			
R- 5	2.0	26	15	11	0.075	51	CL	7.5			
R- 5	8.0	42	24	18	0.075	39	SC	22.4			

SUMMARY OF LABORATORY RESULTS

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
R- 5	23.5	27	19	8	0.075	49	SC	24.6			
R- 6	0.0				9.5	34		5.1			
R- 6	4.0	42	24	18	0.075	70	CL	20.6			
R- 6	8.0	27	19	8	0.075	71	CL	18.6			
R- 7	2.0	40	29	11	0.075	47	SM	10.1			
R- 7	6.0	40	20	20	0.075	22	SC	10.4			
R- 7	13.5	29	19	10	0.075	59	CL	19.5			
R- 8	2.0	26	18	8	0.075	41	SC	8.9			
R- 8	8.0	29	19	10	0.075	25	SC	14.0			
R- 8	13.5	57	35	22	0.075	88	MH	27.6			
R- 9	0.0				0.075	47		9.3			
R- 9	4.0	34	26	8	0.075	55	ML	24.2			
R-10	0.0				0.075	57		8.2			
R-10	4.0				0.075	39		12.0			
R-10	13.5	44	35	9	0.075	92	ML	28.4			
R-11	0.0	NP	NP	NP	4.75	31	SM	2.8			
R-11	4.0	29	19	10	0.075	40	SC	8.6			
R-11	8.0	42	31	11	0.075	91	ML	19.2			
R-12	0.0	NP	NP	NP	9.5	51	ML	9.6			
SB-12	0.0				9.5	24		9.6			
SB-13	2.0	60	40	20	0.075	94	MH	9.3			
SB-14	0.0				9.5	24		7.2			
SB-15	0.0	NP	NP	NP	4.75	41	SM	8.4			
SB-16	0.0				9.5	23		6.7			
SB-17	2.0	42	19	23	0.075	59	CL	14.5			
SB-18	0.0				9.5	35		6.9			
SB-19	0.0	NP	NP	NP	9.5	23	SM	5.4			
SB-20	0.0	24	15	9	9.5	18	SC	4.2			
SB-21	0.0				9.5	23		5.3			
SB-22	0.0				9.5	21		7.7			
SB-23	0.0	39	20	19	0.075	94	CL	14.9			
SB-24	0.0				9.5	31		3.7			
SB-25	0.0	42	22	20	4.75	28	SC	11.3			
SB-26	2.0	34	18	16	9.5	49	SC	14.2			
SB-27	0.0				0.075	14		8.1			
SB-28	0.0				9.5	27		5.9			
SB-29	0.0	NP	NP	NP	9.5	16	SM	8.3			
SB-30	0.0				9.5	23		6.3			
SB-31	0.0				9.5	18		6.8			
SB-32	0.0				9.5	16		6.9			
W-35	2.0	41	31	10	0.075	44	SM	13.5			
W-35	13.5	NP	NP	NP	0.075	61	ML	32.7			
W-36	0.0	22	15	7	9.5	70	CL-ML	6.2			

SUMMARY OF LABORATORY RESULTS

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
W-36	4.0	47	30	17	0.075	64	ML	25.4			
W-36	13.5	57	33	24	0.075	85	MH	33.9			
W-37	0.0	36	19	17	9.5	41	SC	8.4			
W-37	4.0	27	18	9	9.5	57	CL	29.3			
W-37	18.5	46	35	11	0.075	92	ML	30.0			
W-38	0.0	29	17	12	0.075	40	SC	6.9			
W-38	4.0	24	16	8	0.075	37	SC	7.8			
W-38	13.5	27	21	6	0.075	47	SC-SM	27.0			
W-39	0.0				0.075	39		6.4			
W-39	2.0				0.075	51		11.6			
W-39	8.0	25	17	8	0.075	52	CL	14.5			
W-40	0.0	35	26	9	9.5	41	SM	14.6			
W-41	2.0				9.5	17		3.6			
W-42	0.0				0.075	39		7.0			
W-42	2.0	21	15	6	0.075	31	SC-SM	9.7			
W-43	0.0	27	17	10	0.075	33	SC	7.3			
W-43	6.0	28	16	12	0.075	53	CL	12.5			
W-44	0.0	NP	NP	NP	0.075	49	SM	5.8			
W-44	4.0	38	27	11	0.075	61	ML	21.7			
W-45	0.0				9.5	32		4.2			
W-45	8.0	37	22	15	0.075	33	SC	10.8			
W-45	18.5	24	19	5	0.075	47	SC-SM	16.8			
W-46	0.0	NP	NP	NP	9.5	30	SM	3.9			
W-46	8.0	NP	NP	NP	0.075	34	SM	13.2			
W-46	18.5	57	33	24	0.075	93	MH	29.3			
W-47	0.0				9.5	33		3.0			
W-47	2.0				0.075	26		5.5			
W-47	8.0	NP	NP	NP	0.075	30	SM	12.5			
W-48	0.0				4.75	36		3.5			
W-48	6.0				0.075	31		13.0			
W-48	8.0	NP	NP	NP	0.075	31	SM	14.7			
W-48	18.5				0.075	23		13.7			
W-49	0.0				9.5	36		3.1			
W-49	4.0	NP	NP	NP	0.075	37	SM	10.2			
W-49	23.5	44	27	17	0.075	70	ML	22.7			
W-50	0.0	16	13	3	4.75	36	SM	4.3			
W-50	4.0	29	18	11	0.075	35	SC	8.0			
W-51	0.0	NP	NP	NP	4.75	38	SM	3.0			
W-51	2.0				0.075	53		8.0			
W-51	8.0				0.075	88		24.6			
W-52	0.0	NP	NP	NP	12.5	23	SM	4.5			
W-52	4.0	49	30	19	0.075	40	SM	16.5			
W-52	13.5				9.5	13		12.7			

SUMMARY OF LABORATORY RESULTS

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

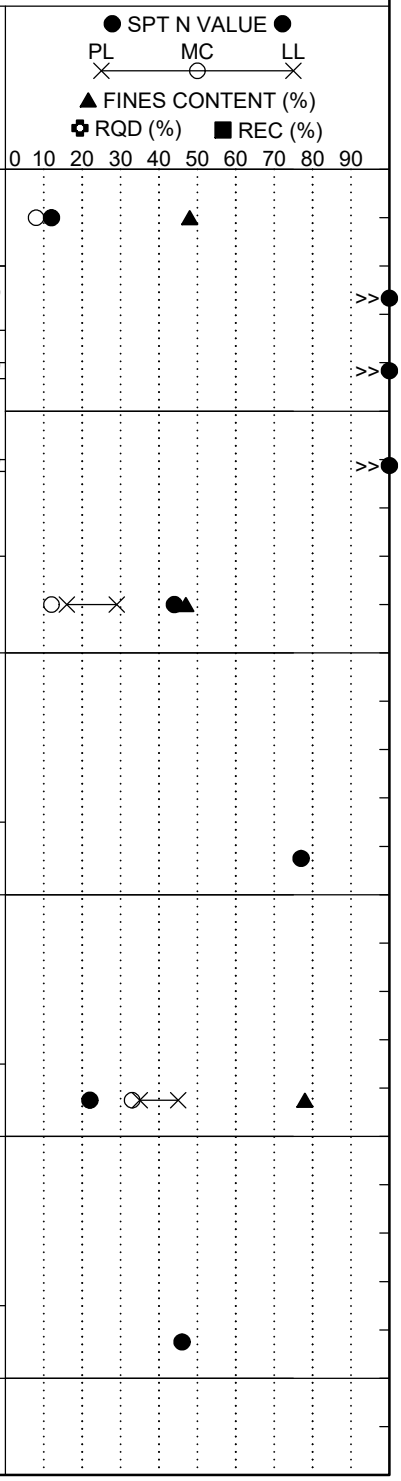
Borehole	Depth	Liquid Limit	Plastic Limit	Plasticity Index	Maximum Size (mm)	%<#200 Sieve	Class-ification	Water Content (%)	Dry Density (pcf)	Satur-ation (%)	Void Ratio
W-53	0.0				0.075	17		9.6			
W-53	4.0	37	19	18	0.075	22	SC	12.4			
W-53	8.0	53	32	21	0.075	87	MH	26.9			
W-54	2.0	34	18	16	0.075	29	SC	13.2			
W-54	13.5	58	33	25	0.075	99	MH	26.2			
W-55	0.0	NP	NP	NP	0.075	17	SM	8.2			
W-55	4.0	45	23	22	0.075	33	SC	16.3			
W-56	2.0	NP	NP	NP	0.075	28	SM	13.5			
W-56	8.0				4.75	17		16.5			
W-57	0.0	NP	NP	NP	0.075	22	SM	7.2			
W-57	4.0	40	22	18	0.075	36	SC	10.5			
W-58	0.0	NP	NP	NP	4.75	43	SM	3.1			
W-58	4.0				0.075	55		9.9			
W-59	0.0	NP	NP	NP	9.5	47	SM	6.1			
W-59	2.0	43	22	21	0.075	53	CL	10.1			
W-60	0.0	17	12	5	9.5	37	SC-SM	5.1			
W-60	4.0				0.075	46		12.0			
W-60	6.0				0.075	79		18.3			
W-61	0.0	21	15	6	4.75	35	SC-SM	7.8			
W-61	4.0	21	15	6	0.075	40	SC-SM	13.2			
WR- 2	2.0				4.75	15		5.6			
WR- 6	0.0				4.75	18		8.2			
WR- 7	0.0				4.75	23		10.2			
WR- 8	0.0				4.75	20		8.7			
WR- 9	0.0				9.5	15		10.6			
WR-10	0.0				9.5	18		5.3			
WR-10	4.0	32	17	15	0.075	37	SC	14.7			
WR-10	8.0				9.5	8		14.5			
WR-11	0.0	27	17	10	9.5	12	SC	12.3			
WR-11	8.0	36	18	18	0.075	28	SC	14.2			
WR-11	13.5	28	15	13	9.5	16	SC	16.4			
WR-12	2.0	27	16	11	0.075	26	SC	6.9			
WR-12	6.0	40	22	18	0.075	62	CL	14.1			
WR-13	2.0				4.75	13		5.9			
WR-14	2.0	24	17	7	0.075	25	SC-SM	9.2			
WR-15	4.0	NP	NP	NP	0.075	22	SM	9.8			
WR-16	2.0	NP	NP	NP	0.075	21	SM	8.9			
WR-26	2.0				4.75	12		3.9			
WR-27	2.0				2	15		5.3			

Appendix III – Soil Test Boring Records

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C- 1		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Community Rd		
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	112+90.48	**Offset:**	-40.7	**Alignment:**	Proposed
Elev.:	450.0 ft	**Latitude:**	34.192141344	**Longitude:**	-80.984848661	**Date Started:**	10/5/2023
Total Depth:	29.2 ft	**Soil Depth:**	29.2 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/5/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	91.6%
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A	**24HR**	8.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	5	7	5	4	12
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.							
		COASTAL PLAIN - medium dense, dry, light olive brown with yellowish brown and white mottles, Silty fine to medium SAND (SM), some low plasticity fines, trace organics, 2.5Y5/3, 10YR5/6, 10YR8/1. NMC=8%, %#200=48	2.0	SS-2	7	16	50/4"		50/4"
		@2 feet - very dense, mottled brownish yellow and white, 10YR6/8, 10YR8/1.	4.0	SS-3	50/4"				50/4"
445.0		@4 feet - moist, mottled yellow and white, 10YR7/8, 10YR8/1.	6.0	SS-4	50/3"				50/3"
		@6 feet - No Recovery.							
	8.0	Hard, dry to moist, mottled white, yellow and light reddish brown, Lean CLAY with Sand (CL) (A-6(3)), little fine to medium sands, 2.5Y8/1, 10YR8/7, 2.5YR6/4. LL=29, PL=16, PI=13, NMC=12%, %#200=78	8.0	SS-5	19	23	21	22	44
440.0									
	13.5	Very dense, moist to wet, white and yellow, Silty fine to medium SAND (SM), some low plasticity fines, 10YR8/1, 10YR7/8.	13.5	SS-6	18	39	38		77
435.0									
	18.5	**PIEDMONT RESIDUUM** - very stiff, dry, white with yellow mottles, SILT with Sand (ML) (A-5(10)), little fine to medium sands, 10YR8/1, 10YR7/8. LL=45, PL=35, PI=10, NMC=33%, %#200=78	18.5	SS-7	5	9	13		22
430.0									
		@23.5 feet - hard.	23.5	SS-8	9	17	29		46
425.0									



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C- 1
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Community Rd
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	112+90.48	**Offset:**	-40.7
Alignment:	Proposed				
Elev.:	450.0 ft	**Latitude:**	34.192141344	**Longitude:**	-80.984848661
Date Started:	10/5/2023				
Total Depth:	29.2 ft	**Soil Depth:**	29.2 ft	**Core Depth:**	N/A ft
Date Completed:	10/5/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	91.6%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A
24HR	8.5 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	28.5			28.5						
	29.2	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, laminated white, light gray and yellowish brown, Sandy SILT (ML), some fine to medium sands, 10YR8/1, 10YR7/1, 10YR5/6.			SS-9	35	50/2"			50/2"
420.0										
415.0										
410.0										
405.0										
400.0										

Boring Terminated at 29.2 feet.

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

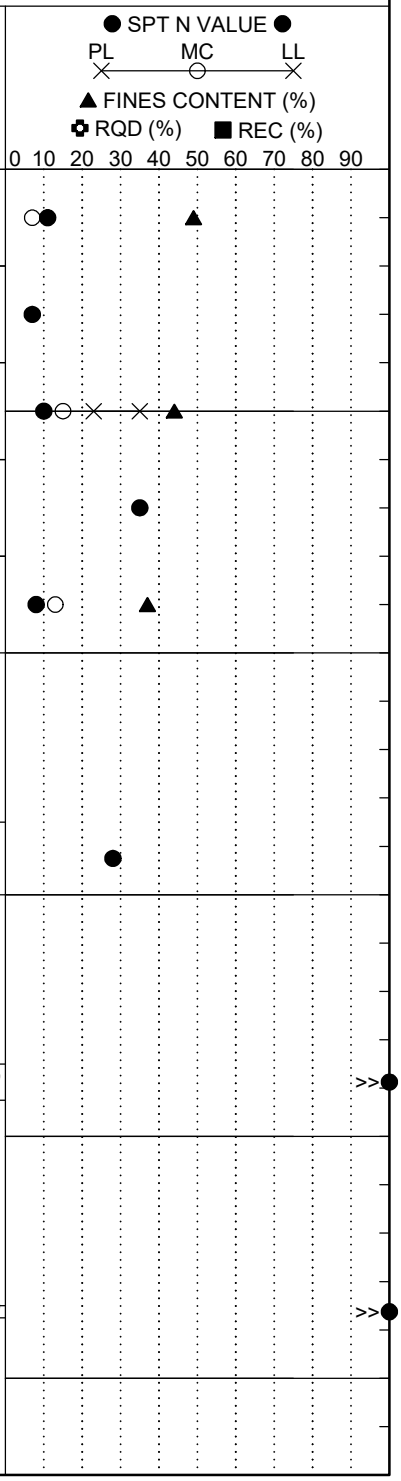
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C- 2
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Community Rd
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	113+14.60	**Offset:**	-20.2
Alignment:	Proposed				
Elev.:	449.6 ft	**Latitude:**	34.192224163	**Longitude:**	-80.984852955
Date Started:	10/5/2023				
Total Depth:	29.4 ft	**Soil Depth:**	29.4 ft	**Core Depth:**	N/A ft
Date Completed:	10/5/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	91.6%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A
24HR	8.4 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	**COASTAL PLAIN** - medium dense, dry, light yellowish brown, Silty fine to medium SAND (SM), some low plasticity fines, trace organics, 2.5Y6/3. NMC=7%, %#200=49	0.0	SS-1	3	4	7	7	11
	2.0	@1 foot - gray, fine, absent organics, 10YR5/1.	2.0	SS-2	6	3	4	6	7
444.6		Loose, dry to moist, light yellowish brown with yellowish brown and reddish yellow mottles, Clayey fine to medium SAND (SC), some medium plasticity fines, 2.5Y6/4, 10YR5/8, 5YR5/8.	4.0	SS-3	4	5	5	5	10
	7.0	@4 feet - moist, mottled brownish yellow, light gray and red, (A-6(2)), 10YR6/6, 2.5Y7/1, 7.5YR4/8. LL=35, PL=23, PI=12, NMC=15%, %#200=44	6.0	SS-4	6	14	21	23	35
		@6 feet - dense, mottled light gray, yellow and red, 2.5Y7/1, 10YR7/8, 2.5YR4/6.	8.0	SS-5	2	3	5	25	8
439.6		Dense, dry to moist, light gray and yellow, Silty fine to medium SAND (SM), some low plasticity fines, 2.5Y7/1, 10YR8/8.							
		@8 feet - loose, moist to wet, mottled white and yellow, 2.5Y8/1, 2.5Y7/6. NMC=13%, %#200=37	13.5	SS-6	9	12	16		28
434.6		@13.5 feet - medium dense, white and yellow, fine to coarse, trace fine to coarse gravel, 10YR8/1, 10YR8/6.							
	18.5	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry to moist, laminated light greenish gray, white, yellow and red, Sandy SILT (ML), some fine to coarse sands, 8/5GY, 10YR8/1, 10YR8/6, 7.5R4/6.	18.5	SS-7	41	50/3"			50/3"
429.6									
		@23.5 feet - laminated pale brown, yellow and light gray, 2.5Y8/2, 2.5Y8/6, 2.5Y7/1.	23.5	SS-8	50/3"				50/3"
424.6									



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C- 2
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Community Rd
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	113+14.60	**Offset:**	-20.2
Alignment:	Proposed				
Elev.:	449.6 ft	**Latitude:**	34.192224163	**Longitude:**	-80.984852955
Date Started:	10/5/2023				
Total Depth:	29.4 ft	**Soil Depth:**	29.4 ft	**Core Depth:**	N/A ft
Date Completed:	10/5/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	91.6%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A
24HR	8.4 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	29.4	@28.5 feet - laminated dark red, white, light gray and yellow, trace fine quartz rock fragments, 10R3/6, 10YR8/1, 10YR7/1, 10YR8/8.		28.5	SS-9	22	50/5"			50/5"
419.6		Boring Terminated at 29.4 feet.								
414.6										
409.6										
404.6										
399.6										

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

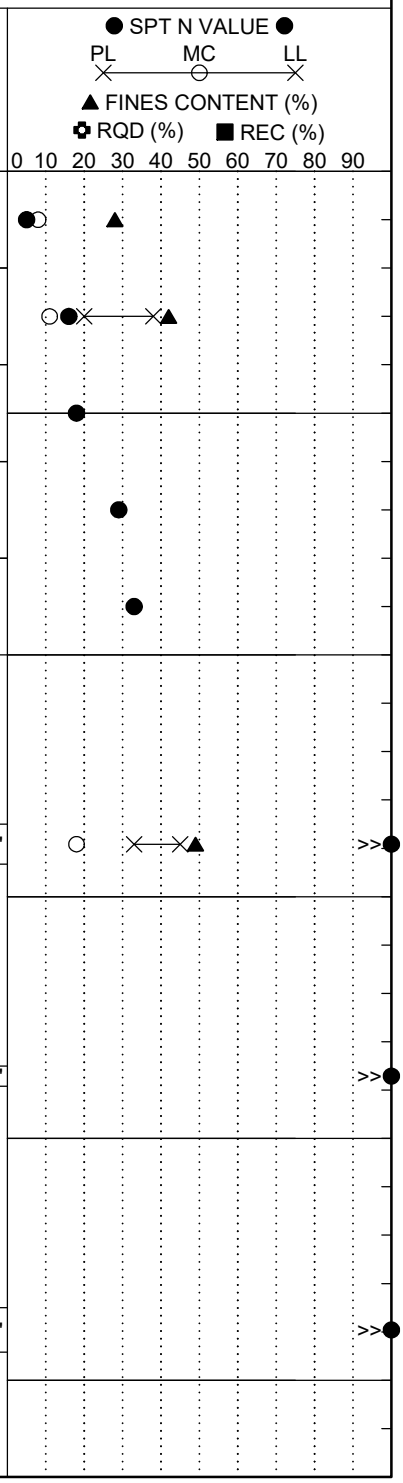
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C- 3		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Connector Rd		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	160+46.81	**Offset:**	-52.1	**Alignment:**	Proposed
Elev.:	445.8 ft	**Latitude:**	34.192141623	**Longitude:**	-80.979808092	**Date Started:**	9/21/2023
Total Depth:	40 ft	**Soil Depth:**	40 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/21/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-750X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81.6%
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** N/A	**24HR**	8 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	Wetland								
	0.1	**SURFACE MATERIAL** - TOPSOIL - 1 inch.		0.0	SS-1	2	2	3	4	5
	2.0	**ALLUVIUM** - loose, dry to moist, dark grayish brown to brown, Silty fine to coarse SAND (SM) (A-2-4), little low plasticity fines, few roots, few organics, 10YR4/2 to 10YR5/3. NMC=8%, %#200=28		2.0	SS-2	5	8	8	9	16
440.8		**COASTAL PLAIN** - medium dense, dry to moist, mottled gray and strong brown, Clayey fine to coarse SAND (SC) (A-6(3)), some medium plasticity fines, trace roots, 10YR6/1, 7.5YR5/6. LL=38, PL=20, PI=18, NMC=11%, %#200=42		4.0	SS-3	9	9	9	11	18
		▼@4 feet - mottled gray and yellowish brown, 10YR5/1 to 10YR6/1, 10YR5/6.		6.0	SS-4	7	13	16	16	29
		@6 feet - trace fine gravel.		8.0	SS-5	7	14	19	27	33
435.8		@8 feet - dense, light yellowish brown with gray and yellowish brown mottles, 10YR6/4, 10YR6/1, 10YR5/8.								
	13.5	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, laminated light gray and very pale brown, Silty fine to medium SAND (SM) (A-7-5(4)), some medium plasticity fines, trace fine to coarse quartz rock fragments, relict rock structure, 10YR7/1, 10YR8/4. LL=45, PL=33, PI=12, NMC=18%, %#200=49		13.5	SS-6	21	50/4"			50/4"
430.8										
		@18.5 feet - laminated reddish brown and yellow, absent quartz, 2.5YR5/4, 10YR7/4.		18.5	SS-7	50/5"				50/5"
425.8										
		@23.5 feet - laminated yellowish brown and very pale brown, 10YR5/8, 10YR7/4.		23.5	SS-8	27	50/5"			50/5"
420.8										



LEGEND

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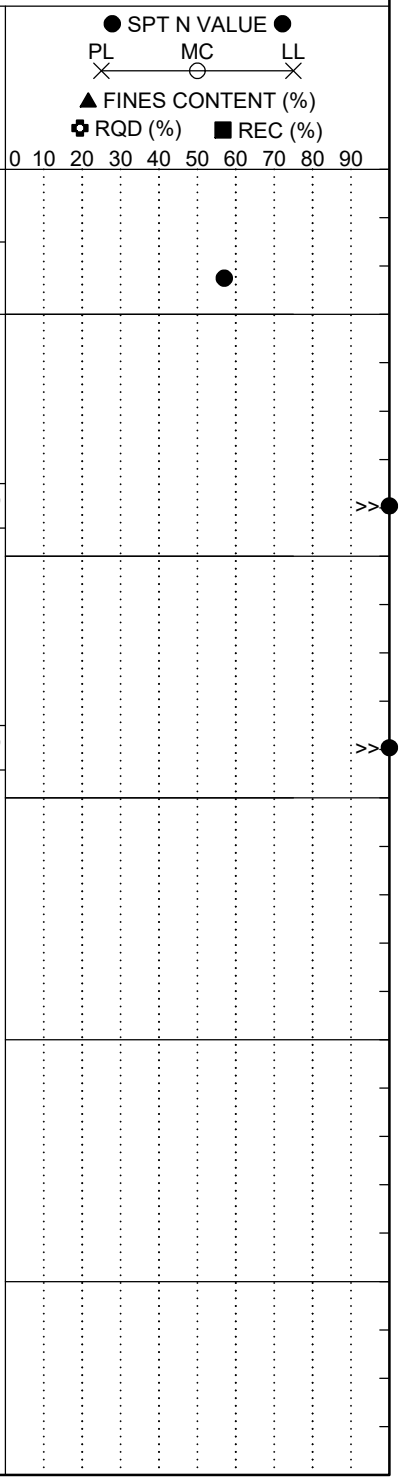
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C- 3		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Connector Rd		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	160+46.81	**Offset:**	-52.1	**Alignment:**	Proposed
Elev.:	445.8 ft	**Latitude:**	34.192141623	**Longitude:**	-80.979808092	**Date Started:**	9/21/2023
Total Depth:	40 ft	**Soil Depth:**	40 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/21/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-750X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81.6%
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** N/A	**24HR**	8 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	28.5		28.5						
415.8		**PIEDMONT RESIDUUM** - very hard, dry, laminated greenish gray and gray, SILT (ML), few fine sands, relict rock structure, 10Y5/1 to 5/N.		SS-9	11	16	41		57
	33.5		33.5						
410.8		**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, laminated greenish gray and gray, SILT (ML), few fine sands, relict rock structure, 10Y5/1 to 5/N.		SS-10	23	50/5"			50/5"
		@38.5 feet - trace fine rock fragments.	38.5	SS-11	28	50/5"			50/5"
405.8	40.0	Boring Terminated at 40 feet.							
400.8									
395.8									



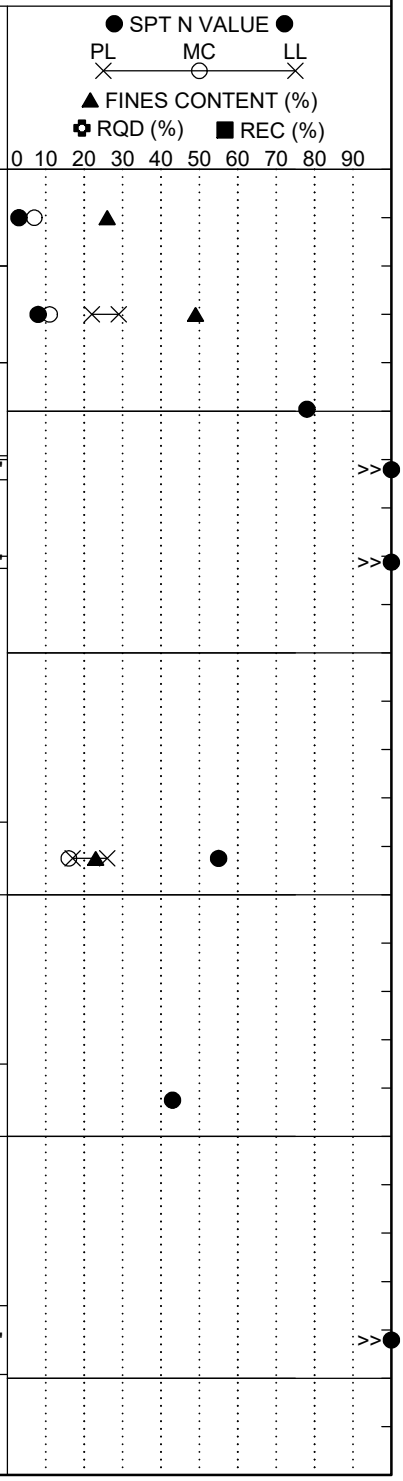
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C- 4
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Connector Rd
Eng./Geo.:	Z. Zelaya	**Boring Location:**	160+96.05	**Offset:**	46.5
Alignment:	Proposed				
Elev.:	444.9 ft	**Latitude:**	34.191866715	**Longitude:**	-80.97965541
Date Started:	9/21/2023				
Total Depth:	39.9 ft	**Soil Depth:**	39.9 ft	**Core Depth:**	N/A ft
Date Completed:	9/21/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-750X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	81.6%				
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** N/A
24HR	8 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	Wetland							
	0.1	**SURFACE MATERIAL** - TOPSOIL - 1 inch.	0.0	SS-1	1	1	2	3	3
	2.0	**ALLUVIUM** - very loose, moist, yellowish brown, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, few roots, trace organics, 10YR5/4. NMC=7%, %#200=26	2.0	SS-2	3	4	4	5	8
	4.0	**COASTAL PLAIN** - loose, moist, mottled gray and strong brown, Silty, Clayey fine to medium SAND (SC-SM) (A-4(1)), some low to medium plasticity fines, trace roots, 10YR6/1, 7.5YR5/8. LL=29, PL=22, PI=7, NMC=11%, %#200=49	4.0	SS-3	5	31	47	50/5"	78
439.9			6.0	SS-4	50/5"				50/5"
		Very hard, dry, light gray with brownish yellow mottles, Lean CLAY (CL), few fine to medium sands, slightly cemented, 10YR7/1, 10YR6/6.	8.0	SS-5	50/3"				50/3"
434.9									
	13.5	Very dense, moist to wet, light gray to white with brownish yellow mottles, Clayey fine to coarse SAND (SC) (A-2-4), little medium plasticity fines, 10YR7/1 to 10YR8/1, 10YR6/8. LL=26, PL=17, PI=9, NMC=16%, %#200=23	13.5	SS-6	12	24	31		55
429.9									
	19.5	@18.5 feet - hard, moist, brownish yellow and light gray, trace fine to coarse gravel, 10YR6/8,10YR7/1.	18.5	SS-7	12	18	25		43
424.9		**PIEDMONT RESIDUUM** - hard, dry, laminated brownish yellow and light gray, SILT (ML), trace fine sands, relict rock structure, 10YR6/8, 10YR7/1.							
	23.5	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, laminated light gray with brownish yellow, SILT with Sand (ML), little fine to medium sands, few fine quartz vein rock fragments, relict rock structure, 10YR7/1, 10YR6/8.	23.5	SS-8	19	34	50/5"		50/5"
419.9									



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C- 4
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Connector Rd
Eng./Geo.:	Z. Zelaya	**Boring Location:**	160+96.05	**Offset:**	46.5
Alignment:	Proposed				
Elev.:	444.9 ft	**Latitude:**	34.191866715	**Longitude:**	-80.97965541
Date Started:	9/21/2023				
Total Depth:	39.9 ft	**Soil Depth:**	39.9 ft	**Core Depth:**	N/A ft
Date Completed:	9/21/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-750X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	81.6%				
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** N/A
24HR	8 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		@28.5 feet - laminated brownish yellow, yellow and light gray, trace fine quartz rock fragments, 10YR6/8, 10YR7/6, 10YR7/1.		28.5	SS-9	26	50/4"			50/4"
414.9										
		@33.5 feet - laminated yellow and very pale brown. absent quartz, 10YR7/8, 10YR7/4.		33.5	SS-10	42	50/3"			50/3"
409.9										
	38.5	Very hard, dry, laminated brownish yellow to yellowish brown, SILT (ML), few fine to coarse sands, relict rock structure, 10YR6/8 to 10YR5/8.		38.5	SS-11	17	27	50/5"		50/5"
404.9	39.9	Boring Terminated at 39.9 feet.								
399.9										
394.9										

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

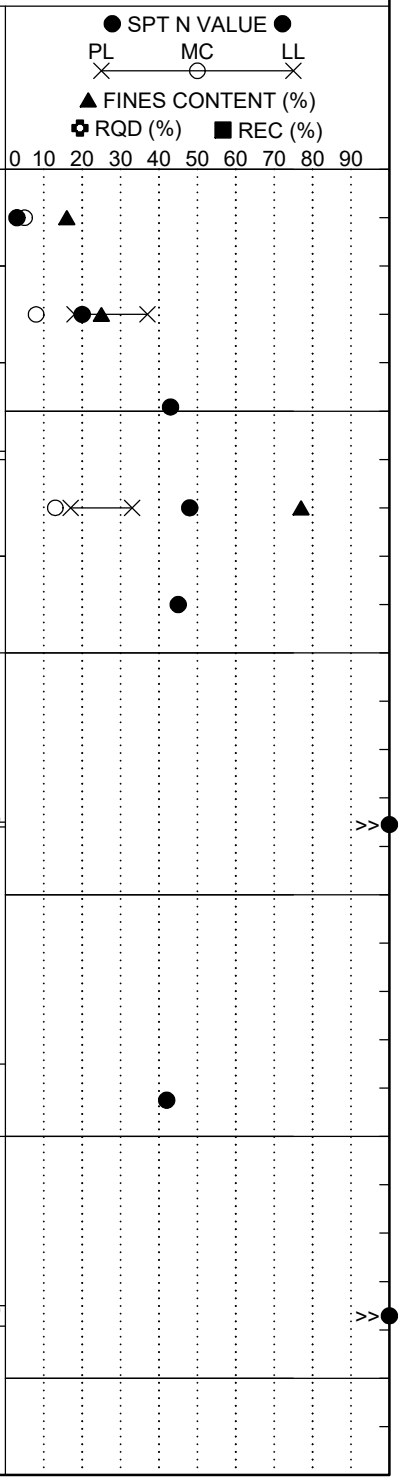
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C- 5		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Connector Rd		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	163+61.27	**Offset:**	-19.0	**Alignment:**	Proposed
Elev.:	440.6 ft	**Latitude:**	34.192023914	**Longitude:**	-80.978772166	**Date Started:**	9/27/2023
Total Depth:	40 ft	**Soil Depth:**	40 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/27/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	4.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	Wetland							
	0.1	**SURFACE MATERIAL** - TOPSOIL - 1 inch.	0.0	SS-1	1	1	2	6	3
	2.0	**ALLUVIUM** - very loose, dry to moist, very pale brown to grayish brown, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, trace fine gravel, trace fine organics, 10YR7/4, 10YR5/2. NMC=5%, %#200=16	2.0	SS-2	8	9	11	14	20
	4.0		4.0	SS-3	9	14	29	50/4"	43
435.6		**COASTAL PLAIN** - medium dense, dry, very pale brown with yellowish red and gray mottles, Clayey fine to coarse SAND (SC) (A-2-6(1)), little medium plasticity fines, trace fine gravel, 10YR8/4, 5YR5/8, 10YR6/1. LL=37, PL=18, PI=19, NMC=8%, %#200=25	6.0	SS-4	19	21	27	36	48
			8.0	SS-5	9	19	26	37	45
430.6		Hard, dry to moist, light gray and red with brownish yellow mottles, Lean CLAY with Sand (CL), little fine to coarse sands, slightly cemented, 10YR7/1, 2.5YR4/8, 10YR6/6.							
		@6 feet - dry, light gray with reddish yellow and yellow mottles, (A-6(11)), little fine to medium sands, 10YR7/1, 7.5YR6/8, 10YR7/6. LL=33, PL=17, PI=16, NMC=13%, %#200=77	13.5	SS-6	50/1"				50/1"
425.6		@8 feet - light gray with brownish yellow mottles, 10YR7/1, 10YR6/8.							
		@13.5 feet - very hard, dry to moist, little fine to coarse sands, poor recovery.							
	18.5	**PIEDMONT RESIDUUM** - Hard, dry, laminated very pale brown with yellow mottles, SILT (ML), trace fine sands, relict rock structure, 10YR7/3, 10YR7/6.	18.5	SS-7	9	17	25		42
420.6									
	23.5	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, laminated yellow, white and light gray, SILT (ML), trace fine to medium sands, relict rock structure, 10YR7/8, 10YR8/1, 10YR7/1.	23.5	SS-8	50/5"				50/5"
415.6									



LEGEND

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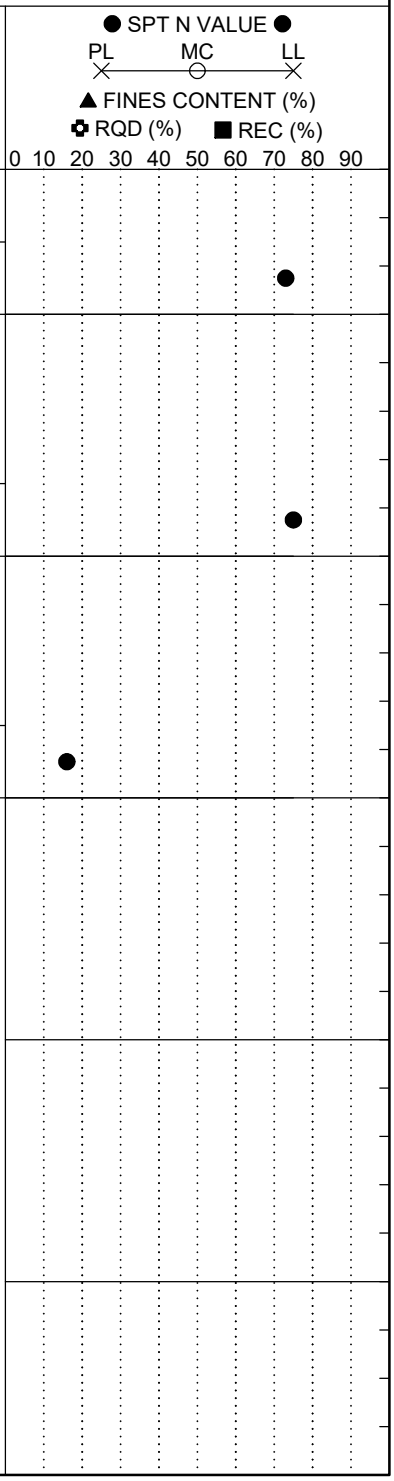
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C- 5
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Connector Rd
Eng./Geo.:	Z. Zelaya	**Boring Location:**	163+61.27	**Offset:**	-19.0
Alignment:	Proposed				
Elev.:	440.6 ft	**Latitude:**	34.192023914	**Longitude:**	-80.978772166
Date Started:	9/27/2023				
Total Depth:	40 ft	**Soil Depth:**	40 ft	**Core Depth:**	N/A ft
Date Completed:	9/27/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	87.6%				
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A
24HR	4.5 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	28.5			28.5						
410.6		**PIEDMONT RESIDUUM** - very hard, dry, laminated yellow and brownish yellow, SILT (ML), trace fine sands, relict rock structure, 10YR7/8, 10YR6/8.			SS-9	17	26	47		73
	33.5			33.5						
405.6		Very hard, dry, laminated brownish yellow and gray, Sandy SILT (ML), some fine to coarse sands, few fine to coarse rock fragments (quartz), relict rock structure, 10YR6/8, 10YR6/1.			SS-10	3	47	28		75
	38.5			38.5						
400.6	40.0	Very stiff, moist to wet, laminated brownish yellow and light gray, Elastic SILT with Sand (MH), little fine to medium sands, trace fine to coarse rock fragments (quartz), relict rock structure, 10YR6/8, 10YR7/1.			SS-11	4	7	9		16
		Boring Terminated at 40 feet.								
395.6										
390.6										



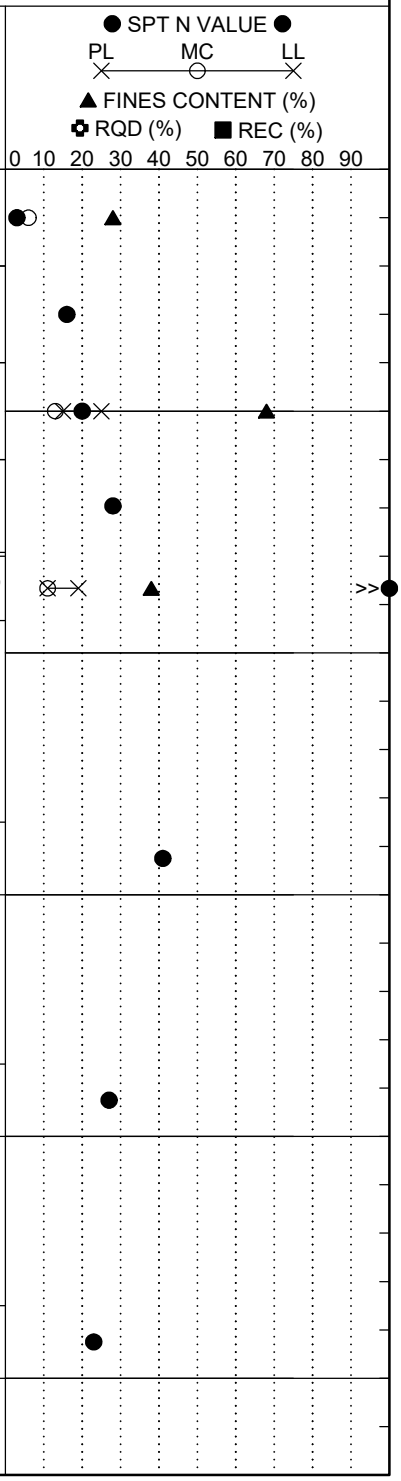
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C- 6		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Connector Rd		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	164+45.25	**Offset:**	16.5	**Alignment:**	Proposed
Elev.:	438.7 ft	**Latitude:**	34.191919389	**Longitude:**	-80.978498227	**Date Started:**	9/27/2023
Total Depth:	38.8 ft	**Soil Depth:**	38.8 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/27/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	4 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	Wetland							
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.	0.0	SS-1	1	1	2	7	3
	2.0	**ALLUVIUM** - very loose, dry to moist, very pale brown and dark grayish brown, Silty fine to coarse SAND (SM) (A-2-4), some low plasticity fines, trace roots, 10YR7/3, 10YR4/2. NMC=6%, %#200=28	2.0	SS-2	4	8	8	10	16
	4.0		4.0						
433.7		**COASTAL PLAIN** - medium dense, dry to moist, mottled gray and brownish yellow, Clayey fine to coarse SAND (SC), some medium plasticity fines, 10YR6/1 to 10YR5/1, 10YR6/6.		SS-3	7	10	10	13	20
	6.0		6.0	SS-4	3	11	17	50/5"	28
	8.0	Very stiff, dry to moist, gray with brownish yellow mottles, Sandy Lean CLAY (CL) (A-4(4)), some fine to medium sands, 10YR7/1, 10YR6/6. LL=25, PL=15, PI=10, NMC=13%, %#200=68	8.0	SS-5	33	47	50/4"		50/4"
428.7		Very stiff, moist, light gray with yellow to brownish yellow mottles, Lean CLAY with Sand (CL), little fine to medium sands, 10YR7/1, 10YR7/6 to 10YR6/6.							
	13.5	Very dense, moist, light gray with brownish yellow and black mottles, Clayey fine to coarse SAND (SC) (A-4(0)), some medium plasticity fines, 10YR7/1, 10YR6/6, 10YR2/1. LL=19, PL=11, PI=8, NMC=11%, %#200=38	13.5	SS-6	10	17	24		41
423.7		**PIEDMONT RESIDUUM** - hard, dry, laminated very pale brown with yellow and gray mottles, SILT with Sand (ML), little fine to coarse sands, relict rock structure, 10YR7/3, 10YR7/6, 10YR6/1.							
		@18.5 feet - very stiff, laminated very pale brown with yellow and white mottles, trace fine rock fragments (quartz vein), 10YR7/3, 10YR7/6, 10YR8/1.	18.5	SS-7	5	12	15		27
418.7									
	23.5		23.5						
413.7		Very stiff, dry, laminated very pale brown, white and yellow, SILT (ML), few fine sands, relict rock structure, 10YR7/3, 10YR8/1, 10YR7/6.		SS-8	7	9	14		23



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)			**County:**	Richland	**Boring No.:**	C- 6
Site Description:	I-77 Exit 26 - Roadways					**Route:**	Connector Rd
Eng./Geo.:	Z. Zelaya	**Boring Location:**	164+45.25	**Offset:**	16.5	**Alignment:**	Proposed
Elev.:	438.7 ft	**Latitude:**	34.191919389	**Longitude:**	-80.978498227	**Date Started:**	9/27/2023
Total Depth:	38.8 ft	**Soil Depth:**	38.8 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/27/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	4 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	28.5	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, laminated gray with yellow and white mottles, Sandy SILT (ML), some fine to coarse sands, relict rock structure, 10YR6/1 to 10YR5/1, 10YR7/6, 10YR8/1.	28.5	SS-9	50/3"				50/3"
408.7									
	33.5	Very hard, dry, laminated gray with white and brownish yellow mottles, SILT (ML), few fine to medium sands, relict rock structure, 10YR6/1, 10YR8/1, 10YR6/6.	33.5	SS-10	50/1"				50/1"
403.7									
	38.8	@38.5 feet - laminated light gray and brownish yellow, 10YR7/1, 10YR6//6.	38.5	SS-11	50/4"				50/4"
398.7		Boring Terminated at 38.8 feet.							
393.7									
388.7									

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

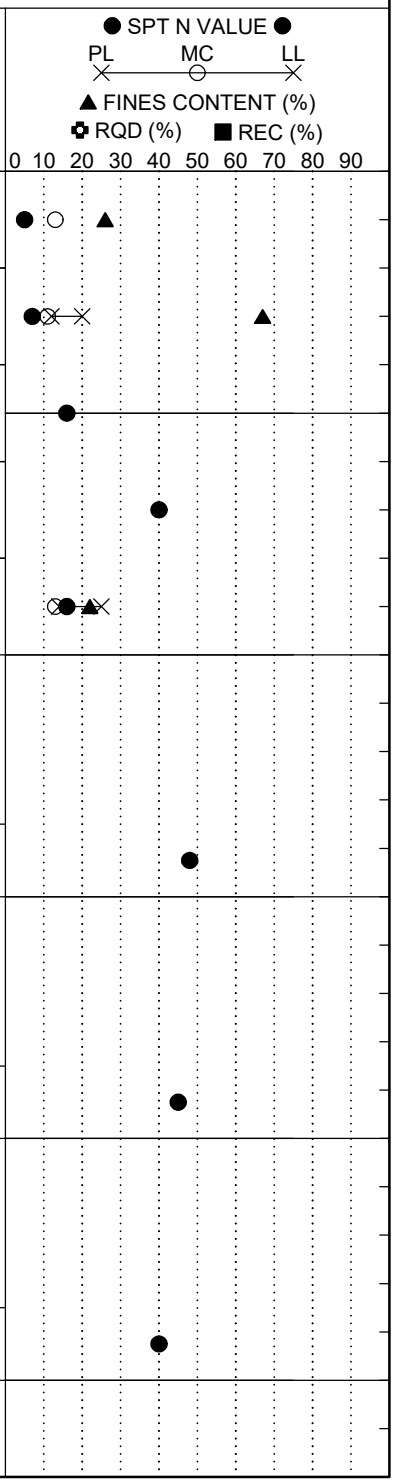
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C- 7		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Connector Rd		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	170+53.36	**Offset:**	-54.1	**Alignment:**	Proposed
Elev.:	435.4 ft	**Latitude:**	34.192061793	**Longitude:**	-80.976481161	**Date Started:**	9/20/2023
Total Depth:	39.9 ft	**Soil Depth:**	39.9 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/20/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-750X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81.6%
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** N/A	**24HR**	7.9 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	Wetland							
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.	0.0	SS-1	1	1	4	5	5
	2.0	**ALLUVIUM** - loose, moist, dark grayish brown to gray, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, few organics, trace roots, 10YR4/2 to 10YR6/1. NMC=13%, %#200=26	2.0	SS-2	3	3	4	7	7
430.4	4.0	**COASTAL PLAIN** - firm, moist, gray with yellowish brown mottles, Sandy Lean CLAY (CL) (A-4(2)), some fine to coarse sands, trace fine gravel, 10YR6/1, 10YR5/6. LL=20, PL=12, PI=8, NMC=11%, %#200=67	4.0	SS-3	6	6	10	17	16
	6.0	Very stiff, dry to moist, gray and yellowish brown, Lean CLAY (CL), few fine to medium sands, 10YR6/1, 10YR5/6.	6.0	SS-4	17	29	11	11	40
			8.0	SS-5	2	7	9	20	16
425.4		Dense, moist, gray, yellowish brown and grayish brown, Clayey fine to coarse SAND (SC), little medium plasticity fines, trace fine to coarse gravel, 10YR6/1, 10YR5/6, 10YR5/2.							
	13.5	@8 feet - medium dense, moist to wet, (A-2-6(0)), few fine to coarse ferrous nodules. LL=25, PL=14, PI=11, NMC=13%, %#200=22	13.5	SS-6	13	21	27		48
420.4		**PIEDMONT RESIDUUM** - hard, dry, laminated yellow and white, SILT with Sand (ML), little fine to coarse sands, relict rock structure, 10YR7/6, 10YR8/1.							
	18.5	Hard, dry, laminated very pale brown with brownish yellow, SILT (ML), trace fine sands, relict rock structure, 10YR7/3, 10YR6/6.	18.5	SS-7	11	18	27		45
415.4			23.5	SS-8	9	17	23		40
410.4		@23.5 feet - laminated very pale brown and light reddish brown with brownish yellow mottles, 10YR7/3, 2.5YR6/4, 10YR6/6.							



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LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C- 7		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Connector Rd		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	170+53.36	**Offset:**	-54.1	**Alignment:**	Proposed
Elev.:	435.4 ft	**Latitude:**	34.192061793	**Longitude:**	-80.976481161	**Date Started:**	9/20/2023
Total Depth:	39.9 ft	**Soil Depth:**	39.9 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/20/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-750X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81.6%
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** N/A	**24HR**	7.9 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
				28.5						
					SS-9	6	11	27		38
405.4										
				33.5						
		@33.5 feet - laminated yellow and very pale brown, trace fine to medium sands, 2.5Y7/8, 10YR7/3.			SS-10	8	14	26		40
400.4										
	38.5			38.5						
		PARTIALLY WEATHERED ROCK (PWR) - very hard, dry, laminated weak red and strong brown, SILT (ML), trace fine to medium sands, relict rock structure, 10R4/4, 7.5YR5/8.			SS-11	12	30	50/5"		50/5"
395.4	39.9									
		Boring Terminated at 39.9 feet.								
390.4										
385.4										

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

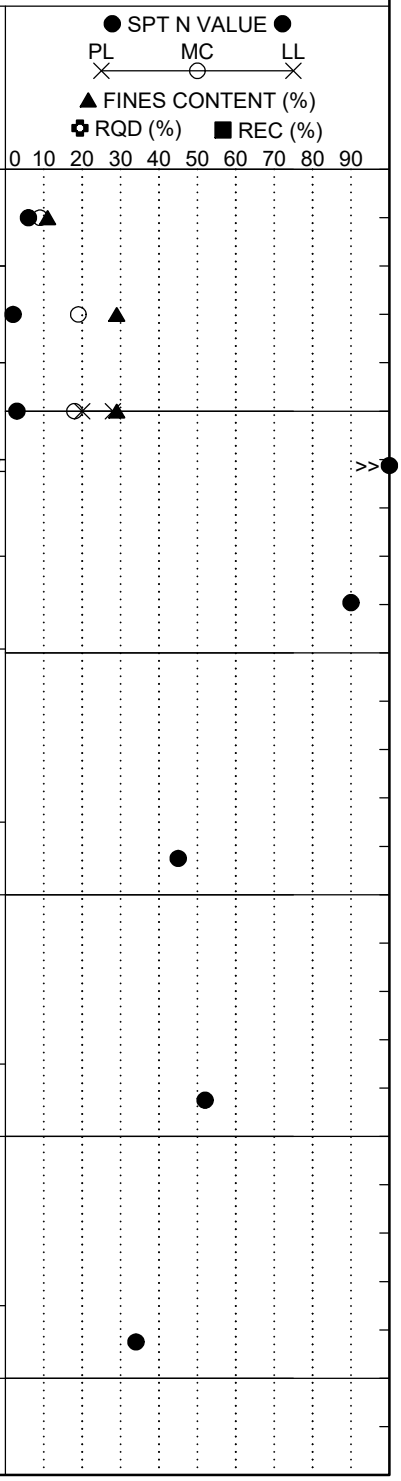
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C- 8
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Connector Rd
Eng./Geo.:	Z. Zelaya	**Boring Location:**	170+67.96	**Offset:**	41.8
Alignment:	Proposed				
Elev.:	433.6 ft	**Latitude:**	34.191797039	**Longitude:**	-80.9764427
Date Started:	9/19/2023				
Total Depth:	40 ft	**Soil Depth:**	40 ft	**Core Depth:**	N/A ft
Date Completed:	9/19/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-750X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	81.6%				
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** N/A
24HR	3.7 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	Wetland							
	0.1	**SURFACE MATERIAL** - TOPSOIL - 1 inch.	0.0	SS-1	2	3	3	3	6
	2.0	**ALLUVIUM** - loose, moist, pale brown to dark grayish brown, Poorly Graded fine to medium SAND with Silt (SP-SM), few low plasticity fines, few organics, few roots, 10YR6/3, 10YR4/2. NMC=9%, %#200=11	2.0	SS-2	1	1	1	1	2
	4.0	Very loose, moist to wet, very dark grayish brown to very dark gray, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, few organics, few roots, 10YR3/2, 10YR4/2. NMC=19%, %#200=29	4.0	SS-3	WOH	WOH	3	7	3
428.6			6.0	SS-4	50/3"				50/3"
	8.0	**COASTAL PLAIN** - very loose, moist to wet, very dark gray to gray, Clayey fine to medium SAND (SC) (A-2-4), little medium plasticity fines, little organics, little roots, 10YR3/2, 10YR6/1. LL=28, PL=20, PI=8, NMC=18%, %#200=29	8.0	SS-5	35	43	47	50/5"	90
423.6		No Recovery.							
	13.5	Very dense, moist to wet, brownish yellow with pale brown and gray mottles, Silty fine to medium SAND (SM), some low plasticity fines, trace coarse quartz, 10YR6/8, 10YR6/3, 10YR6/1.	13.5	SS-6	13	18	27		45
418.6		**PIEDMONT RESIDUUM** - hard, dry, white with brownish yellow laminations, SILT with Sand (ML), little fine to medium sands, trace fine quartz gravel (vein), relict rock structure, 10YR8/1, 10YR6/8.	18.5	SS-7	9	19	33		52
413.6		@18.5 feet - very hard, white with light gray and brownish yellow mottles, little fine to coarse sands, 10YR8/1, 10YR7/1, 10YR6/8.							
	23.5	Hard, dry, laminated very pale brown and white, SILT (ML), trace fine sands, relict rock structure, 10YR7/3, 10YR8/1.	23.5	SS-8	7	13	21		34
408.6									



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C- 8
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Connector Rd
Eng./Geo.:	Z. Zelaya	**Boring Location:**	170+67.96	**Offset:**	41.8
Alignment:	Proposed				
Elev.:	433.6 ft	**Latitude:**	34.191797039	**Longitude:**	-80.9764427
Date Started:	9/19/2023				
Total Depth:	40 ft	**Soil Depth:**	40 ft	**Core Depth:**	N/A ft
Date Completed:	9/19/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-750X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	81.6%				
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** N/A
24HR	3.7 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
				28.5						
		@28.5 feet - very stiff, laminated yellow and white, 2.5Y8/6, 2.5Y8/1.			SS-9	5	9	14		23
403.6										
	33.5			33.5						
		Hard, dry, laminated yellow and light gray, SILT with Sand (ML), little fine to medium sands, relict rock structure, 2.5Y7/8, 2.5Y7/1.			SS-10	5	15	27		42
398.6										
	38.5			38.5						
		Very stiff, dry, laminated yellowish brown to brownish yellow, SILT (ML), trace fine sands, 10YR5/8, 10YR6/8.			SS-11	6	10	13		23
393.6	40.0									
		Boring Terminated at 40 feet.								
388.6										
383.6										

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

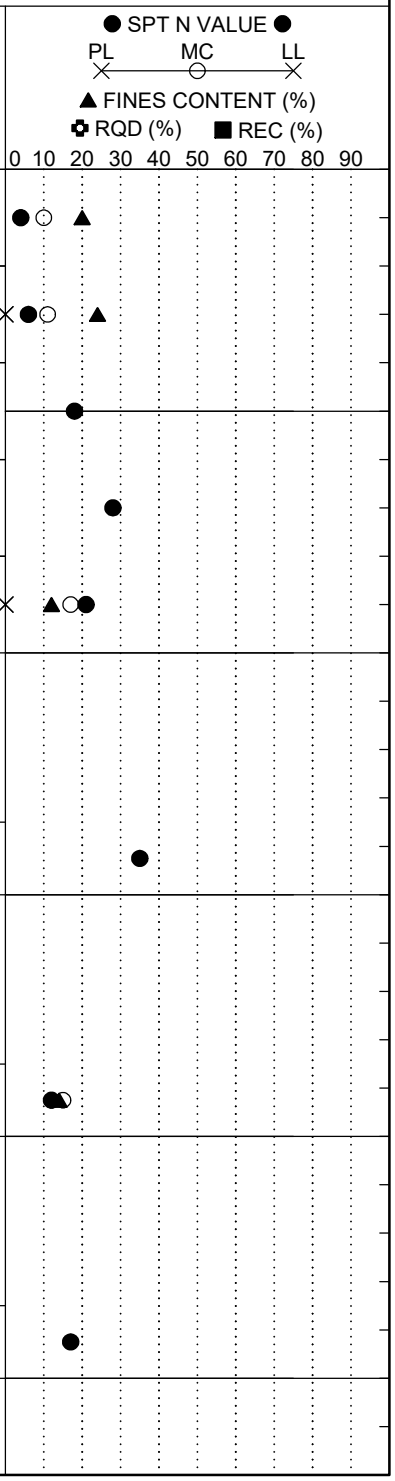
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C- 9		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	US-21		
Eng./Geo.:	H. Skerkis	**Boring Location:**	704+84.81	**Offset:**	61.2	**Alignment:**	Proposed
Elev.:	441.5 ft	**Latitude:**	34.191048427	**Longitude:**	-80.97183087	**Date Started:**	9/14/2023
Total Depth:	40 ft	**Soil Depth:**	40 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/14/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-750X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81.6%
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** N/A	**24HR**	4 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	Wetland							
	0.4	**SURFACE MATERIAL** - TOPSOIL - 5 inches.	0.0	SS-1	2	2	2	2	4
	2.0	**ALLUVIUM** - very loose, moist, dark gray to dark reddish gray, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, trace organics, 5YR4/1, 5YR4/2. NMC=10%, %#200=20	2.0	SS-2	1	3	3	3	6
			4.0						
436.5		**COASTAL PLAIN** - loose, moist, very pale brown to yellow, Silty fine to medium SAND (SM) (A-2-4), 10YR7/4, 10YR7/6. LL=NP, PL=NP, PI=NP, NMC=11%, %#200=24		SS-3	1	4	14	24	18
	6.0	@4 feet - medium dense, mottled red, yellowish brown and light reddish gray, some low plasticity fines, 2.5YR4/8, 10YR5/6, 2.5YR7/1.	6.0	SS-4	12	13	15	13	28
			8.0						
		Medium dense, moist, red, yellowish brown and light reddish gray, Poorly Graded fine to coarse SAND with Silt (SP-SM), few low plasticity fines, 2.5YR4/8, 10YR5/6, 2.5YR7/1.		SS-5	5	9	12	11	21
431.5		@8 feet - white, very pale brown and yellow, (A-2-4), 10YR8/1, 10YR8/3, 10YR7/8. LL=NP, PL=NP, PI=NP, NMC=17%, %#200=12							
			13.5						
		@13.5 feet - dense, moist to wet, white and very pale brown, trace fine gravel, 10YR8/1, 10YR8/2.		SS-6	15	17	18		35
426.5									
	18.5		18.5						
		Medium dense, moist to wet, white and very pale brown, Clayey fine to coarse SAND (SC), little medium plasticity fines, 10YR8/1, 10YR8/2. NMC=15%, %#200=14		SS-7	16	6	6		12
421.5									
			23.5						
		@23.5 feet - some medium plasticity fines.		SS-8	6	7	10		17
416.5									



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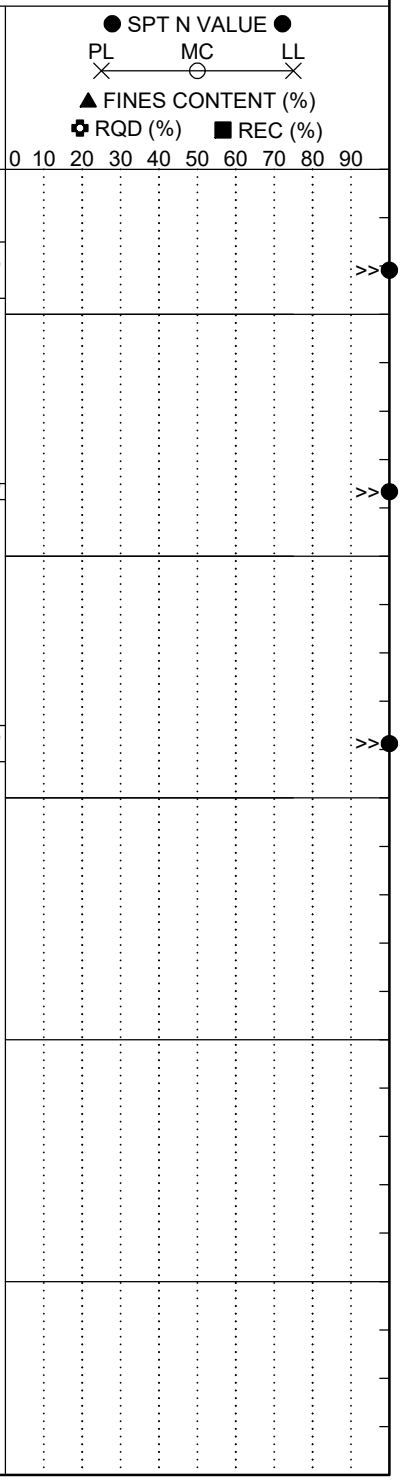
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C- 9		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	US-21		
Eng./Geo.:	H. Skerkis	**Boring Location:**	704+84.81	**Offset:**	61.2	**Alignment:**	Proposed
Elev.:	441.5 ft	**Latitude:**	34.191048427	**Longitude:**	-80.97183087	**Date Started:**	9/14/2023
Total Depth:	40 ft	**Soil Depth:**	40 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/14/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-750X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81.6%
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** N/A	**24HR**	4 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
411.5		@28.5 feet - very dense, white, very pale brown, brownish yellow, trace fine gravel, 10YR8/1, 10YR8/2, 10YR6/8.	28.5	SS-9	2	20	50	50/2"	50/2"
406.5	33.5	**PIEDMONT RESIDUUM** - very hard, moist, laminated white, light gray and yellow, Sandy SILT (ML), some fine to coarse sands, 10YR8/1, 10YR7/2, 10YR8/6.	33.5	SS-10	50/4"				50/4"
401.5	38.5	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, moist, white and very pale brown, Sandy SILT (ML), some fine to coarse sands, 10YR8/1, 10YR8/4.	38.5	SS-11	50	50	50/3"		50/3"
	40.0	Boring Terminated at 40 feet.							



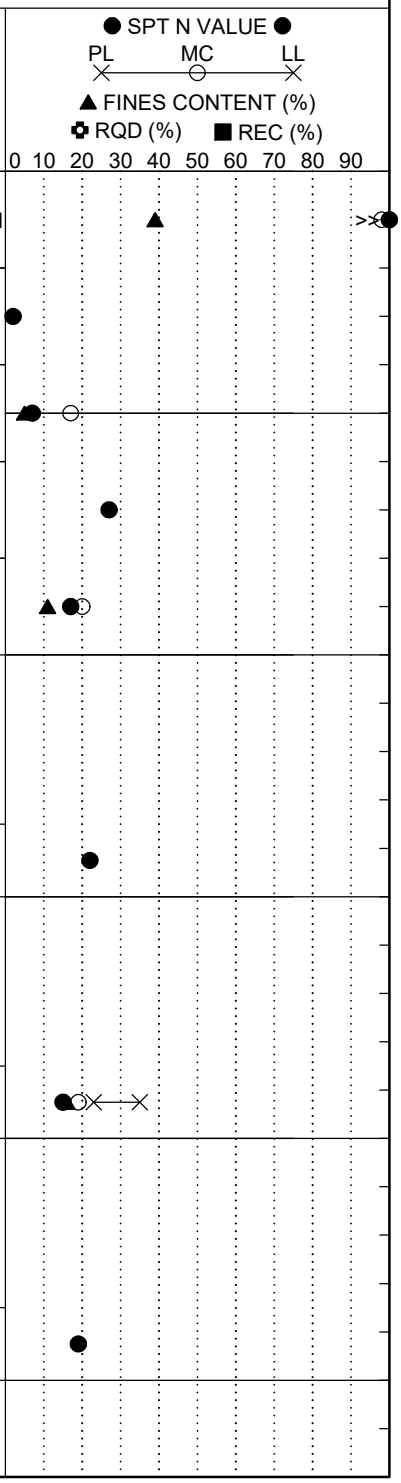
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C-10		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	US-21		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	704+68.50	**Offset:**	-87.9	**Alignment:**	Proposed
Elev.:	438.9 ft	**Latitude:**	34.19084294	**Longitude:**	-80.97226109	**Date Started:**	9/15/2023
Total Depth:	20 ft	**Soil Depth:**	40 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/15/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-750X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81.6%
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** N/A	**24HR**	0.6 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	Wetland	0.0	SS-1	WOH	WOH	WOH	WOH	WOH
		ALLUVIUM - very loose, moist to wet, black, Silty fine to medium SAND (SM), some low plasticity fines, little organics, little roots, 10YR2/1. NMC=98%, %#200=39	2.0						
	3.0	Very loose, moist to wet, light gray to light brownish gray, Poorly Graded fine to coarse SAND with Silt (SP-SM), few low plasticity fines, trace roots, 10YR7/1 to 10YR6/2.		SS-2	2	1	1	1	2
433.9			4.0	SS-3	2	3	4	7	7
	6.0	@4 feet - loose, fine to medium (A-1-b). NMC=17%, %#200=5	6.0	SS-4	8	12	15	17	27
		COASTAL PLAIN - medium dense, moist, white to light gray, Poorly Graded fine to coarse SAND with Clay (SP-SC), few medium plasticity fines, 10YR8/1, 10YR7/1.	8.0	SS-5	3	5	12	11	17
428.9		@8 feet - fine, white to light gray with yellow mottles, 10YR8/1, 10YR7/1, 10YR7/6. NMC=20%, %#200=11							
	13.5	Medium dense, moist, white to light gray, Clayey fine to coarse SAND (SC), some medium plasticity fines, trace fine gravel, 10YR8/1, 10YR7/1.	13.5	SS-6	3	11	11		22
423.9									
		@18.5 feet - (A-2-6(0)), little medium plasticity fines. LL=35, PL=23, PI=12, NMC=19%, %#200=16	18.5	SS-7	12	6	9		15
418.9									
		@23.5 feet - white to light gray and brownish yellow, 10YR8/1 to 10YR7/1, 10YR6/8.	23.5	SS-8	8	8	11		19
413.9									



LEGEND

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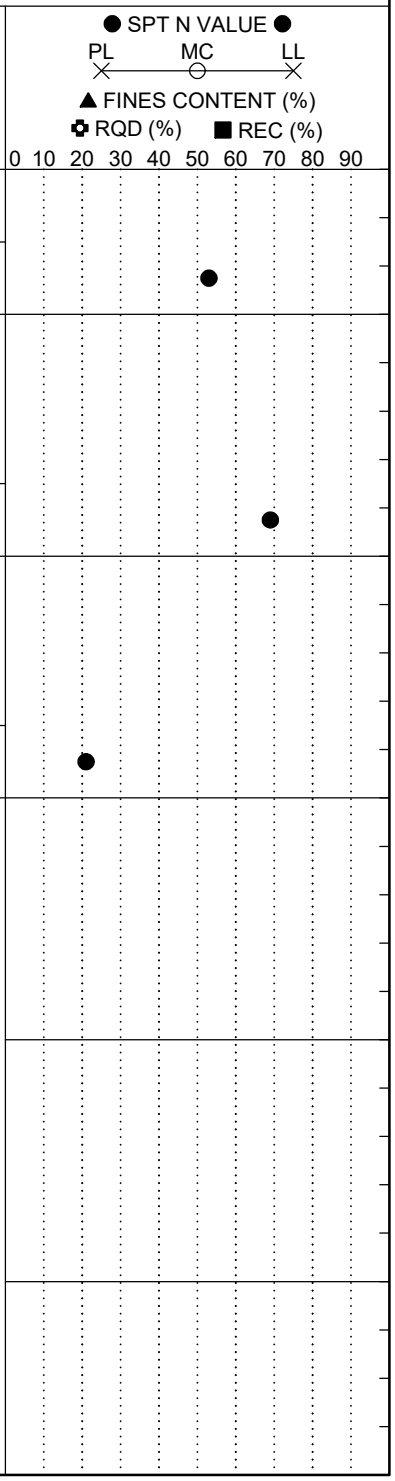
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C-10		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	US-21		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	704+68.50	**Offset:**	-87.9	**Alignment:**	Proposed
Elev.:	438.9 ft	**Latitude:**	34.19084294	**Longitude:**	-80.97226109	**Date Started:**	9/15/2023
Total Depth:	20 ft	**Soil Depth:**	40 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/15/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-750X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81.6%
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** N/A	**24HR**	0.6 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	29.0	**PIEDMONT RESIDUUM** - very hard, dry, laminated brownish yellow to light gray, SILT with Sand (ML), little fine to coarse sands, trace fine quartz gravel, relict rock structure, 10YR6/8, 10YR7/1.	28.5	SS-9	13	18	35		53
408.9			33.5	SS-10	12	22	47		69
403.9	38.5	Very stiff, dry, brownish yellow with light gray mottles, SILT (ML), trace fine sands, relict rock structure, 10YR6/8, 10YR7/1.	38.5	SS-11	5	9	12		21
398.9	40.0	Boring Terminated at 40 feet.							
393.9									
388.9									



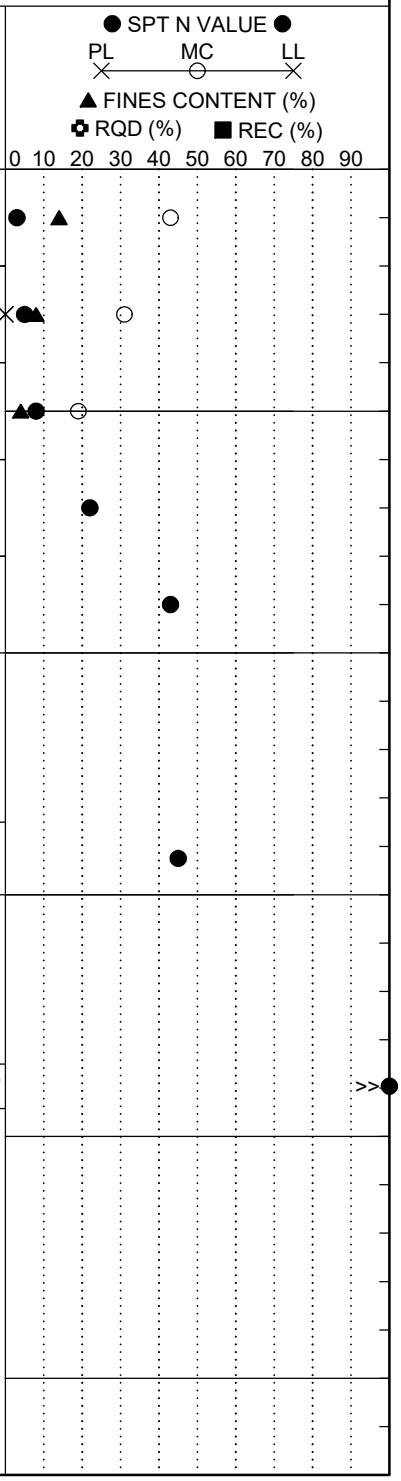
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C-13
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N
Eng./Geo.:	H. Skerkis	**Boring Location:**	1703+10.52	**Offset:**	238.6
Alignment:	Proposed				
Elev.:	407.4 ft	**Latitude:**	34.183904245	**Longitude:**	-80.979905931
Date Started:	11/1/2023				
Total Depth:	19.4 ft	**Soil Depth:**	19.4 ft	**Core Depth:**	N/A ft
Date Completed:	11/1/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	91.0%				
Core Size:	N/A	**Driller:**	T. Shearin	**Groundwater:**	**TOB** 3.6 ft
24HR	.8 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	Wetland							
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.	0.0	SS-1	1	2	1	1	3
	2.0	**ALLUIVIUM** - very loose, moist, very dark brown and black, Silty fine to medium SAND (SM) (A-2-4), some low plasticity fines, trace organics, 7.5YR2.5/2, 7.5YR2.5/1. NMC=43%, %#200=14	2.0	SS-2	WOH	2	3	5	5
	4.0	Loose, wet, very dark brown and brown, Poorly Graded fine to coarse SAND with Silt (SP-SM) (A-2-4), few low plasticity fines, trace fine to coarse gravel, 7.5YR2.5/2, 7.5YR5/3. LL=NP, PL=NP, PI=NP, NMC=31%, %#200=8	4.0	SS-3	2	3	5	4	8
402.4	6.0	Loose, wet, very dark brown and brown, Poorly Graded fine to coarse SAND (SP), trace low plasticity fines, trace fine to coarse gravel, 7.5YR2.5/2, 7.5YR5/3. NMC=19%, %#200=4	6.0	SS-4	2	7	15	23	22
			8.0	SS-5	11	17	26	36	43
397.4		**PIEDMONT RESIDUUM** - very stiff, moist, laminated light gray, greenish gray and white, Sandy SILT (ML), some fine to medium sands, 5Y7/1, 5G6/1, 5Y8/1.							
		@8 feet - hard, laminated pale green, light greenish gray and white, trace pyrite, relict rock structure, 5G6/2, 5G7/1, 8/N.	13.5	SS-6	7	19	26		45
392.4									
	18.5		18.5						
	19.4	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, moist, laminated pale green, light greenish gray and white, Sandy SILT (ML), some fine to medium sands, trace pyrite, relict rock structure, 5G6/2, 5G7/1, 8/N.		SS-7	17	50/5"			50/5"
387.4		Boring Terminated at 19.4 feet.							
382.4									



LEGEND

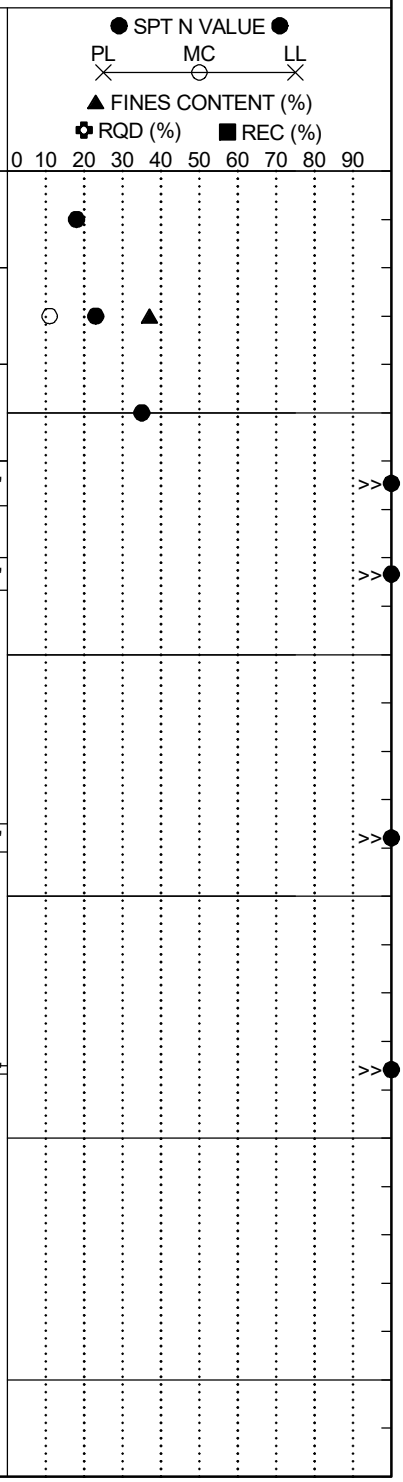
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C-14		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77S		
Eng./Geo.:	H. Skerkis	**Boring Location:**	1705+70.92	**Offset:**	-147.4	**Alignment:**	Proposed
Elev.:	394.9 ft	**Latitude:**	34.18425924	**Longitude:**	-80.98138485	**Date Started:**	10/25/2023
Total Depth:	18.7 ft	**Soil Depth:**	18.7 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/25/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	91.0%
Core Size:	N/A	**Driller:**	T. Shearin	**Groundwater:**	**TOB** NE	**24HR**	5.7 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIALS** - TOPSOIL - 3 inches.
		COASTAL PLAIN - medium dense, dry to moist, mottled white and very pale brown, Silty fine to medium SAND (SM), some low plasticity fines, 10YR8/1, 10YR7/3, 10YR7/4.
	4.0	@2 feet - mottled white, light yellowish brown, brownish yellow and grayish brown, (A-4), 10YR8/1, 10YR6/4, 10YR6/8, 10YR5/2. NMC=11%, %#200=37
389.9	6.0	**PIEDMONT RESIDUUM** - medium dense, dry to moist, mottled white, pale brown and light brownish gray, Silty fine to coarse SAND (SM), some low plasticity fines, few fine to coarse rock fragments, 10YR8/1, 10YR6/3, 10YR6/2.
384.9		**PARTIALLY WEATHERED ROCK (PWR)** - medium dense, dry to moist, mottled white, pale brown and yellow, Silty fine to coarse SAND (SM), some low plasticity fines, few fine to coarse rock fragments, 10YR8/1, 10YR6/3, 10YR8/6.
		@8 feet - very dense, mottled white, yellow and very pale brown, 10YR8/1, 10YR8/6, 10YR8/3.
379.9	18.7	@18.5 feet - few fine weathered rock fragments.
374.9		Boring Terminated at 18.7 feet.
369.9		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	7	12	6	9	18
2.0	SS-2	10	11	12	19	23
4.0	SS-3	6	11	25	35	35
6.0	SS-4	25	50/5"			50/5"
8.0	SS-5	40	50/2"			50/2"
13.5	SS-6	44	50/1"			50/1"
18.5	SS-7	50/2"				50/2"



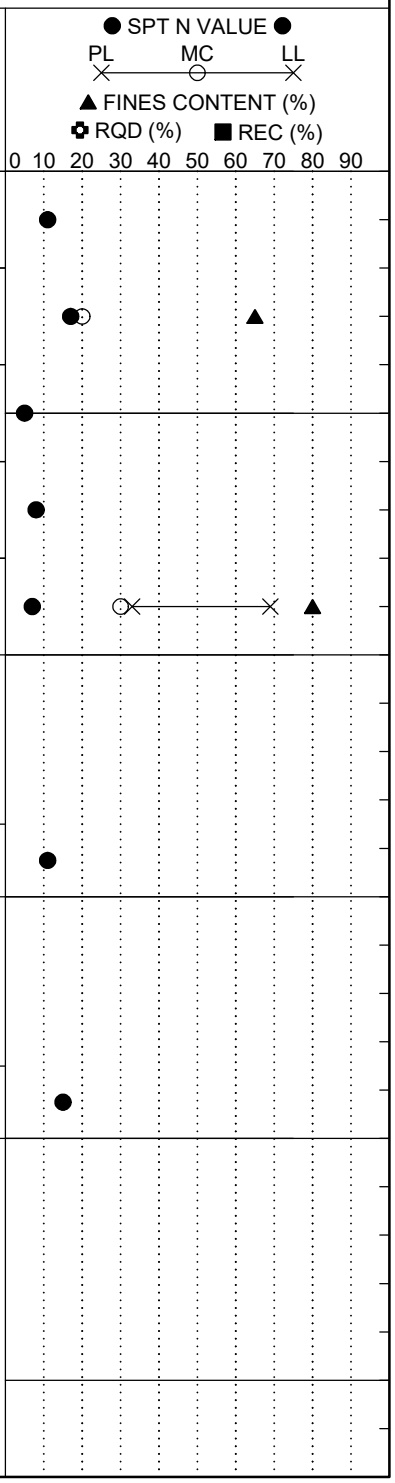
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C-15		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N		
Eng./Geo.:	H. Skerkis	**Boring Location:**	1710+84.32	**Offset:**	213.4	**Alignment:**	Proposed
Elev.:	395.0 ft	**Latitude:**	34.185906321	**Longitude:**	-80.98077135	**Date Started:**	10/31/2023
Total Depth:	20 ft	**Soil Depth:**	20 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/31/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	91.0%
Core Size:	N/A	**Driller:**	T. Shearin	**Groundwater:**	**TOB** NE	**24HR**	NE

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	Wetland							
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.	0.0	SS-1	3	6	5	6	11
		COASTAL PLAIN - stiff, dry to moist, brownish yellow and light brownish gray, Sandy SILT (ML), some fine sands, trace organics, 10YR6/8, 10YR6/2.	2.0	SS-2	6	9	8	7	17
	4.0	@2 feet - moist, yellowish brown with very pale brown mottles, few fine to coarse gravel, 10YR5/8, 10YR7/3. NMC=20%, %#200=65	4.0	SS-3	2	2	3	3	5
390.0	6.0	Firm, moist, yellowish brown, brownish yellow and very pale brown, SILT with Sand (ML), little fine to coarse sands, trace fine to coarse gravel, 10YR5/8, 10YR6/6, 10YR8/3.	6.0	SS-4	2	3	5	5	8
		PIEDMONT RESIDUUM - firm, moist, laminated brownish yellow, yellowish brown and white, Fat CLAY with Sand (CH), little fine to medium sands, 10YR6/8, 10YR5/4, 10YR8/1.	8.0	SS-5	1	3	4	6	7
385.0		@8 feet - laminated strong brown, gray, brown and reddish yellow, (A-7-5(32)), little fine to coarse sands, slightly cemented, 7.5YR5/6, 7.5YR5/8, 7.5YR6/1, 7.5YR6/8.							
	13.5	LL=69, PL=33, PI=36, NMC=30%, %#200=80	13.5	SS-6	3	5	6		11
380.0		Stiff, moist, laminated brownish yellow, gray, yellowish red, SILT with Sand (ML), little fine to medium sands, 10YR6/8, 10YR6/1, 5YR5/8.							
		@18.5 feet - laminated brownish yellow, yellow brown and yellow, 10YR6/8, 10YR5/4, 10YR7/8.	18.5	SS-7	3	6	9		15
375.0	20.0	Boring Terminated at 20 feet.							
370.0									



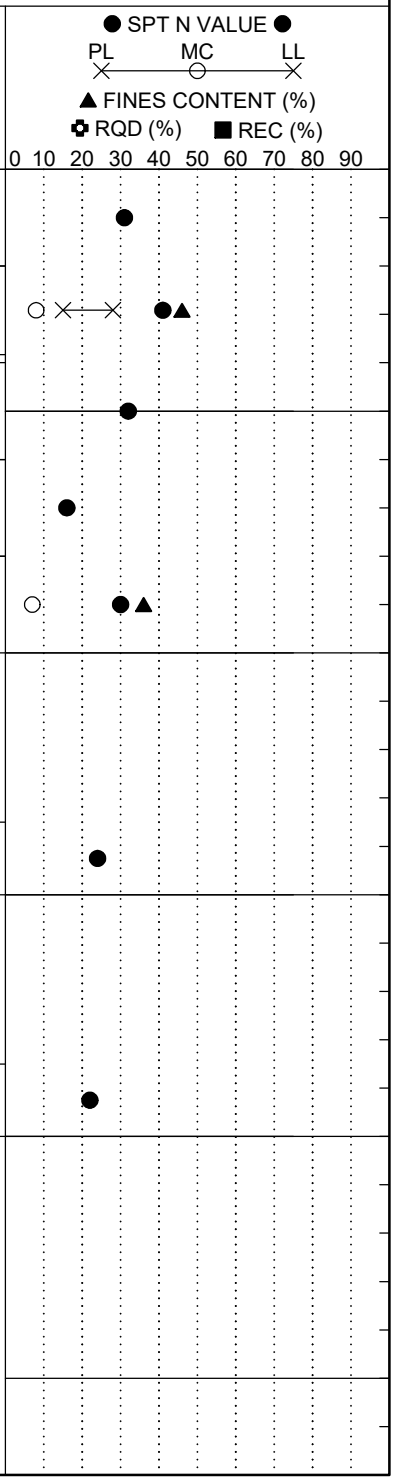
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C-16
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77S
Eng./Geo.:	H. Skerkis	**Boring Location:**	1710+70.16	**Offset:**	-158.0
Alignment:	Proposed				
Elev.:	399.2 ft	**Latitude:**	34.185555637	**Longitude:**	-80.98192557
Date Started:	10/25/2023				
Total Depth:	20 ft	**Soil Depth:**	20 ft	**Core Depth:**	N/A ft
Date Completed:	10/25/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	91.0%				
Core Size:	N/A	**Driller:**	T. Shearin	**Groundwater:**	**TOB** NE / **24HR** NE

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	7	17	14	12	31
	0.3	**SURFACE MATERIALS** - TOPSOIL - 3 inches.							
	2.0	**FILL** - hard, dry to moist, mottled olive yellow and yellow, Sandy SILT (ML), some fine to medium sands, 2.5Y6/8, 2.5Y8/6.	2.0	SS-2	13	18	23	50/4"	41
		Dense, dry to moist, mottled brownish yellow and yellowish brown, Clayey fine to medium SAND (SC) (A-6(2)), some medium plasticity fines, 10YR6/6, 10YR6/8, 10YR5/8. LL=28, PL=15, PI=13, NMC=8%, %#200=46	4.0						
394.2				SS-3	42	21	11	13	32
		@4 feet - mottled brownish yellow and very pale brown, fine to coarse, trace fine to coarse crushed stone, 10YR6/8, 10YR8/4, 10YR7/4.	6.0	SS-4	9	8	8	10	16
	8.0		8.0	SS-5	8	9	21	16	30
		@6 feet - medium dense, mottled dark yellowish brown, yellowish brown and very pale brown, 10YR4/6, 10YR5/8, 10YR8/4.							
389.2		**COASTAL PLAIN** - medium dense, dry to moist, mottled yellowish brown, light brownish gray and yellow, Silty fine to coarse SAND (SM) (A-4), some low plasticity fines, 10YR5/4, 10YR6/2, 10YR8/6. NMC=7%, %#200=36							
	13.5		13.5	SS-6	6	10	14		24
384.2		**PIEDMONT RESIDUUM** - very stiff, moist, laminated olive yellow, light brownish gray, very dark grayish brown and light gray, SILT with Sand (ML), little fine to medium sands, 2.5Y6/6, 2.5Y6/2, 2.5Y3/2, 2.5Y7/2.							
			18.5	SS-7	6	10	12		22
		@18.5 feet - mottled brownish yellow, gray and yellowish brown, few fine to coarse rock fragments, 10YR6/8, 10YR5/1, 10YR5/8.							
379.2	20.0								
		Boring Terminated at 20 feet.							
374.2									



LEGEND

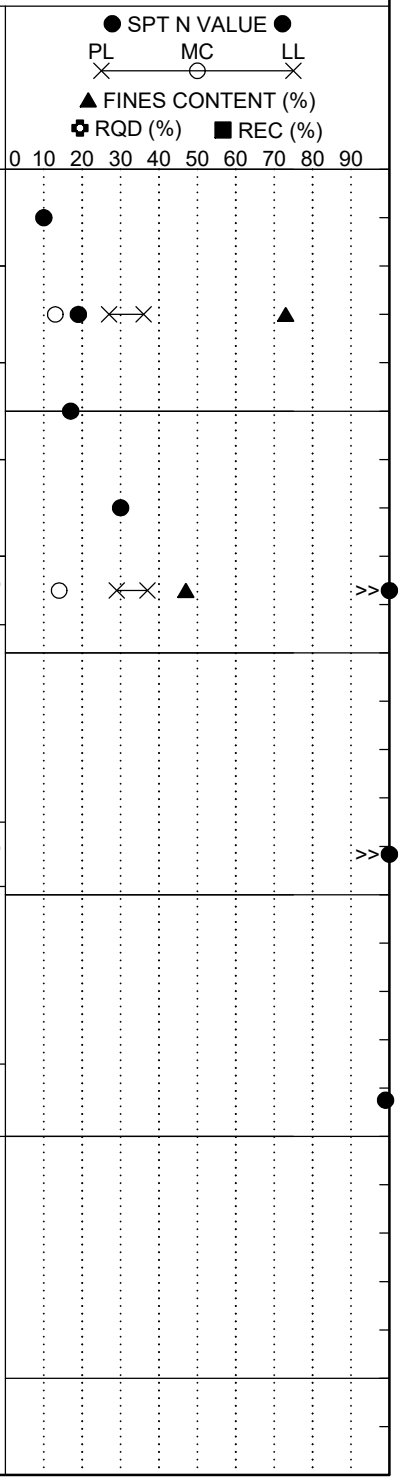
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C-17
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N
Eng./Geo.:	H. Skerkis	**Boring Location:**	1764+32.95	**Offset:**	159.0
Alignment:	Proposed				
Elev.:	461.2 ft	**Latitude:**	34.199872897	**Longitude:**	-80.985394168
Date Started:	10/31/2023				
Total Depth:	20 ft	**Soil Depth:**	20 ft	**Core Depth:**	N/A ft
Date Completed:	10/31/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	91.0%				
Core Size:	N/A	**Driller:**	T. Shearin	**Groundwater:**	**TOB** NE **24HR** 13.3 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.
		COASTAL PLAIN - stiff, dry, strong brown, brown and yellow, SILT with Sand (ML), little fine to medium sands, trace organics, 7.5YR5/8, 7.5YR5/3, 10YR7/8.
		@2 feet - yellow, white and very pale brown, (A-4(6)), trace coarse gravel, 10YR7/8, 10YR8/1, 10YR8/4. LL=36, PL=27, PI=9, NMC=13%, %#200=73
456.2		
		@4 feet - very stiff, white, yellow and very pale brown, 10YR8/1, 10YR7/8, 10YR8/4.
		@6 feet - white, yellow and reddish yellow, 10YR8/1, 10YR7/8, 7.5YR6/8.
	8.0	
		PARTIALLY WEATHERED ROCK (PWR) - very dense, dry, white and yellow, Silty fine to coarse SAND (SM) (A-4(2)), some low plasticity fines, 10YR8/1, 10YR8/6, 10YR8/8. LL=37, PL=29, PI=8, NMC=14%, %#200=47
451.2		
		@13.5 feet - dry to moist, yellow, trace mica, slightly cemented, 10YR8/8, 10YR8/6.
446.2		
	18.5	
		PIEDMONT RESIDUUM - very hard, dry to moist, yellow, white and yellowish red, Sandy SILT (ML), some fine to coarse sands, trace fine to coarse quartz rock fragments, 10YR8/8, 10YR8/1, 5YR5/6.
441.2	20.0	
		Boring Terminated at 20 feet.
436.2		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	2	5	5	5	10
2.0	SS-2	5	9	10	10	19
4.0	SS-3	5	8	9	10	17
6.0	SS-4	7	11	19	27	30
8.0	SS-5	10	19	50/5"		50/5"
13.5	SS-6	22	50	50/4"		50/4"
18.5	SS-7	24	50	49		99



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

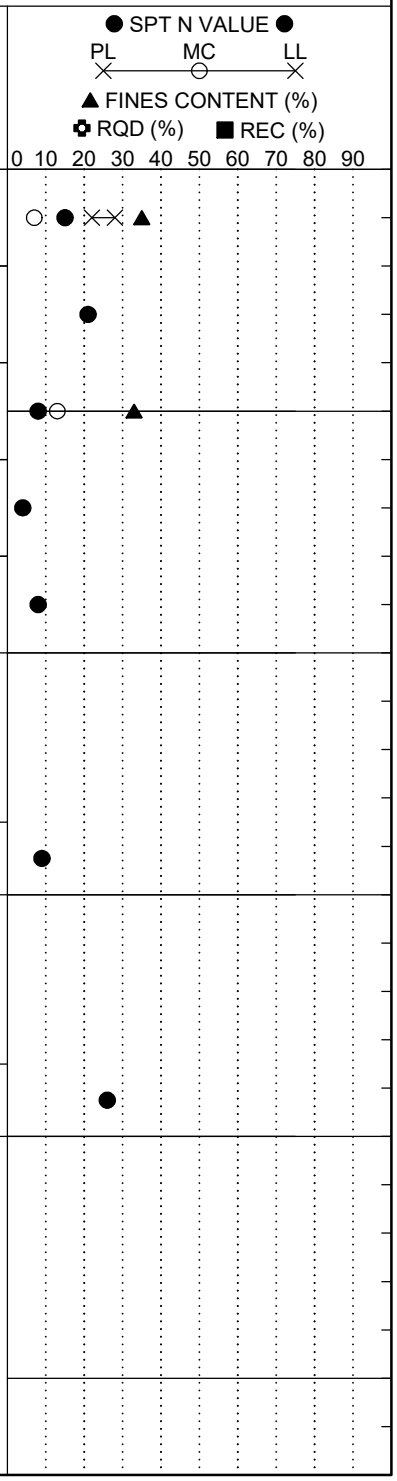
SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C-18
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77S
Eng./Geo.:	H. Skerkis	**Boring Location:**	1755+85.04	**Offset:**	-157.1
Alignment:	Proposed				
Elev.:	428.5 ft	**Latitude:**	34.19749467	**Longitude:**	-80.986254143
Date Started:	11/1/2023				
Total Depth:	20 ft	**Soil Depth:**	20 ft	**Core Depth:**	N/A ft
Date Completed:	11/1/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	91.0%				
Core Size:	N/A	**Driller:**	T. Shearin	**Groundwater:**	**TOB** NE **24HR** 9.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.1	**SURFACE MATERIAL** - TOPSOIL - 1 inch.
		COASTAL PLAIN - medium dense, dry, mottled yellow, brownish yellow and light brownish gray, Silty, Clayey fine to coarse SAND (SC-SM) (A-2-4), some low to medium plasticity fines, trace fine to coarse gravel, 10YR7/8, 10YR6/8, 10YR6/2. LL=28, PL=22, PI=6, NMC=7%, %#200=35
423.5		@2 feet - dry to moist, mottled grayish brown, yellowish brown and dark grayish brown, absent gravel, 10YR5/2, 10YR5/8, 10YR4/2.
	6.0	@4 feet - loose, moist, light olive brown and light yellowish brown, trace fine to coarse gravel, 2.5Y5/6, 2.5Y6/3. NMC=13%, %#200=33
418.5		**PIEDMONT RESIDUUM** - soft, moist, white to pale brown, SILT with Sand (ML), little fine to medium sands, 2.5Y8/1 to 2.5Y8/2.
		@8 feet - firm.
		@13.5 feet - stiff, laminated white, light gray and gray, 2.5Y8/1, 2.5Y7/2, 2.5Y5/1.
413.5		
		@18.5 feet - very stiff, laminated gray, yellow and olive yellow, slightly cemented, 2.5Y8/1, 2.5Y7/8, 2.5Y6/8.
408.5	20.0	Boring Terminated at 20 feet.
403.5		

Graphic Log

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	3	7	8	9	15
2.0	SS-2	9	10	11	12	21
4.0	SS-3	4	4	4	5	8
6.0	SS-4	2	2	2	3	4
8.0	SS-5	2	3	5	6	8
13.5	SS-6	4	3	6		9
18.5	SS-7	5	9	17		26



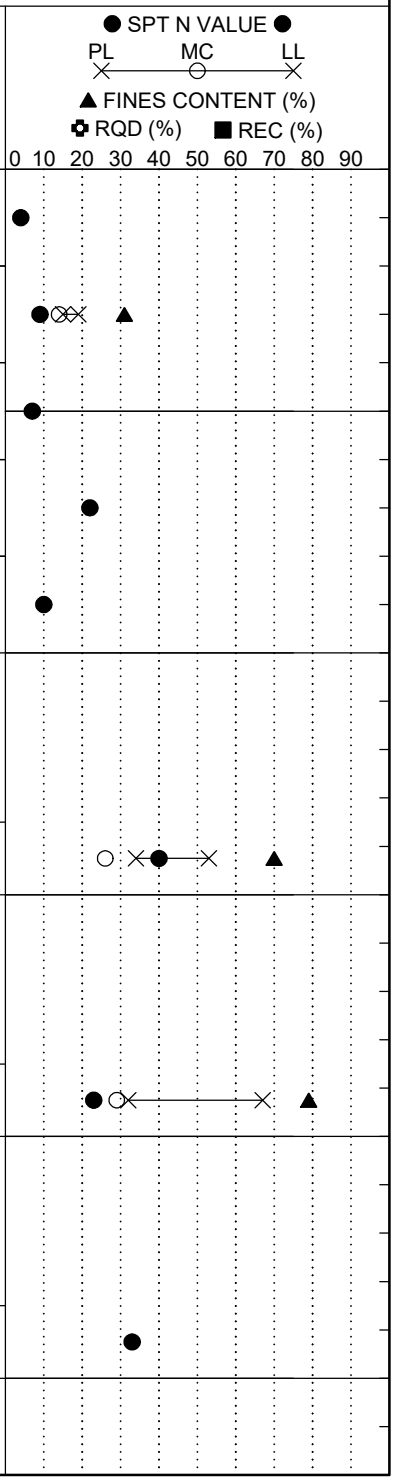
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C-19
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Community Rd
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	138+75.47	**Offset:**	63.0
Alignment:	Proposed				
Elev.:	418.8 ft	**Latitude:**	34.190792593	**Longitude:**	-80.986819111
Date Started:	10/6/2023				
Total Depth:	38.8 ft	**Soil Depth:**	38.8 ft	**Core Depth:**	N/A ft
Date Completed:	10/9/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	91.6%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A
24HR	2.1 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	Wetland							
	0.7	**SURFACE MATERIAL** - TOPSOIL - 8 inches.	0.0	SS-1	1	2	2	2	4
		ALLUVIUM - very loose, moist to wet, light brownish gray and light gray, Silty, Clayey fine to medium SAND (SC-SM), some low to medium plasticity fines, trace organics, 10YR7/2, 10YR6/2.	2.0	SS-2	2	3	6	10	9
		@2 feet - loose, (A-2-4), few fine to coarse gravel. LL=19, PL=15, PI=4, NMC=14%, %#200=31	4.0	SS-3	3	3	4	5	7
413.8	5.0 / 5.5	**PIEDMONT RESIDUUM** - firm, moist, mottled pale brown, brownish yellow and strong brown, SILT (ML), few fine sands, trace fine rock fragments, 2.5Y8/2, 10YR6/8, 7.5YR5/8.	6.0	SS-4	5	6	16	23	22
		Firm, dry to moist, laminated yellowish red and reddish brown, Sandy SILT (ML), some fine to medium sands, 5YR4/6, 5YR3/4.	8.0	SS-5	2	4	6	16	10
408.8		@6 feet - very stiff, yellowish red, reddish brown and strong brown, 5YR4/6, 5YR3/4, 7.5YR5/8.							
		@8 feet - No Recovery.							
	13.5	Hard, dry to moist, weak red, grayish green and reddish brown, Sandy Elastic SILT (MH) (A-7-5(14)), some fine to medium sands, 5R5/2, 5GY5/2, 5YR4/4. LL=53, PL=34, PI=19, NMC=26%, %#200=70	13.5	SS-6	9	16	24		40
403.8									
	18.5	Very stiff, dry to moist, weak red, grayish green and reddish brown, Fat CLAY with Sand (CH) (A-7-5(31)), little fine to medium sands, 5R5/2, 5GY5/2, 5YR4/4. LL=67, PL=32, PI=35, NMC=29%, %#200=79	18.5	SS-7	5	9	14		23
398.8									
	23.5	Hard, moist, greenish gray, white and light olive brown, SILT with Sand (ML), little fine sands, 5G5/1, 2.5Y8/1, 2.5Y5/4, poor recovery.	23.5	SS-8	9	13	20		33
393.8									



LEGEND

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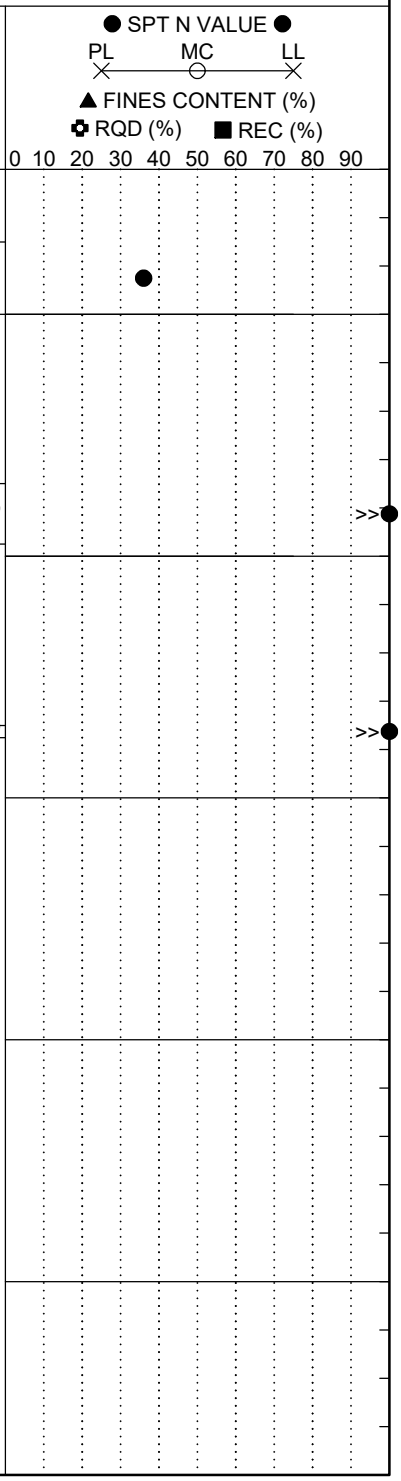
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C-19
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Community Rd
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	138+75.47	**Offset:**	63.0
Alignment:	Proposed				
Elev.:	418.8 ft	**Latitude:**	34.190792593	**Longitude:**	-80.986819111
Date Started:	10/6/2023				
Total Depth:	38.8 ft	**Soil Depth:**	38.8 ft	**Core Depth:**	N/A ft
Date Completed:	10/9/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	91.6%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A
24HR	2.1 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	28.5		28.5						
388.8		Hard, dry to moist, greenish gray, Sandy SILT (ML), some fine to medium sands, 5GY5/1.		SS-9	10	13	23		36
	33.5		33.5						
383.8		**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry to moist, greenish gray, Sandy SILT (ML), some fine to medium sands, 5G5/1.		SS-10	38	49	50/3"		50/3"
	38.8		38.5	SS-11	50/3"				50/3"
378.8		Boring Terminated at 38.8 feet.							
373.8									
368.8									



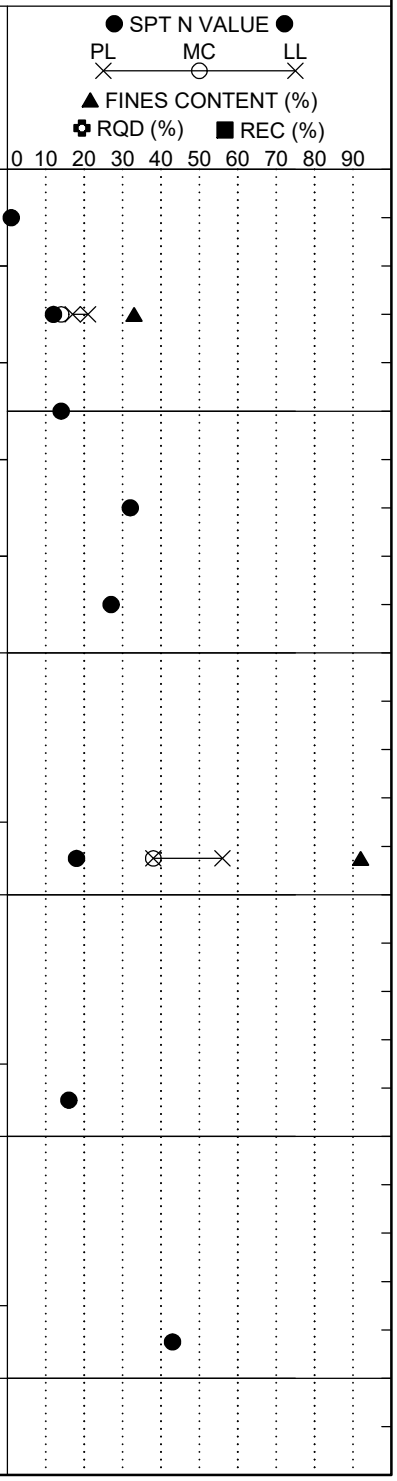
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C-20		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Community Rd		
Eng./Geo.:	H. Skerkis	**Boring Location:**	139+78.63	**Offset:**	-57.1	**Alignment:**	Proposed
Elev.:	422.5 ft	**Latitude:**	34.190981395	**Longitude:**	-80.986347413	**Date Started:**	10/27/2023
Total Depth:	39.9 ft	**Soil Depth:**	39.9 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/27/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	91.0%
Core Size:	N/A	**Driller:**	T. Shearin	**Groundwater:**	**TOB** N/A	**24HR**	.2 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	Wetland							
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.	0.0	SS-1	WOH	WOH	WOH	1	1
	2.0	**ALLUVIUM** - very soft, moist to wet, dark brown and very dark brown, SILT with Sand (ML), little fine to medium sands, few organics, trace fine gravel, 7.5YR3/3, 7.5YR2.5/2.	2.0	SS-2	WOH	5	7	7	12
	4.0	Medium dense, moist to wet, brown, light gray and white, Silty, Clayey fine to medium SAND (SC-SM) (A-2-4), some low to medium plasticity fines, trace organics, 7.5YR4/2, 7.5YR7/1, 7.5YR8/1. LL=21, PL=17, PI=4, NMC=14%, %#200=33	4.0	SS-3	3	4	10	17	14
417.5			6.0	SS-4	14	16	16	16	32
		PIEDMONT RESIDUUM - stiff, moist, white and very pale brown, Elastic SILT (MH), few fine to medium sands, 10YR8/1, 10YR8/4.	8.0	SS-5	6	12	15	15	27
412.5		@6 feet - hard, laminated white, very pale brown and yellow, 10YR8/1, 10YR8/4, 10YR8/6.							
		@8 feet - very stiff, laminated white, yellow and yellowish brown, 10YR8/1, 10YR7/8, 10YR5/8.	13.5	SS-6	5	7	11		18
		@13.5 feet - laminated reddish yellow, brownish yellow and white, (A-7-5(22)), 7.5YR7/8, 10YR6/8, 10YR8/1. LL=56, PL=38, PI=18, NMC=38%, %#200=92							
407.5			18.5	SS-7	2	5	11		16
		@18.5 feet - laminated grayish brown, dark yellowish brown and brownish yellow, few fine to coarse sands, slightly cemented, few fine quartz rock fragments, 10YR5/2, 10YR4/4, 10YR5/6.							
402.5									
	23.5	Hard, moist, laminated grayish brown, dark yellowish brown and brownish yellow, SILT (ML), few fine to coarse sands, trace fine quartz rock fragments, 10YR5/2, 10YR4/4, 10YR5/6.	23.5	SS-8	13	15	28		43
397.5									



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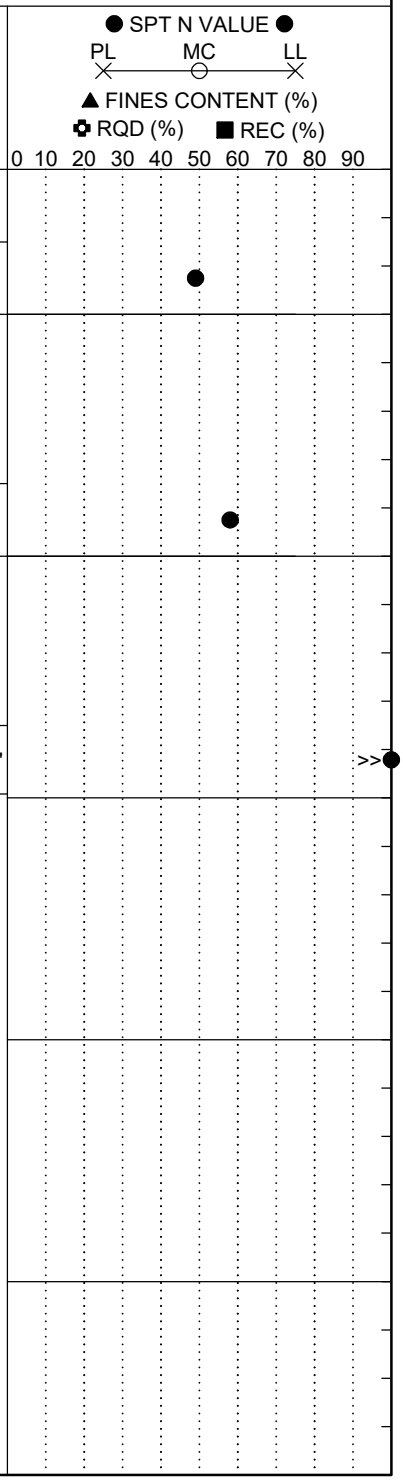
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C-20
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Community Rd
Eng./Geo.:	H. Skerkis	**Boring Location:**	139+78.63	**Offset:**	-57.1
Alignment:	Proposed				
Elev.:	422.5 ft	**Latitude:**	34.190981395	**Longitude:**	-80.986347413
Date Started:	10/27/2023				
Total Depth:	39.9 ft	**Soil Depth:**	39.9 ft	**Core Depth:**	N/A ft
Date Completed:	10/27/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	91.0%				
Core Size:	N/A	**Driller:**	T. Shearin	**Groundwater:**	**TOB** N/A
24HR	.2 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
				28.5						
392.5		@28.5 feet - laminated light grayish green, dark yellowish brown and yellowish brown, absent rock fragments, 5GY6/2, 10YR4/6, 10YR5/6.			SS-9	13	25	24		49
				33.5						
387.5		@33.5 feet - very hard, laminated light grayish green and grayish green, few fine to medium sands, 5GY6/2, 5GY5/2.			SS-10	19	25	33		58
	38.5			38.5						
382.5	39.9	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, moist, laminated light grayish green and grayish green, Sandy SILT (ML), some fine to medium sands, 5GY6/2, 5GY5/2.			SS-11	23	33	50/5"		50/5"
		Boring Terminated at 39.9 feet.								
377.5										
372.5										



LEGEND

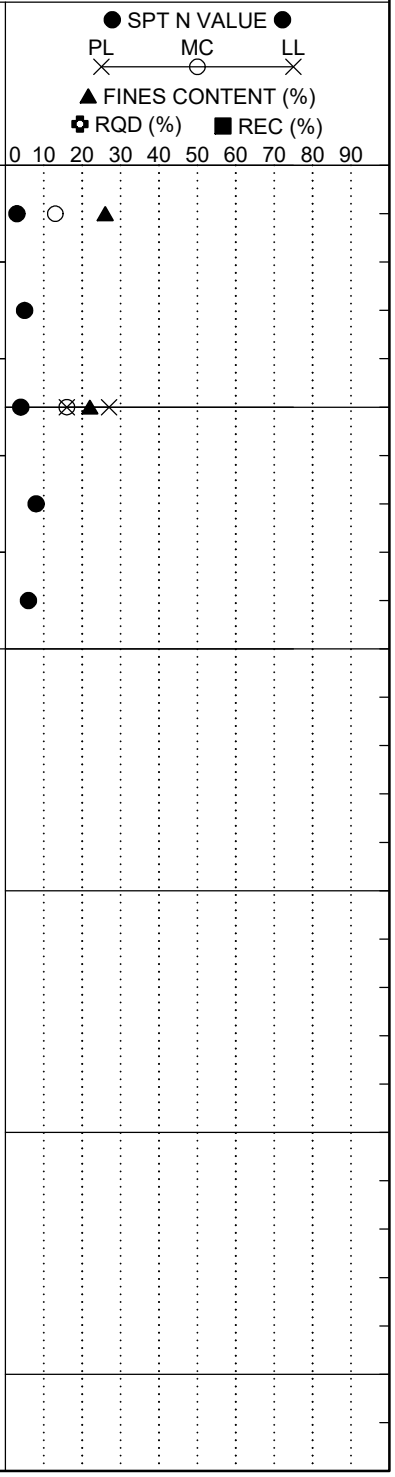
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C-21
Site Description:	I-77 Exit 26 - Roadways			**Route:**	US-21
Eng./Geo.:	Z. Zelaya	**Boring Location:**	709+81.27	**Offset:**	-23.8
Alignment:	Proposed				
Elev.:	448.4 ft	**Latitude:**	34.192337193	**Longitude:**	-80.97217321
Date Started:	9/18/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/18/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-750X	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	81.6%				
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** N/A
24HR	6.5 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.
		COASTAL PLAIN - very loose, moist, dark brown, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, few roots, 10YR3/3. NMC=13%, %#200=26
	4.0	@2 feet - loose, gray, absent roots, 10YR6/1.
443.4		Very loose, moist, gray, Clayey fine to medium SAND (SC) (A-2-6(0)), little medium plasticity fines, 10YR5/1. LL=27, PL=16, PI=11, NMC=16%, %#200=22
	6.0	
	8.0	Loose, moist to wet, gray to light gray, Poorly Graded fine to coarse SAND with Clay (SP-SC), few medium plasticity fines, 10YR5/1, 10YR7/1.
438.4	10.0	Loose, moist to wet, light gray to white, Silty fine to coarse SAND (SM), little low plasticity fines, 10YR7/1, 10YR8/1.
		Boring Terminated at 10 feet.
433.4		
428.4		
423.4		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	1	1	2	1	3
2.0	SS-2	3	3	2	3	5
4.0	SS-3	2	2	2	3	4
6.0	SS-4	2	3	5	6	8
8.0	SS-5	1	2	4	7	6



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

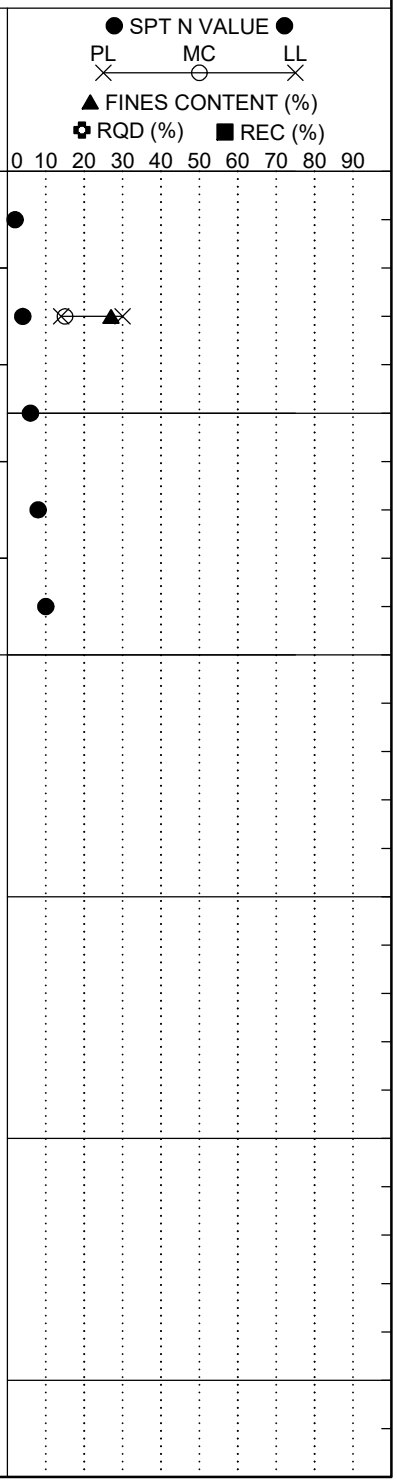
SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C-22		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	US-21		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	708+95.52	**Offset:**	58.4	**Alignment:**	Proposed
Elev.:	444.5 ft	**Latitude:**	34.192060641	**Longitude:**	-80.9719749	**Date Started:**	9/18/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/18/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-750X	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	81.6%
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** N/A	**24HR**	3.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 4 inches.
	2.0	**COASTAL PLAIN** - very loose, moist, dark brown to gray, Poorly Graded fine to medium SAND with Silt (SP-SM), few low plasticity fines, few roots, 7.5YR3/2, 10YR5/1.
439.5		Very loose, moist, gray to dark gray, Clayey fine to medium SAND (SC) (A-2-6(1)), little medium plasticity fines, 10YR5/1, 7.5YR4/1. LL=30, PL=14, PI=16, NMC=15%, %#200=27
		@4 feet - loose.
	8.0	@6 feet - moist to wet, gray, fine to coarse, little medium plasticity fines, 10YR6/1.
434.5	10.0	Loose, moist to wet, gray, Poorly Graded fine to coarse SAND with Clay (SP-SC), few medium plasticity fines, 10YR6/1.
		Boring Terminated at 10 feet.
429.5		
424.5		
419.5		

Graphic Log

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	1	1	1	2	2
2.0	SS-2	2	2	2	3	4
4.0	SS-3	2	2	4	4	6
6.0	SS-4	2	3	5	7	8
8.0	SS-5	2	5	5	3	10



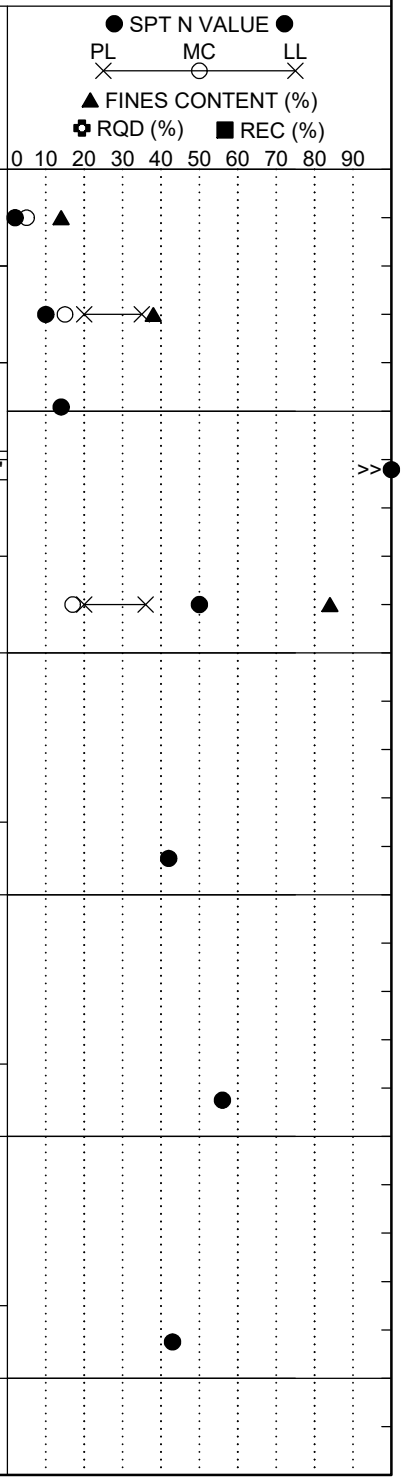
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C-23		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp D		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1726+79.74	**Offset:**	-28.3	**Alignment:**	Proposed
Elev.:	447.4 ft	**Latitude:**	34.19009172	**Longitude:**	-80.981777697	**Date Started:**	9/28/2023
Total Depth:	35 ft	**Soil Depth:**	35 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/28/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	9.9 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	Wetland							
		ALLUVIUM - very loose, dry, very pale brown to grayish brown, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, trace organics, 10YR7/3, 10YR5/2. NMC=5%, %#200=14	0.0	SS-1	1	1	1	2	2
	2.0	**COASTAL PLAIN** - loose, moist, brownish yellow with yellowish red and gray mottles, Clayey fine to coarse SAND (SC) (A-6(2)), some medium plasticity fines, 10YR6/6, 5YR5/8, 10YR6/1. LL=35, PL=20, PI=15, NMC=15%, %#200=38	2.0	SS-2	2	4	6	7	10
442.4	4.0		4.0	SS-3	6	5	9	50/4"	14
	6.0	Stiff, moist, mottled light gray, yellowish red and brownish yellow, Sandy Lean CLAY (CL), some fine to coarse sands, 10YR7/1, 7.5YR5/8, 10YR6/6.	6.0	SS-4	50/5"				50/5"
		Very hard, dry, light gray with brownish yellow mottles, Lean CLAY with Sand (CL), little fine to medium sands, slightly cemented, 10YR7/1, 10YR6/6.	8.0	SS-5	10	18	32	42	50
437.4		@8 feet - hard, (A-6(13)). LL=36, PL=20, PI=16, NMC=15%, %#200=84							
	13.5	Dense, moist, white to light gray with yellow mottles, Silty fine to coarse SAND (SM), little low plasticity fines, trace fine to coarse gravel, 10YR8/1, 10YR7/1, 10YR7/6.	13.5	SS-6	14	16	26		42
432.4									
	18.5	**PIEDMONT RESIDUUM** - very hard, dry, laminated very pale brown, brownish yellow and white, SILT (ML), trace fine sands, relict rock structure, 10YR7/3, 10YR6/6, 10YR8/1.	18.5	SS-7	11	22	34		56
427.4									
		@23.5 feet - hard.	23.5	SS-8	11	16	27		43
422.4									



LEGEND

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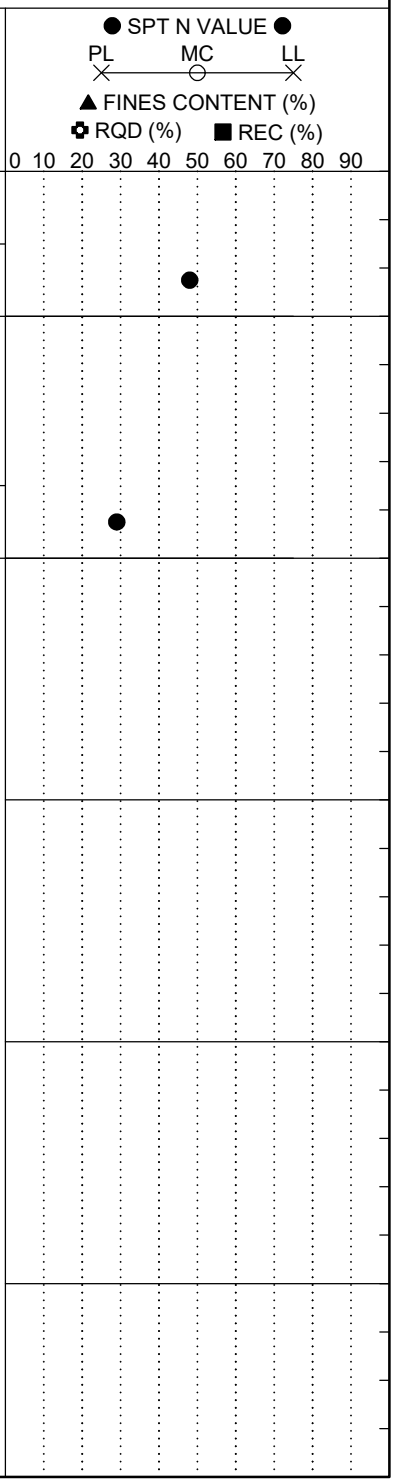
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C-23		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp D		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1726+79.74	**Offset:**	-28.3	**Alignment:**	Proposed
Elev.:	447.4 ft	**Latitude:**	34.19009172	**Longitude:**	-80.981777697	**Date Started:**	9/28/2023
Total Depth:	35 ft	**Soil Depth:**	35 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/28/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	9.9 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
				28.5						
		@28.5 feet - laminated brownish yellow, yellow and white, 10YR6/6 to 10YR7/6, 10YR8/1.			SS-9	13	19	29		48
417.4										
				33.5						
		@33.5 feet - very stiff, laminated very pale brown and brownish yellow, 10YR8/3 to 10YR7/3, 10YR6/6 to 10YR6/8.			SS-10	5	11	18		29
412.4	35.0									
		Boring Terminated at 35 feet.								
407.4										
402.4										
397.4										



LEGEND

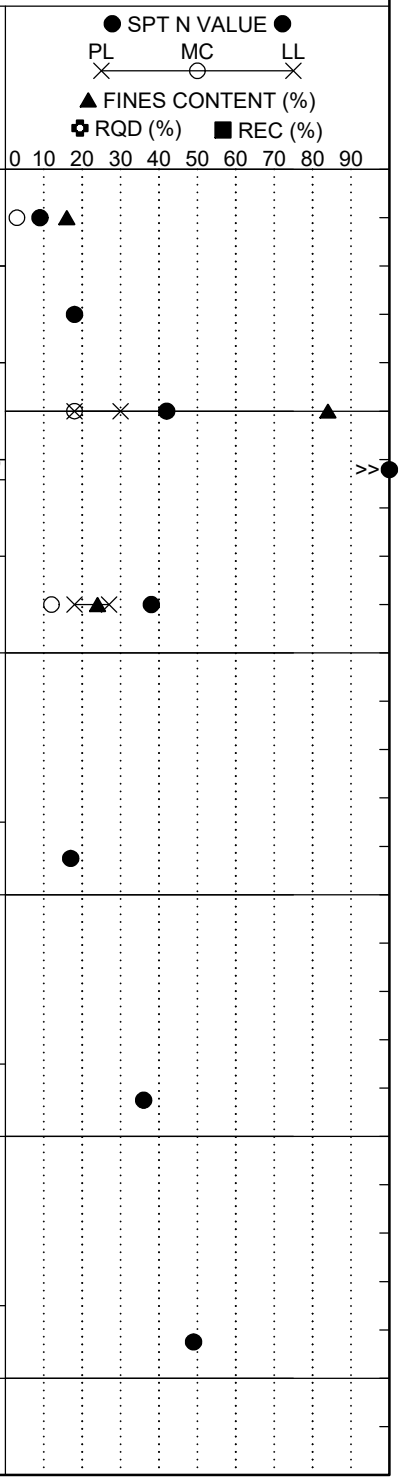
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C-24
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp D
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1725+87.94	**Offset:**	16.9
Alignment:	Proposed				
Elev.:	446.6 ft	**Latitude:**	34.189821289	**Longitude:**	-80.981685265
Date Started:	9/28/2023				
Total Depth:	34.8 ft	**Soil Depth:**	34.8 ft	**Core Depth:**	N/A ft
Date Completed:	9/28/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	87.6%				
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A
24HR	9.1 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.1	**SURFACE MATERIAL** - TOPSOIL - 1 inch.
	2.0	**COASTAL PLAIN** - loose, dry, very pale brown to dark grayish brown, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, trace organics, 10YR7/3, 10YR4/2. NMC=3%, %#200=16
	4.0	Medium dense, dry, very pale brown with strong brown mottles, Clayey fine to coarse SAND (SC), some medium plasticity fines, trace roots, 10YR7/3, 7.5YR5/8.
441.6		
	8.0	Hard, dry, light gray with red mottles, Lean CLAY with Sand (CL) (A-6(9)), little fine to medium sands, slightly cemented, 10YR7/1, 2.5YR4/8. LL=30, PL=18, PI=12, NMC=18%, %#200=84
		@6 feet - very hard, light gray with brownish yellow and red mottles, 10YR7/1, 10YR6/6, 2.5YR5/8.
436.6		
	13.5	Dense, moist, brownish yellow with light gray and pale red mottles, Clayey fine to coarse SAND (SC) (A-2-4), some medium plasticity fines, trace fine gravel, 10YR6/6, 10YR7/1, 2.5YR6/4. LL=27, PL=18, PI=9, NMC=12%, %#200=24
431.6		**PIEDMONT RESIDUUM** - very stiff, dry, laminated very pale brown and white, SILT (ML), trace fine sands, relict rock structure, 10YR7/3 to 10YR8/3, 10YR8/1.
		@18.5 feet - hard, laminated very pale brown, yellow and white, 10YR7/3 to 10YR8/3, 10YR7/6, 10YR8/1.
426.6		
		@23.5 feet - laminated gray and very pale brown with brownish yellow mottles, 10YR5/1 to 10YR6/1, 10YR7/3, 10YR6/6.
421.6		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	3	5	4	5	9
2.0	SS-2	9	9	9	7	18
4.0	SS-3	8	21	21	34	42
6.0	SS-4	50/5"				50/5"
8.0	SS-5	21	19	19	19	38
13.5	SS-6	4	7	10		17
18.5	SS-7	9	15	21		36
23.5	SS-8	15	24	25		49



LEGEND

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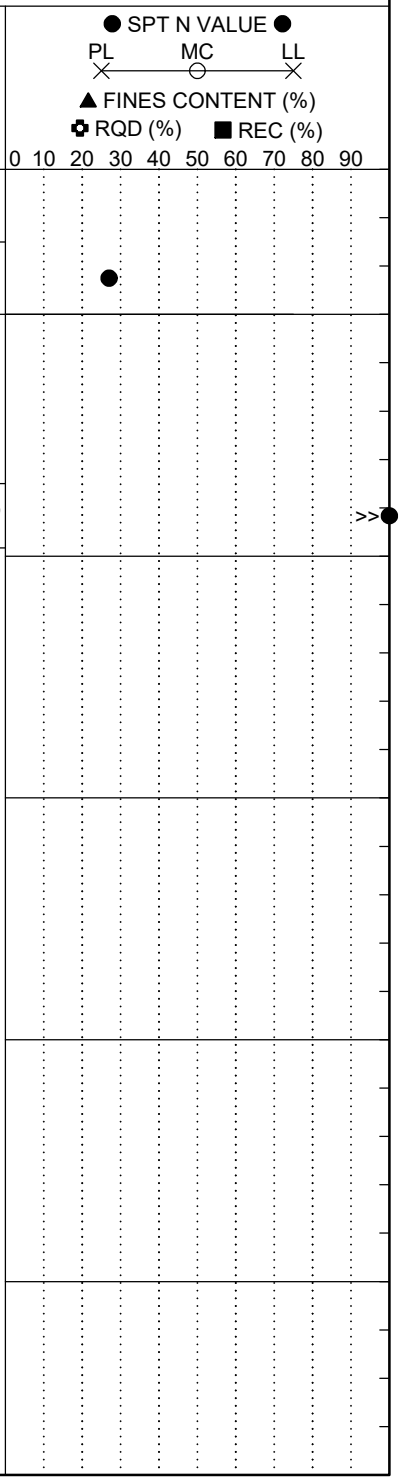
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	C-24
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp D
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1725+87.94	**Offset:**	16.9
Alignment:	Proposed				
Elev.:	446.6 ft	**Latitude:**	34.189821289	**Longitude:**	-80.981685265
Date Started:	9/28/2023				
Total Depth:	34.8 ft	**Soil Depth:**	34.8 ft	**Core Depth:**	N/A ft
Date Completed:	9/28/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	87.6%				
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A
24HR	9.1 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
				28.5						
		@28.5 feet - very stiff, laminated dark gray and gray with yellow mottles, few fine to coarse sands, 10YR4/1 to 10YR5/1, 10YR7/8.			SS-9	7	12	15		27
416.6										
	33.5			33.5						
		PARTIALLY WEATHERED ROCK (PWR) - very hard, dry, laminated red and gray with brownish yellow mottles, SILT (ML), few fine to medium sands, relict rock structure, 10R4/6 to 10R4/8, 10R6/1, 10YR6/6.			SS-10	14	39	50/4"		50/4"
411.6	34.8									
		Boring Terminated at 34.8 feet.								
406.6										
401.6										
396.6										



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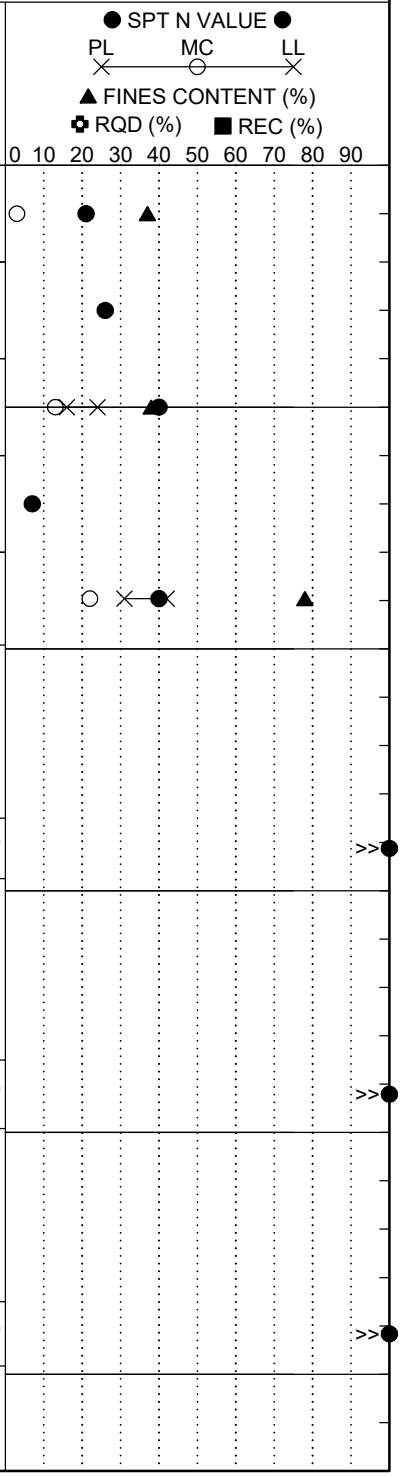
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	CN-1		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Connector Rd		
Eng./Geo.:	H. Skerkis	**Boring Location:**	153+90.42	**Offset:**	1.5	**Alignment:**	Proposed
Elev.:	454.7 ft	**Latitude:**	34.191616457	**Longitude:**	-80.981918994	**Date Started:**	10/4/2023
Total Depth:	39.8 ft	**Soil Depth:**	39.8 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/4/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	17.8 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	**SURFACE MATERIAL** - TOPSOIL - 0.5 inches.
	2.0	**COASTAL PLAIN** - medium dense, dry, olive yellow and pale brown, Silty fine to medium SAND (SM), some low plasticity fines, 2.5Y6/8, 2.5Y7/4. NMC=3%, %#200=37
449.7		Medium dense, dry to moist, mottled olive yellow and light yellowish brown, Clayey fine to medium SAND (SC), some medium plasticity fines, 2.5Y6/8, 2.5Y6/4.
	6.5	@4 feet - dense, moist, mottled yellow, strong brown and yellowish red, fine to coarse (A-4(0)), 10YR7/8, 7.5YR5/8, 5YR5/8. LL=24, PL=16, PI=8, NMC=13%, %#200=38
	8.0	@6 feet - loose.
444.7		**PIEDMONT RESIDUUM** - firm, moist, white, SILT (ML), trace fine to medium sands, 5YR8/1.
	13.5	Very hard, moist, very pale brown and yellow, SILT with Sand (ML) (A-7-5(10)), little fine to medium sands, 10YR8/4, 10YR7/8, 10YR8/8. LL=42, PL=31, PI=11, NMC=22%, %#200=78
439.7		**PARTIALLY WEATHERED ROCK (PWR)** - very hard, moist, pink and white, SILT with Sand (ML), little fine to medium sands, 7.5YR8/4, 7.5YR8/1.
	18.5	Very hard, moist, pink, white and yellow, Sandy SILT (ML), some fine to medium sands, 7.5YR8/4, 7.5YR8/1, 10YR8/8.
434.7		
429.7		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	5	10	11	11	21
2.0	SS-2	11	14	12	11	26
4.0	SS-3	10	19	21	18	40
6.0	SS-4	5	3	4	7	7
8.0	SS-5	5	16	24	50/5"	40
13.5	SS-6	21	50	50/3"		50/3"
18.5	SS-7	14	28	50/5"		50/5"
23.5	SS-8	16	29	50/4"		50/4"



LEGEND

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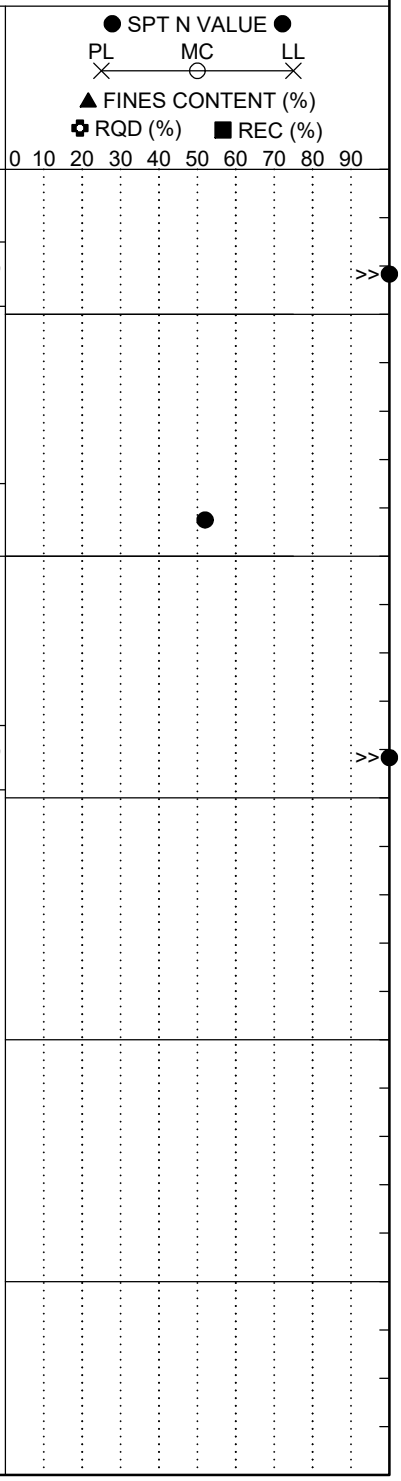
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	CN-1
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Connector Rd
Eng./Geo.:	H. Skerkis	**Boring Location:**	153+90.42	**Offset:**	1.5
Alignment:	Proposed				
Elev.:	454.7 ft	**Latitude:**	34.191616457	**Longitude:**	-80.981918994
Date Started:	10/4/2023				
Total Depth:	39.8 ft	**Soil Depth:**	39.8 ft	**Core Depth:**	N/A ft
Date Completed:	10/4/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	87.6%				
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A
24HR	17.8 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		@28.5 feet - laminated reddish yellow and strong brown, 7.5YR8/6, 7.5YR5/6.		28.5	SS-9	15	36	50/4"		50/4"
424.7										
	33.5	**PIEDMONT RESIDUUM** - very hard, moist, laminated white, light reddish brown and pink, Sandy SILT (ML), some fine to medium sands, 5YR8/1, 5YR6/4, 5YR7/4.		33.5	SS-10	11	18	34		52
419.7										
	38.5	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, moist, laminated reddish yellow, white and reddish brown, Sandy SILT (ML), some fine to medium sands, 5YR6/6, 5YR8/1, 5YR4/3.		38.5	SS-11	15	36	50/4"		50/4"
	39.8	Boring Terminated at 39.8 feet.								
414.7										
409.7										
404.7										



LEGEND

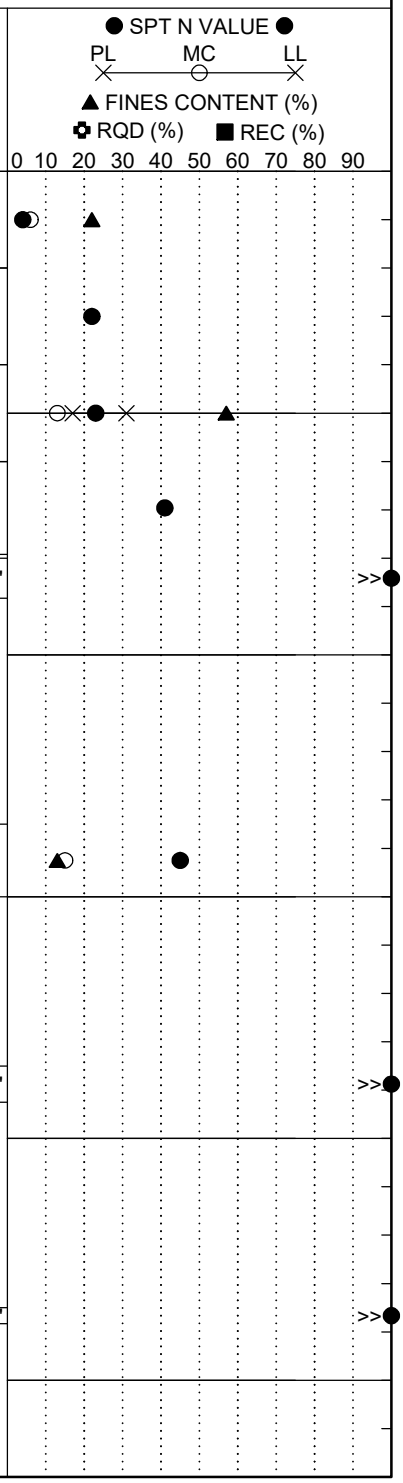
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	CN-2		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Connector Rd		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	159+02.06	**Offset:**	-16.9	**Alignment:**	Proposed
Elev.:	452.6 ft	**Latitude:**	34.192033992	**Longitude:**	-80.98029688	**Date Started:**	9/22/2023
Total Depth:	39.8 ft	**Soil Depth:**	39.8 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/22/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-750X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81.6%
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** N/A	**24HR**	14.3 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.
	2.5	**COASTAL PLAIN** - very loose, moist, very pale brown to dark grayish brown, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, trace roots, 10YR7/4, 10YR4/2. NMC=6%, %#200=22
	4.0	@2 feet - trace fine gravel.
447.6		Medium dense, dry to moist, mottled red, yellowish brown and gray, Clayey fine to medium SAND (SC), some medium plasticity fines, 2.5YR4/8, 10YR5/6, 10YR6/1.
	6.0	Very stiff, dry to moist, mottled yellowish brown, gray and red, Sandy Lean CLAY (CL) (A-6(5)), some fine to medium sands, 10YR5/6, 10YR6/1, 2.5YR4/8. LL=31, PL=17, PI=14, NMC=13%, %#200=57
442.6		Hard, dry, light gray with yellowish brown and red mottles, Lean CLAY (CL), few fine to medium sands, 10YR7/1, 10YR5/6, 2.5YR4/8.
	13.5	@8 feet - very hard, light gray with brownish yellow mottles, slightly cemented, 10YR7/1, 10YR6/8.
437.6		Dense, moist to wet, white, Silty fine to coarse SAND (SM) (A-2-4), little low plasticity fines, 10YR8/1. NMC=15%, %#200=13
	18.5	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, laminated light gray and brownish yellow, SILT (ML), few fine sands, relict rock structure, 10YR7/1, 10YR6/8.
432.6		
	23.5	@23.5 feet - laminated brownish yellow and light gray, 10YR6/8, 10YR7/1.
427.6		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	1	2	2	8	4
2.0	SS-2	7	7	15	17	22
4.0	SS-3	15	12	11	12	23
6.0	SS-4	11	16	25	50/5"	41
8.0	SS-5	16	50/4"			50/4"
13.5	SS-6	15	20	25		45
18.5	SS-7	47	50/3"			50/3"
23.5	SS-8	50/4"				50/4"



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	CN-2		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Connector Rd		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	159+02.06	**Offset:**	-16.9	**Alignment:**	Proposed
Elev.:	452.6 ft	**Latitude:**	34.192033992	**Longitude:**	-80.98029688	**Date Started:**	9/22/2023
Total Depth:	39.8 ft	**Soil Depth:**	39.8 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/22/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-750X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81.6%
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** N/A	**24HR**	14.3 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
				28.5	SS-9	47	50/3"			50/3"
422.6		@28.5 feet - laminated brownish yellow and very pale brown, 10YR6/8, 10YR7/4.								
				33.5	SS-10	42	50/4"			50/4"
417.6										
	38.5			38.5						
	39.8	Very hard, dry, laminated and mottled greenish gray, brownish yellow and gray, SILT (ML), trace fine sands, 10GY6/1, 10YR6/8, 6/N.			SS-11	19	42	50/4"		50/4"
412.6		Boring Terminated at 39.8 feet.								
407.6										
402.6										

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

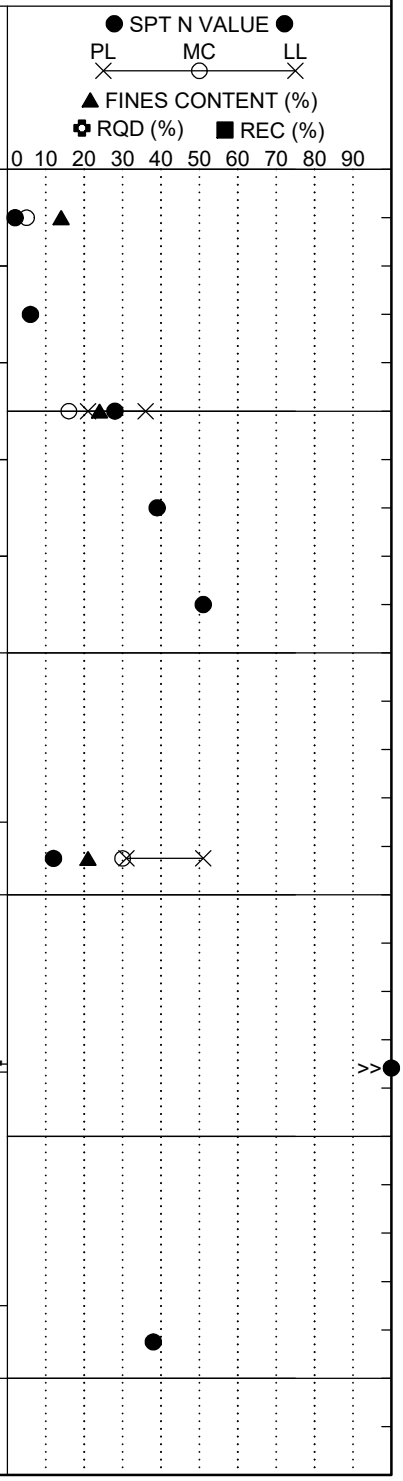
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	CN-3		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Connector Rd		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	165+50.42	**Offset:**	4.1	**Alignment:**	Proposed
Elev.:	446.0 ft	**Latitude:**	34.191944615	**Longitude:**	-80.978149361	**Date Started:**	9/26/2023
Total Depth:	28.8 ft	**Soil Depth:**	28.8 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/26/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	10.2 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	1	1	1	1	2
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.	2.0	SS-2	1	2	4	7	6
		COASTAL PLAIN - very loose, moist, very pale brown and dark grayish brown, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, trace roots, 10YR7/4, 10YR4/2. NMC=5%, %#200=14	4.0	SS-3	7	14	14	13	28
441.0	4.0	@2 feet - loose, very pale brown, fine to coarse, 10YR7/4.	6.0	SS-4	12	18	21	35	39
		Medium dense, moist, mottled yellowish brown, red and very pale brown, Clayey fine to coarse SAND (SC) (A-2-6(0)), little medium plasticity fines, 10YR5/8, 2.5YR5/8, 10YR7/4. LL=36, PL=21, PI=15, NMC=16%, %#200=24	8.0	SS-5	9	31	20	19	51
436.0		@6 feet - dense, mottled very pale brown, light gray and yellowish red, little medium plasticity fines, trace fine gravel, 10YR7/4, 10YR7/1, 7.5YR5/8.							
		@8 feet - very dense, mottled light gray, reddish yellow and white, some medium plasticity fines, 10YR7/1, 7.5YR6/8, 10YR8/1.							
	13.5	Medium dense, moist to wet, brownish yellow with light gray mottles, Silty fine to coarse SAND (SM) (A-2-7(1)), little low plasticity fines, 10YR6/8, 10YR7/1. LL=51, PL=31, PI=20, NMC=20%, %#200=21	13.5	SS-6	5	6	6		12
431.0									
		@18.5 feet - wet, mottled very pale brown and brownish yellow, few fine gravel, 10YR7/4, 10YR6/8.	18.5	SS-7	50/2"				50/2"
426.0									
	23.5	**PIEDMONT RESIDUUM** - hard, dry, laminated very pale brown, brownish yellow and light gray, SILT (ML), few fine sands, relict rock structure, 10YR7/3, 10YR6/6, 10YR7/1.	23.5	SS-8	7	17	21		38
421.0									



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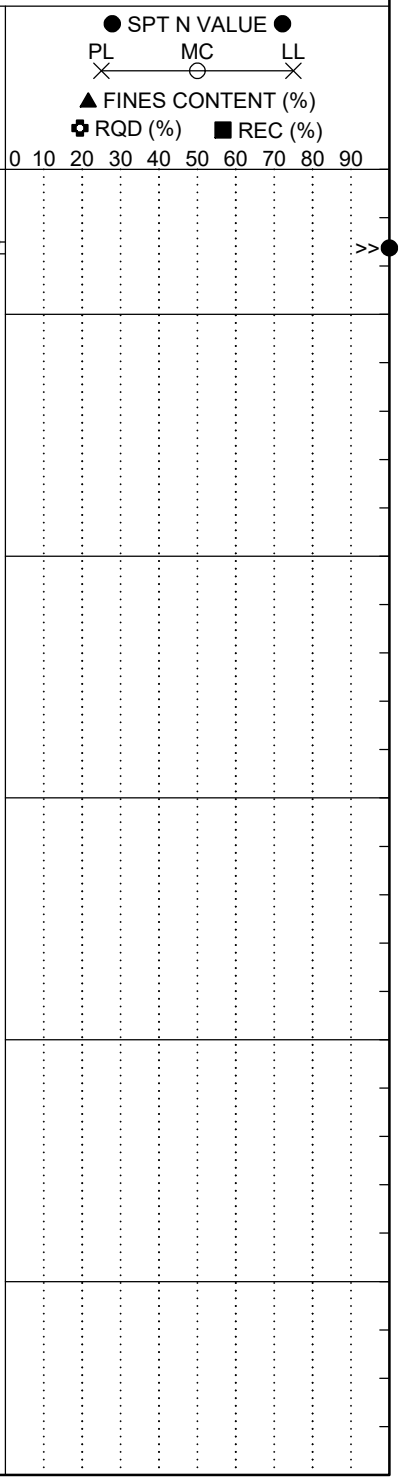
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	CN-3		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Connector Rd		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	165+50.42	**Offset:**	4.1	**Alignment:**	Proposed
Elev.:	446.0 ft	**Latitude:**	34.191944615	**Longitude:**	-80.978149361	**Date Started:**	9/26/2023
Total Depth:	28.8 ft	**Soil Depth:**	28.8 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/26/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	10.2 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	28.5			28.5						
	28.8	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, laminated gray with brownish yellow mottles, SILT (ML), few fine sands, trace fine quartz rock fragments, relict rock structure, 10YR5/1 to 10YR6/1, 10YR6/6.			SS-9	50/3"				50/3"
416.0										
411.0										
406.0										
401.0										
396.0										

Boring Terminated at 28.8 feet.



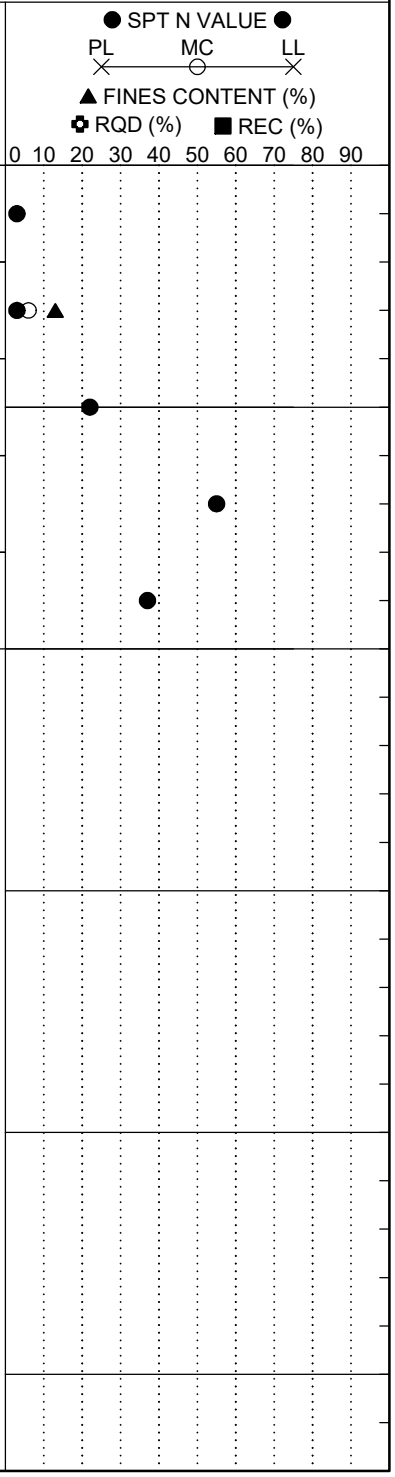
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	CN-4		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Connector Rd		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	172+89.48	**Offset:**	12.7	**Alignment:**	Proposed
Elev.:	449.2 ft	**Latitude:**	34.191858213	**Longitude:**	-80.97570758	**Date Started:**	9/19/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/19/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-750X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81.6%
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** N/A	**24HR**	NE

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0									
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.		0.0	SS-1	2	1	2	2	3
		COASTAL PLAIN - very loose, moist, dark grayish brown to pale brown, Silty fine to medium SAND (SM), little low plasticity fines, trace roots, 10YR4/2 to 10YR6/3.		2.0	SS-2	2	1	2	4	3
	4.0	@2 feet - light yellowish brown, (A-2-4), absent roots, 10YR6/4. NMC=6%, %#200=13		4.0	SS-3	3	7	15	17	22
444.2		Medium dense, moist, mottled yellowish brown, red and gray, Clayey fine to coarse SAND (SC), some medium plasticity fines, 10YR5/8, 2.5YR4/8, 10YR6/1.		6.0	SS-4	6	27	28	31	55
		@6 feet - very dense, moist, fine to medium, little medium plasticity fines.		8.0	SS-5	14	16	21	18	37
439.2	10.0	@8 feet - mottled strong brown, yellowish brown and gray, fine to coarse, trace fine gravel, 7.5YR5/8, 10YR5/8, 10YR6/1.								
		Boring Terminated at 10 feet.								
434.2										
429.2										
424.2										



LEGEND

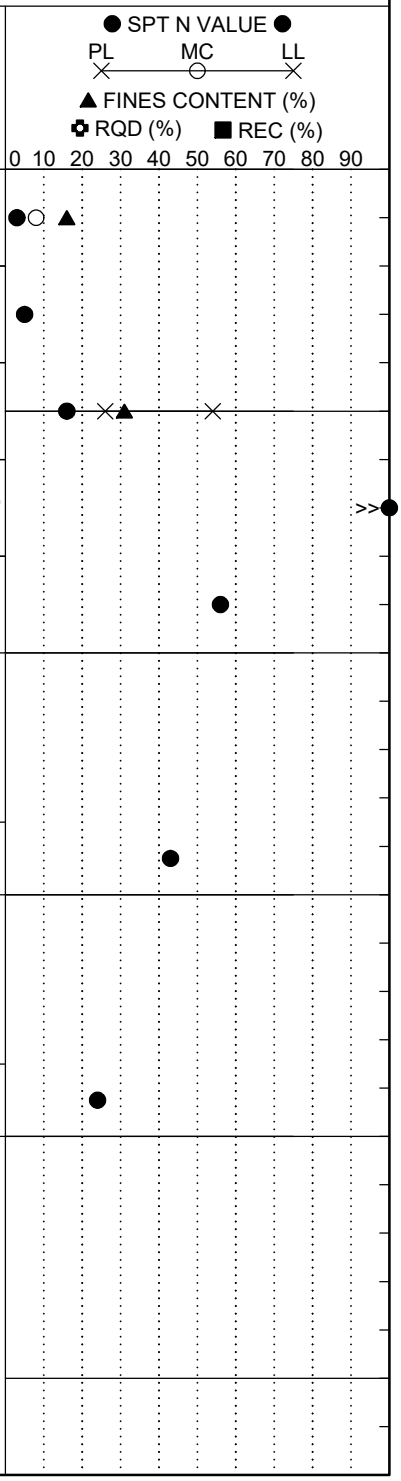
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland			**Boring No.:**	CN-5
Site Description:	I-77 Exit 26 - Roadways					**Route:**	Connector Rd
Eng./Geo.:	Z. Zelaya	**Boring Location:**	178+16.87	**Offset:**	14.4	**Alignment:**	Proposed
Elev.:	449.2 ft	**Latitude:**	34.191808643	**Longitude:**	-80.9739647	**Date Started:**	9/19/2023
Total Depth:	20 ft	**Soil Depth:**	20 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/19/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-750X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81.6%
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** N/A	**24HR**	7.8 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.
	2.0	**COASTAL PLAIN** - very loose, moist, dark grayish brown to pale brown, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, trace roots, 10YR4/2 to 10YR6/3. NMC=8%, %#200=16
	4.0	Loose, moist, pale brown and brownish yellow, Poorly Graded fine to medium SAND with Clay (SP-SC), few medium plasticity fines, 10YR6/3, 10YR6/8.
444.2		Medium dense, moist, mottled brownish yellow, yellowish red and gray, Clayey fine to medium SAND (SC) (A-2-7(3)), some medium plasticity fines, 10YR6/8, 7.5YR5/8, 10YR6/1. LL=54, PL=26, PI=28, NMC=16%, %#200=31
439.2		@6 feet - very dense, mottled red, brownish yellow and gray, fine to coarse, 2.5YR4/8 to 2.5YR5/8, 10YR6/8, 10YR6/1.
		@8 feet - mottled yellowish red and reddish yellow with white, fine to medium, clay pockets, 5YR5/6, 7.5YR6/6, 7.5YR8/1.
	13.5	Dense, moist to wet, mottled yellow, white and gray, Poorly Graded fine to coarse SAND with Silt (SP-SM), few low plasticity fines, 10YR7/6, 10YR8/1, 10YR6/1.
434.2		
		@18.5 feet - medium dense, gray, white and yellow, trace fine gravel, 10YR6/1, 10YR8/1, 10YR7/6.
429.2	20.0	Boring Terminated at 20 feet.
424.2		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	1	2	1	1	3
2.0	SS-2	2	2	3	5	5
4.0	SS-3	3	6	10	12	16
6.0	SS-4	14	47	50/5"		50/5"
8.0	SS-5	11	15	41	50/5"	56
13.5	SS-6	21	23	20		43
18.5	SS-7	9	10	14		24



LEGEND

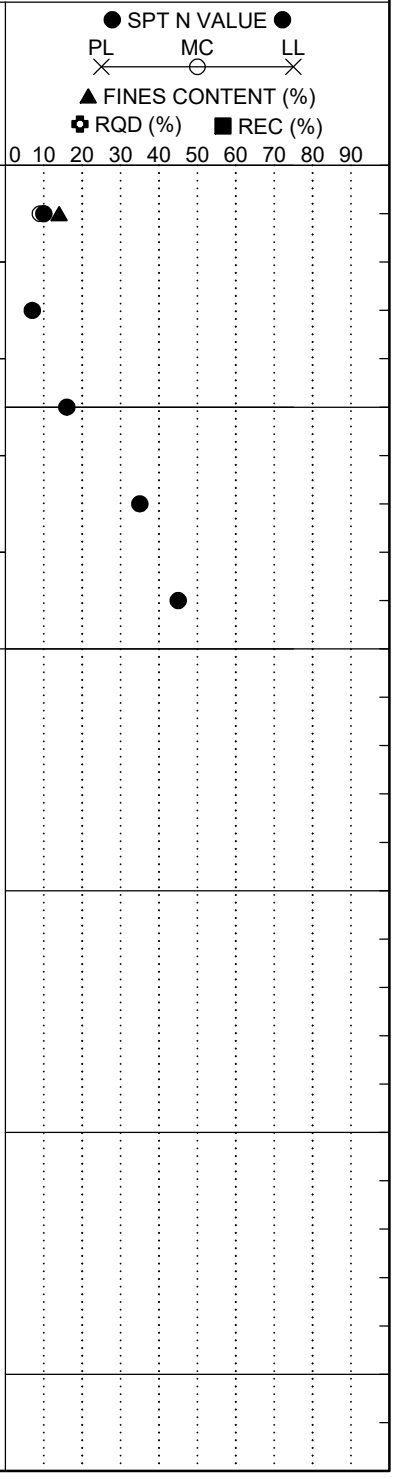
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	CR-1
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Community Rd
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	118+20.09	**Offset:**	22.8
Alignment:	Proposed				
Elev.:	459.4 ft	**Latitude:**	34.192415457	**Longitude:**	-80.986388546
Date Started:	10/16/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	10/16/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	91.6%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A
24HR	NE				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.
	2.0	**COASTAL PLAIN** - loose, dry to moist, light yellowish brown and dark grayish brown, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, trace organics, 10YR6/4, 10YR4/2. NMC=9%, %#200=14
454.4	4.5	Loose, dry to moist, very pale brown, Poorly Graded fine to medium SAND with Silt (SP-SM), few low plasticity fines, trace organics, 10YR7/4.
		Medium dense, dry to moist, mottled red, reddish yellow and brownish yellow, Clayey fine to medium SAND (SC), some medium plasticity fines, 2.5YR4/8, 5YR6/8, 10YR6/6.
449.4	10.0	@6 feet - dense, mottled red, brownish yellow and light gray, 10R4/8, 10YR6/8, 10YR7/1.
		@8 feet - mottled yellowish red, brownish yellow and white, fine to coarse, 5YR5/8, 10YR6/8, 10YR8/1.
		Boring Terminated at 10 feet.
444.4		
439.4		
434.4		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	7	5	5	5	10
2.0	SS-2	4	3	4	7	7
4.0	SS-3	7	7	9	16	16
6.0	SS-4	14	16	19	35	35
8.0	SS-5	11	18	27	26	45



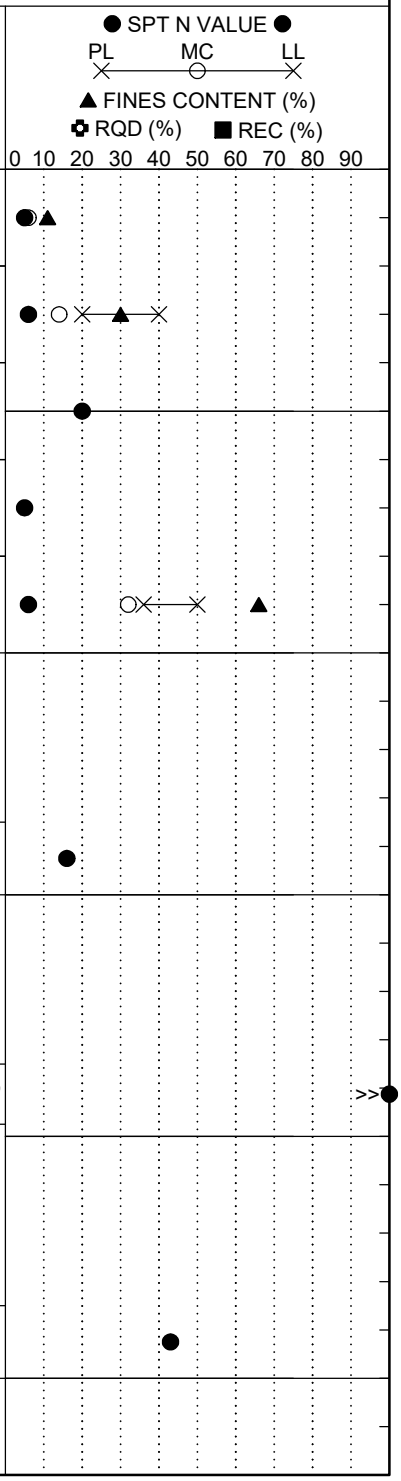
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	CR-2
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Community Rd
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	122+97.44	**Offset:**	7.0
Alignment:	Proposed				
Elev.:	436.1 ft	**Latitude:**	34.191972375	**Longitude:**	-80.987854098
Date Started:	10/17/2023				
Total Depth:	40 ft	**Soil Depth:**	40 ft	**Core Depth:**	N/A ft
Date Completed:	10/17/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	91.6%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A
24HR	4.3 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	3	2	3	3	5
	0.3	**SURFACE MATERIAL** - TOPSOIL - 4 inches.							
	2.0	**COASTAL PLAIN** - loose, dry to moist, yellow, Poorly Graded fine to medium SAND with Silt (SP-SM), few low plasticity fines, trace roots, 10YR7/6. NMC=9%, %#200=14	2.0	SS-2	2	3	3	7	6
	4.0	Loose, dry to moist, brownish yellow, Clayey fine to medium SAND (SC) (A-2-6(2)), some medium plasticity fines, 10YR6/6. LL=40, PL=20, PI=20, NMC=14%, %#200=30	4.0	SS-3	11	12	8	6	20
431.1			6.0	SS-4	3	2	3	3	5
	8.0	Medium dense, moist, brownish yellow, pale brown and light brownish gray, Silty fine to medium SAND (SM), some low plasticity fines, 10YR6/6, 10YR6/3, 10YR6/2. @6 feet - loose.	8.0	SS-5	WOH	2	4	5	6
426.1		**PIEDMONT RESIDUUM** - firm, dry to moist, laminated white, Sandy Elastic SILT (MH) (A-7-5(10)), some fine to medium sands, 2.5Y8/1. LL=50, PL=36, PI=14, NMC=32%, %#200=66							
	13.5	Very stiff, dry to moist, laminated pale brown and white, SILT with Sand (ML), little fine to medium sands, 2.5Y8/2, 2.5Y8/1.	13.5	SS-6	5	6	10		16
421.1									
	18.5	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry to moist, mottled brownish yellow, reddish brown and white, SILT with Sand (ML), little fine to medium sands, 10YR6/8, 2.5YR5/4, 2.5YR8/1.	18.5	SS-7	16	37	50/3"		50/3"
416.1									
	23.5	**PIEDMONT RESIDUUM** - hard, dry to moist, laminated yellow, yellowish brown and white with black mottles, SILT with Sand (ML), little fine to medium sands, 10YR8/8, 10YR5/8, 10YR8/1, 10YR2/1.	23.5	SS-8	10	16	27		43
411.1									



LEGEND

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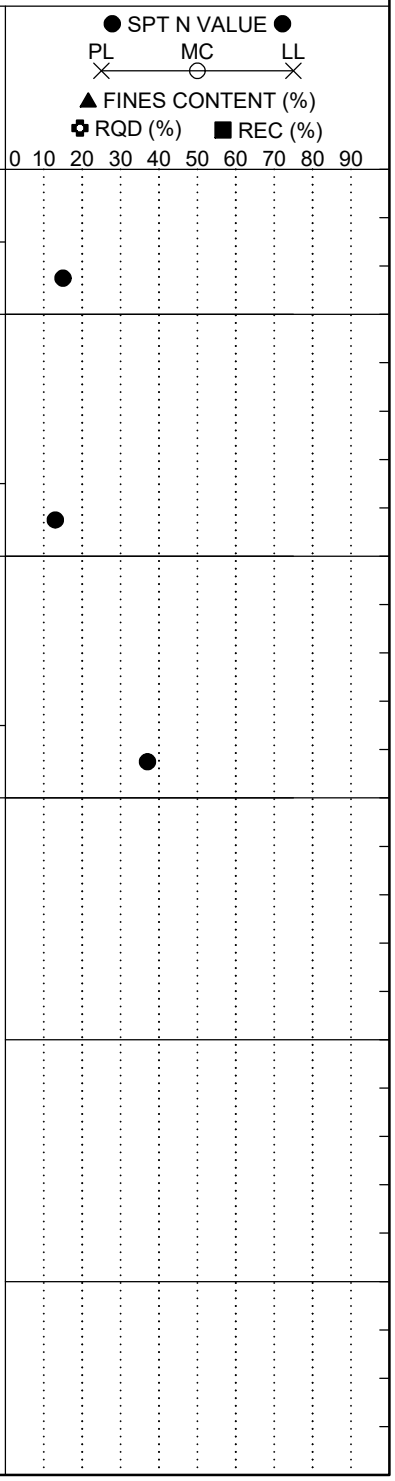
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	CR-2
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Community Rd
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	122+97.44	**Offset:**	7.0
Alignment:	Proposed				
Elev.:	436.1 ft	**Latitude:**	34.191972375	**Longitude:**	-80.987854098
Date Started:	10/17/2023				
Total Depth:	40 ft	**Soil Depth:**	40 ft	**Core Depth:**	N/A ft
Date Completed:	10/17/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	91.6%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A
24HR	4.3 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		@28.5 feet - stiff, dry, mottled brownish yellow and white, 10YR6/8, 10YR8/1.		28.5	SS-9	4	6	9		15
406.1										
		@33.5 feet - mottled light olive gray and yellowish brown, 5Y6/2, 10YR5/8.		33.5	SS-10	4	6	7		13
401.1										
	38.5	Hard, dry, mottled yellowish brown, grayish green and light olive gray, Sandy SILT (ML), some fine to medium sands, 10YR5/6, 5G5/2, 5Y6/2.		38.5	SS-11	11	16	21		37
396.1	40.0	Boring Terminated at 40 feet.								
391.1										
386.1										



LEGEND

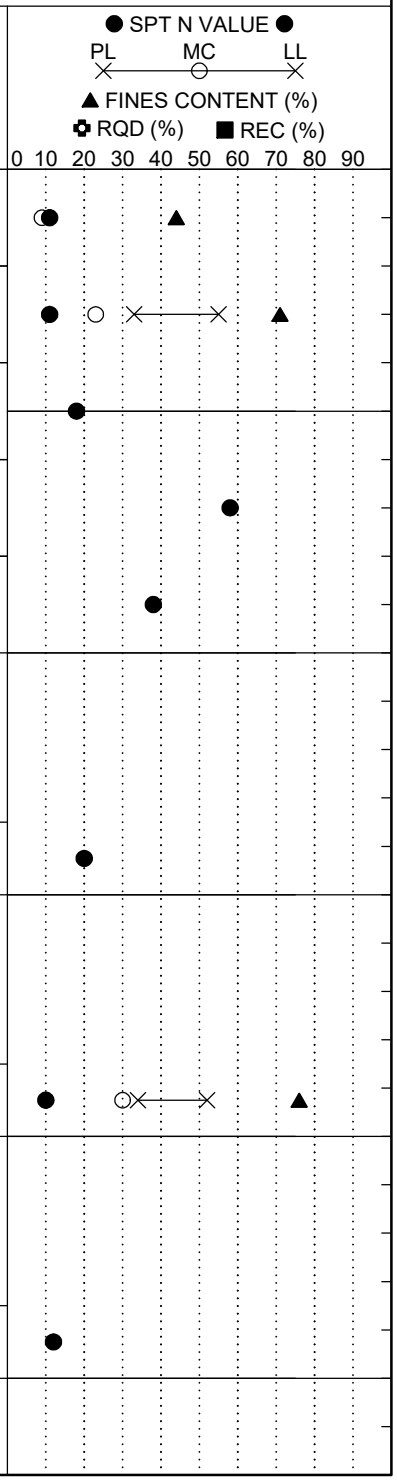
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	CR-3
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Connector Rd
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	140+01.64	**Offset:**	31.5
Alignment:	Proposed				
Elev.:	431.0 ft	**Latitude:**	34.190730646	**Longitude:**	-80.986368959
Date Started:	10/6/2023				
Total Depth:	39.8 ft	**Soil Depth:**	39.8 ft	**Core Depth:**	N/A ft
Date Completed:	10/6/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	91.6%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A
24HR	6.7 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	**COASTAL PLAIN** - medium dense, dry, light gray, dark grayish brown, pale brown and brownish yellow, Silty fine to medium SAND (SM), some low plasticity fines, trace organics, 2.5Y7/2, 2.5Y4/2, 2.5Y7/4, 10YR6/8. NMC=9%, %#200=44
	2.0	**PIEDMONT RESIDUUM** - stiff, dry, mottled yellow and red, Elastic SILT with Sand (MH) (A-7-5(17)), little fine to medium sands, trace roots, 10YR7/8, 10YR7/6, 2.5YR5/8. LL=55, PL=33, PI=22, NMC=23%, %#200=71
426.0	6.0	@4 feet - very stiff, laminated brownish yellow, white, red and dark gray, 10YR6/8, 10YR8/1, 10YR4/1, 2.5YR5/8.
		@5 feet - red with yellow, white and black laminations, absent roots, 10R5/6, 10YR8/8, 10YR8/1, 10YR2/1.
421.0		Very hard, dry, red with yellow and white mottles, SILT with Sand (ML), little fine to medium sands, 10R4/6, 5Y8/1, 5Y7/8.
		@8 feet - hard, red with white, pale olive and olive yellow laminations, 2.5YR5/6, 5Y8/1, 5Y6/4, 5Y6/8.
	13.5	Very stiff, dry to moist, laminated red, brownish yellow and white, Elastic SILT with Sand (MH), little fine to medium sands, 10R4/6, 10YR6/8, 10YR8/1.
416.0		
		@18.5 feet - stiff, laminated brownish yellow, white, red and dark gray, (A-7-5(16)), little fine sands, 10YR6/8, 10YR8/1, 10YR4/1, 2.5YR5/8. LL=52, PL=34, PI=18, NMC=30%, %#200=76
411.0		
		@23.5 feet - mottled red, brownish yellow and white, 2.5YR5/8, 10YR6/8, 10YR8/1.
406.0		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	5	5	6	6	11
2.0	SS-2	5	5	6	6	11
4.0	SS-3	7	8	10	16	18
6.0	SS-4	15	23	35	47	58
8.0	SS-5	6	17	21	41	38
13.5	SS-6	5	8	12		20
18.5	SS-7	2	4	6		10
23.5	SS-8	5	5	7		12



LEGEND

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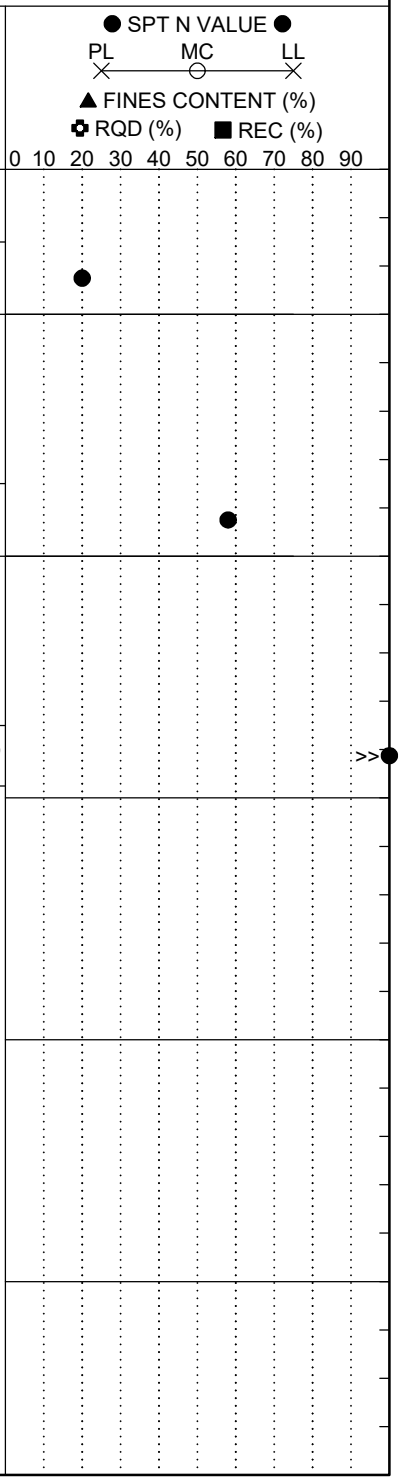
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	CR-3
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Connector Rd
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	140+01.64	**Offset:**	31.5
Alignment:	Proposed				
Elev.:	431.0 ft	**Latitude:**	34.190730646	**Longitude:**	-80.986368959
Date Started:	10/6/2023				
Total Depth:	39.8 ft	**Soil Depth:**	39.8 ft	**Core Depth:**	N/A ft
Date Completed:	10/6/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	91.6%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A
24HR	6.7 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		@28.5 feet - very stiff, laminated gray, brownish yellow and white, 10YR6/8, 10YR5/1, 10YR8/1.	28.5	SS-9	7	8	12		20
401.0	33.5	Very hard, dry to moist, light grayish olive, yellowish brown and black, Sandy SILT (ML), some fine to medium sands, 10Y6/2, 10YR5/8, 10YR2/1.	33.5	SS-10	24	24	34		58
396.0	38.5	**PARTIALLY WEATHERED ROCK (PWR)** - very dense, dry to moist, grayish green, dark reddish brown and yellowish brown, Silty fine to coarse SAND (SM), some low plasticity fines, 5GY5/2, 5YR3/4, 10YR5/8.	38.5	SS-11	21	35	50/3"		50/3"
391.0	39.8	Boring Terminated at 39.8 feet.							
386.0									
381.0									



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

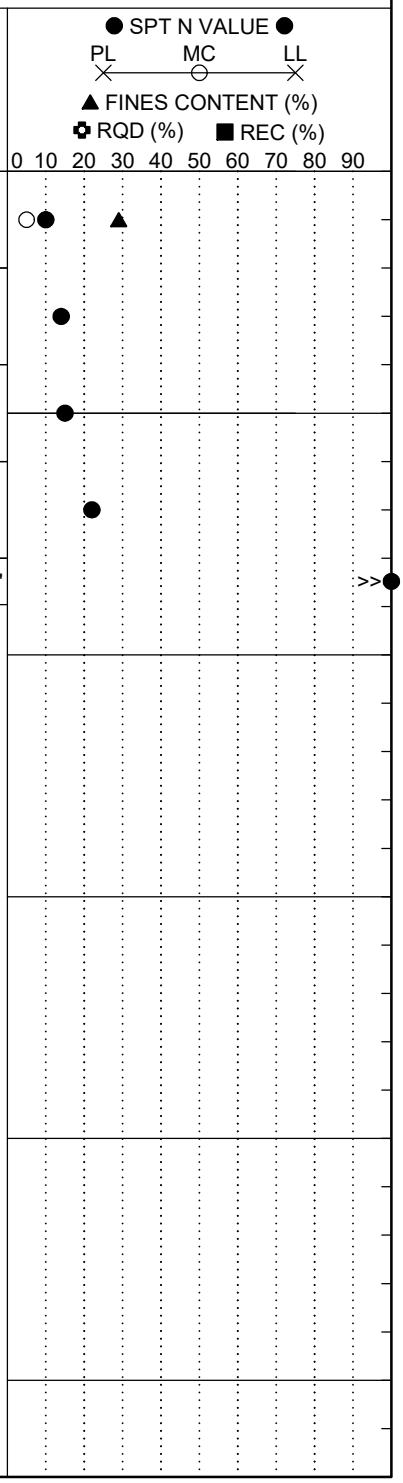
SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	CR-4
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Community Rd
Eng./Geo.:	H. Skerkis	**Boring Location:**	101+94.88	**Offset:**	-74.2
Alignment:	Proposed				
Elev.:	458.2 ft	**Latitude:**	34.189336692	**Longitude:**	-80.983794126
Date Started:	10/24/2023				
Total Depth:	9 ft	**Soil Depth:**	9 ft	**Core Depth:**	N/A ft
Date Completed:	10/24/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	91.0%				
Core Size:	N/A	**Driller:**	T. Shearin	**Groundwater:**	**TOB** NE
24HR	NE				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIALS** - TOPSOIL - 3 inches.
		COASTAL PLAIN - loose, moist, mottled reddish yellow, strong brown and white, Clayey fine to medium SAND (SC), little medium plasticity fines, trace organics, 7.5YR7/8, 7.5YR5/8, 7.5YR8/1. NMC=5%, %#200=29
453.2		@2 feet - medium dense, strong brown, fine to coarse, some medium plasticity fines, 7.5YR5/8.
	6.0	@4 feet - mottled strong brown, yellowish brown and light gray, 5YR5/6, 7.5YR5/8, 10YR6/4.
	9.0	Medium dense, moist, mottled white, yellow and yellowish red, Silty fine to coarse SAND (SM), some low plasticity fines, 10YR8/1, 10YR7/8, 5YR5/8.
448.2		@8 feet - very dense, moist, mottled white and yellow, fine to medium, 10YR8/1, 10YR8/6, 10YR8/8.
		Boring Terminated at 9 feet.
443.2		
438.2		
433.2		

Graphic Log

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	2	2	8	6	10
2.0	SS-2	6	7	7	10	14
4.0	SS-3	6	6	9	14	15
6.0	SS-4	10	11	11	17	22
8.0	SS-5	28	50/5"			50/5"



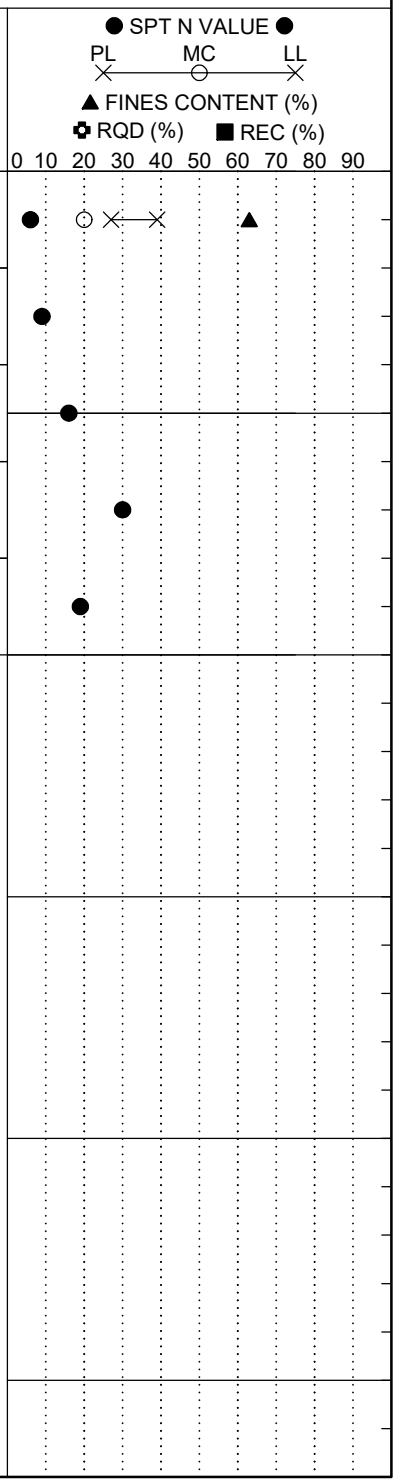
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	CR-5
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Community Rd
Eng./Geo.:	H. Skerkis	**Boring Location:**	96+86.19	**Offset:**	-61.8
Alignment:	Proposed				
Elev.:	450.8 ft	**Latitude:**	34.187997446	**Longitude:**	-80.983286455
Date Started:	10/24/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	10/24/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	91.0%				
Core Size:	N/A	**Driller:**	T. Shearin	**Groundwater:**	**TOB** NE
24HR	NE				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0						
	0.2	**SURFACE MATERIALS** - TOPSOIL - 2 inches.							
	2.0	**COASTAL PLAIN** - firm, moist, mottled yellow and very pale brown, Sandy SILT (ML) (A-6(6)), some fine to coarse sands, few fine to coarse ferrous nodules, 10YR8/8, 10YR8/6, 10YR8/4. LL=39, PL=27, PI=12, NMC=20%. %#200=63	2.0	SS-1	2	3	3	5	6
	4.0		4.0	SS-2	3	4	5	7	9
445.8	6.0	Loose, moist, mottled brownish yellow and yellowish brown, Silty fine to coarse SAND (SM), some low to medium plasticity fines, 10YR6/8, 10YR5/8.	6.0	SS-3	4	7	9	15	16
	8.0	Very stiff, moist, mottled brownish yellow and yellowish brown, Sandy Lean CLAY (CL), some fine to medium sands, 10YR6/8, 10YR5/8, 10YR5/6.	8.0	SS-4	5	11	19	25	30
440.8	10.0	**PIEDMONT RESIDUUM** - very stiff, moist, laminated white, yellow and reddish yellow, SILT with Sand (ML), little fine to medium sands, trace mica, 10YR8/1, 10YR8/6, 7.5YR6/8.		SS-5	5	8	11	18	19
		Very stiff, moist, laminated white, yellow and reddish yellow, SILT (ML), few fine to medium sands, trace mica, 10YR8/1, 10YR8/6, 7.5YR6/8.							
435.8		Boring Terminated at 10 feet.							
430.8									
425.8									



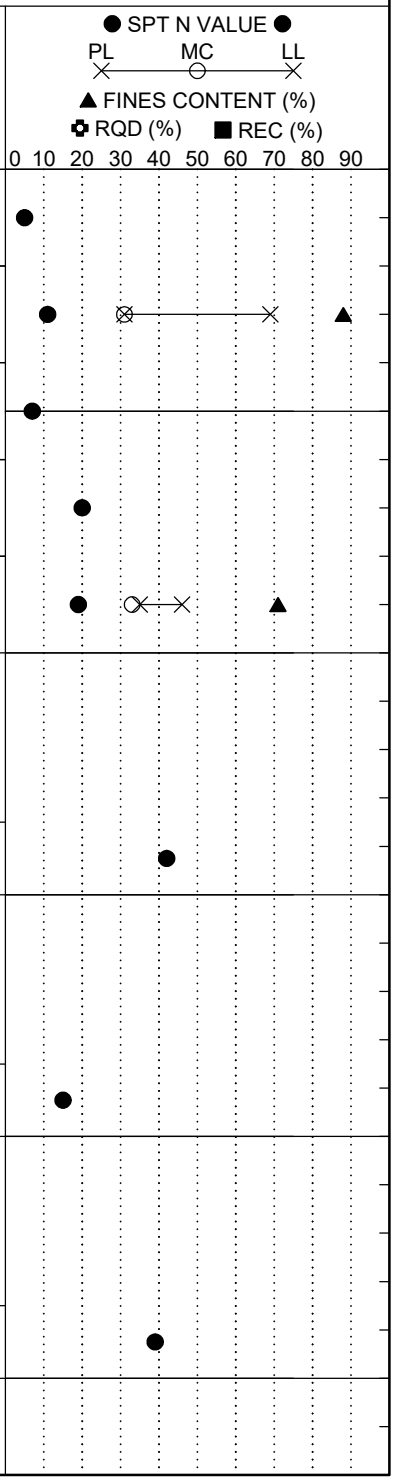
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	CR-6		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Connector Rd		
Eng./Geo.:	H. Skerkis	**Boring Location:**	127+97.34	**Offset:**	-1.9	**Alignment:**	Proposed
Elev.:	420.8 ft	**Latitude:**	34.193450836	**Longitude:**	-80.987658685	**Date Started:**	10/26/2023
Total Depth:	40 ft	**Soil Depth:**	40 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/26/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	91.0%
Core Size:	N/A	**Driller:**	T. Shearin	**Groundwater:**	**TOB** 28 ft	**24HR**	3.3 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	1	2	3	3	5
	0.3	**SURFACE MATERIALS** - TOPSOIL - 4 inches.	2.0	SS-2	3	5	6	8	11
		COASTAL PLAIN - firm, moist, reddish yellow and strong brown, Fat CLAY (CH), few fine to coarse sands, 7.5YR6/8, 7.5YR5/8.	4.0	SS-3	4	3	4	6	7
415.8		@2 feet - stiff, mottled pink, yellow and reddish yellow, (A-7-5(39)), few fine to medium sands, 7.5YR8/3, 10YR7/8, 7.5YR6/8. LL=69, PL=31, PI=38, NMC=31%, %#200=88	6.0	SS-4	7	9	11	12	20
	6.0	@4 feet - firm, mottled white, yellow and reddish yellow, few fine to coarse sands, trace fine to coarse gravel, 10YR8/1, 10YR7/8, 7.5YR6/8.	8.0	SS-5	6	8	11	15	19
410.8		**PIEDMONT RESIDUUM** - very stiff, moist, laminated white, yellow and brownish yellow, SILT with Sand (ML), little fine to medium sands, 10YR8/1, 10YR7/8, 10YR6/8.							
		@8 feet - (A-7-5(9)). LL=46, PL=35, PI=11, NMC=33%, %#200=71	13.5	SS-6	9	17	25		42
405.8		@13.5 feet - hard, laminated pink, reddish yellow and strong brown, 7.5YR8/4, 7.5YR7/8, 7.5YR5/8.							
			18.5	SS-7	4	6	9		15
400.8		@18.5 feet - stiff, laminated white and yellow, 10YR8/1, 10YR7/8, 10YR8/8.							
			23.5	SS-8	7	15	24		39
395.8		@23.5 feet - hard, laminated brownish yellow, yellow and dark brown, 10YR6/8, 10YR7/8, 10YR3/3.							



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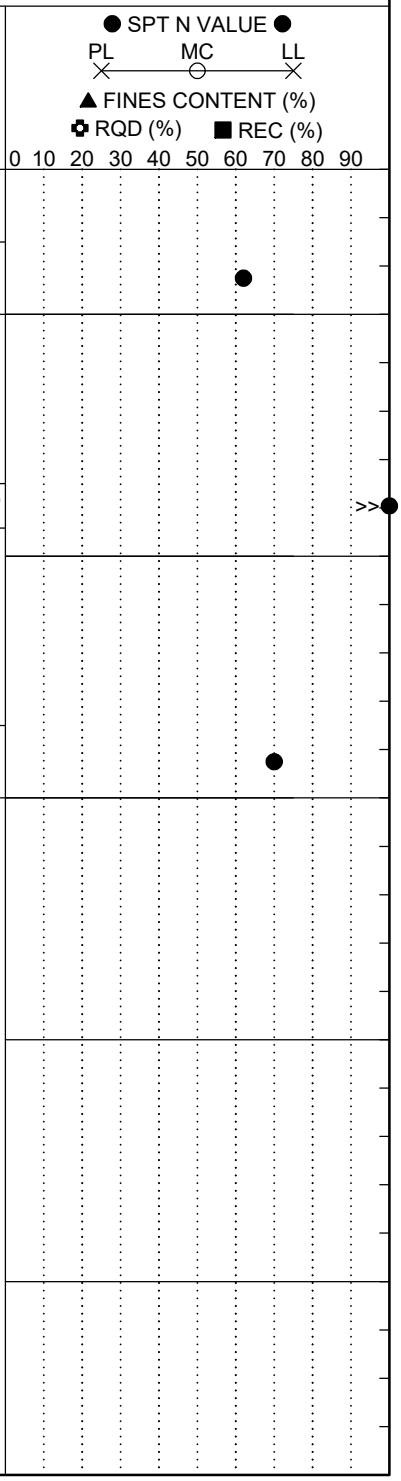
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	CR-6		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Connector Rd		
Eng./Geo.:	H. Skerkis	**Boring Location:**	127+97.34	**Offset:**	-1.9	**Alignment:**	Proposed
Elev.:	420.8 ft	**Latitude:**	34.193450836	**Longitude:**	-80.987658685	**Date Started:**	10/26/2023
Total Depth:	40 ft	**Soil Depth:**	40 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/26/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	91.0%
Core Size:	N/A	**Driller:**	T. Shearin	**Groundwater:**	**TOB** 28 ft	**24HR**	3.3 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		@28.5 feet - very hard.	28.5	SS-9	11	22	40		62
390.8	33.5	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, moist, laminated yellow, yellowish brown and dark brown, Sandy SILT (ML), some fine to coarse sands, trace fine to coarse weathered rock fragments, 10YR7/8, 10YR5/8, 10YR3/3.	33.5	SS-10	37	50/5"			50/5"
385.8	38.5	**PIEDMONT RESIDUUM** - very hard, moist, laminated gray, light gray, white and grayish green, Sandy SILT (ML), some fine to medium sands, few fine to coarse rock fragments, 2.5YR6/1, 2.5YR7/2, 5GY5/2.	38.5	SS-11	18	26	44		70
380.8	40.0	Boring Terminated at 40 feet.							
375.8									
370.8									



LEGEND

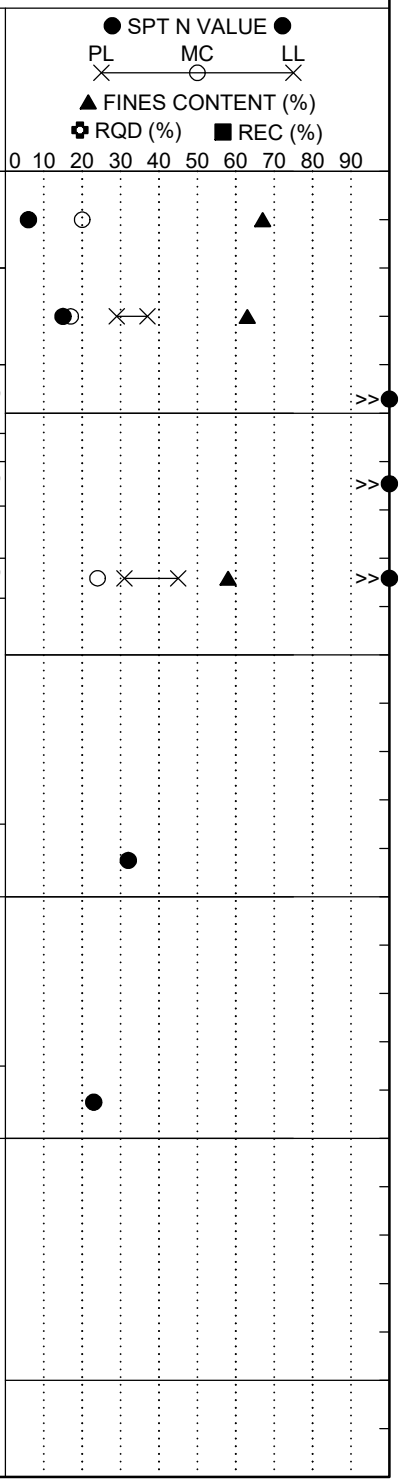
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	CR-7		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Connector Rd		
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	123+22.19	**Offset:**	-34.6	**Alignment:**	Proposed
Elev.:	442.7 ft	**Latitude:**	34.194424352	**Longitude:**	-80.98658394	**Date Started:**	10/16/2023
Total Depth:	20 ft	**Soil Depth:**	20 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/16/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	91.6%
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A	**24HR**	16.7 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.7	**SURFACE MATERIAL** - TOPSOIL - 8 inches.
	2.0	**COASTAL PLAIN** - firm, dry to moist, light yellowish brown, yellow and brownish yellow, Sandy SILT (ML), some fine to medium sands, trace roots, trace fine gravel, 10YR6/4, 10YR6/6, 10YR7/8. NMC=20%, %#200=67
	4.0	
437.7		**PIEDMONT RESIDUUM** - stiff, dry, laminated brownish yellow, yellow and white, Sandy SILT (ML) (A-4(4)), some fine to medium sands, trace roots, trace fine weathered rock fragments, 10YR6/6, 10YR8/8, 10YR8/1. LL=37, PL=29, PI=8, NMC=17%, %#200=63
	6.0	
432.7		**PARTIALLY WEATHERED ROCK (PWR)** - very dense, dry, laminated brownish yellow, yellow and white, Silty fine to coarse SAND (SM), some low plasticity fines, trace fine weathered rock fragments, 10YR6/6, 10YR8/8, 10YR8/1.
	13.5	Very hard, dry, laminated brownish yellow and white, Sandy SILT (ML), some fine to medium sands, trace fine weathered rock fragments, 10YR6/8, 10YR8/1.
427.7		@8 feet - brownish yellow with dark yellowish brown mottles, (A-7-5(7)), absent weathered rock fragments, 10YR6/8, 10YR4/6. LL=45, PL=31, PI=14, NMC=24%, %#200=58
	18.5	**PIEDMONT RESIDUUM** - hard, dry to moist, mottled pinkish white, brownish yellow and white, Sandy SILT (ML), some fine to medium sands, 10R8/2, 10YR6/8, 10YR8/1.
422.7	20.0	Medium dense, dry to moist, laminated white, brownish yellow and light greenish gray, Silty fine to medium SAND (SM), some low plasticity fines, 10YR8/1, 10YR6/8, 10GY7/1.
		Boring Terminated at 20 feet.
417.7		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	2	3	3	6	6
2.0	SS-2	6	8	7	26	15
4.0	SS-3	30	38	50/5"		50/5"
6.0	SS-4	40	50/5"			50/5"
8.0	SS-5	28	50/4"			50/4"
13.5	SS-6	8	12	20		32
18.5	SS-7	10	9	14		23



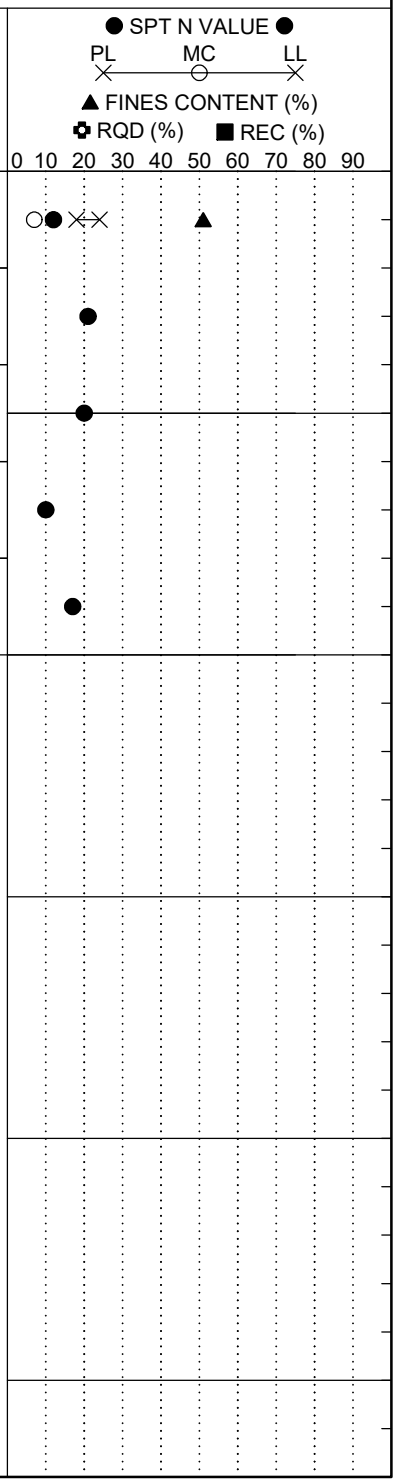
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	CR-8		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Connector Rd		
Eng./Geo.:	H. Skerkis	**Boring Location:**	118+68.50	**Offset:**	7.7	**Alignment:**	Proposed
Elev.:	423.2 ft	**Latitude:**	34.195659982	**Longitude:**	-80.98628283	**Date Started:**	10/27/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/27/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	91.0%
Core Size:	N/A	**Driller:**	T. Shearin	**Groundwater:**	**TOB** NE	**24HR**	NE

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	Wetland								
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.		0.0	SS-1	2	5	7	7	12
		COASTAL PLAIN - stiff, dry to moist, very pale brown and brownish yellow, Sandy Lean SILTY CLAY (CL-ML) (A-4(0)), some fine to medium sands, trace fine gravel, 10YR7/4, 10YR7/6. LL=24, PL=18, PI=6, NMC=7%, %#200=51		2.0	SS-2	7	9	12	14	21
418.2		@2 feet - very stiff, moist, mottled olive yellow and pale brown, absent gravel, 2.5Y6/6, 2.5Y6/8, 2.5Y7/4.		4.0	SS-3	5	10	10	12	20
	6.0	**PIEDMONT RESIDUUM** - stiff, moist, laminated white, yellow and olive yellow, Sandy SILT (ML), some fine to medium sands, 2.5Y8/1, 2.5Y8/8, 2.5Y6/8.		6.0	SS-4	4	5	5	9	10
		@8 feet - olive yellow, pale brown and yellow, 2.5Y6/6, 2.5Y6/8, 2.5Y8/3, 2.5Y7/8.		8.0	SS-5	9	8	9	30	17
413.2	10.0	Boring Terminated at 10 feet.								
408.2										
403.2										
398.2										



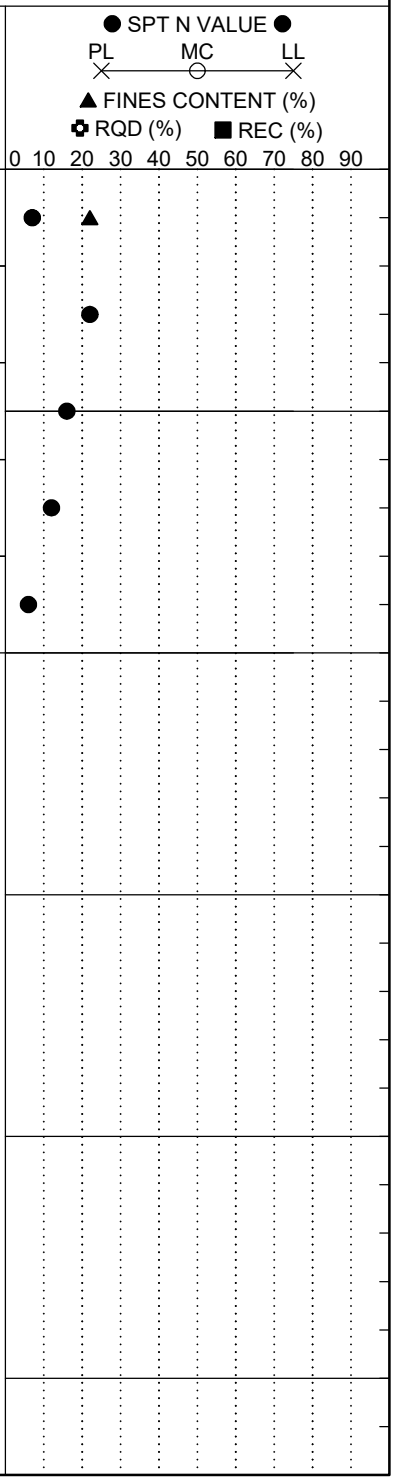
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB- 1
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1657+58.80	**Offset:**	100.1
Alignment:	Proposed				
Elev.:	430.7 ft	**Latitude:**	34.17316076	**Longitude:**	-80.97295881
Date Started:	9/11/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/11/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE **24HR** N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	2	3	4	7	7
	0.4	**SURFACE MATERIAL** - TOPSOIL - 5 inches.	2.0	SS-2	7	10	12	9	22
	2.0	**FILL** - loose, dry, light olive brown, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, trace mica, 2.5Y5/4. NMC=7%, %#200=22	4.0	SS-3	6	7	9	7	16
425.7	6.0	**COASTAL PLAIN** - medium dense, dry, mottled white, pink and strong brown, Clayey fine to medium SAND (SC), some medium plasticity fines, trace mica, 7.5YR8/1, 7.5YR8/4, 7.5YR5/8.	6.0	SS-4	5	5	7	7	12
		@4 feet - mottled reddish yellow, white and light olive brown, 5YR7/6, 5YR8/1, 2.5Y5/6.	8.0	SS-5	2	2	4	5	6
420.7	10.0	Medium dense, dry, mottled pink, white and reddish yellow, Silty fine to medium SAND (SM), some low plasticity fines, micaceous, 5YR8/4, 5YR8/1, 5YR7/8. @8 feet - loose.							
		Boring Terminated at 10 feet.							
415.7									
410.7									
405.7									



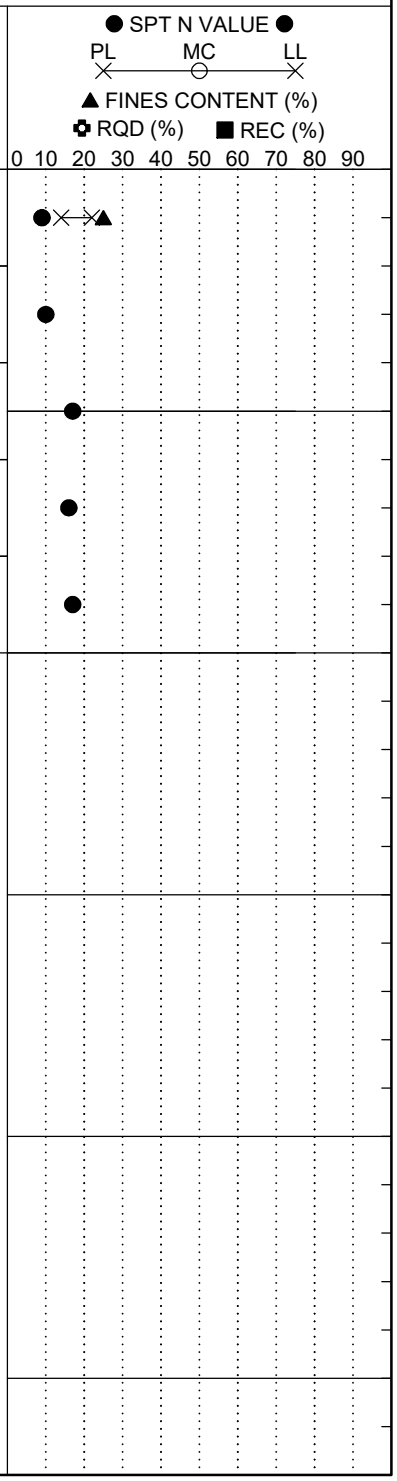
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)			**County:**	Richland	**Boring No.:**	NB- 2
Site Description:	I-77 Exit 26 - Roadways					**Route:**	I-77N
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1662+45.11	**Offset:**	25.5	**Alignment:**	Proposed
Elev.:	433.0 ft	**Latitude:**	34.17405169	**Longitude:**	-80.97418208	**Date Started:**	9/18/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/18/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	84.2%
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0									
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.		0.0	SS-1	3	4	5	5	9
	0.5	**FILL** - loose, dry to moist, dark olive brown, Silty fine to medium SAND (SM), some low plasticity fines, few fine to coarse crushed stone, micaceous, trace organics, 2.5Y3/3.		2.0	SS-2	3	4	6	6	10
428.0		**COASTAL PLAIN** - loose, dry to moist, light olive brown and pale brown, Clayey fine to medium SAND (SC) (A-2-4), little medium plasticity fines, micaceous, 2.5Y5/4, 2.5Y7/3. LL=22, PL=14, PI=8, NMC=9%, %#200=25		4.0	SS-3	7	7	10	12	17
		@4 feet - medium dense, very dark gray with yellowish brown, trace mica, 10YR3/1, 10YR5/4.		6.0	SS-4	6	6	10	8	16
		@6 feet - dry to moist, light olive brown with very dark gray mottles, absent mica, 2.5Y5/4, 2.5Y3/1.		8.0	SS-5	3	5	12	20	17
423.0	10.0	@8 feet - mottled brownish yellow, white and yellowish red, trace mica, 10YR6/8, 10YR8/1, 5YR5/8.								
		Boring Terminated at 10 feet.								
418.0										
413.0										
408.0										



LEGEND

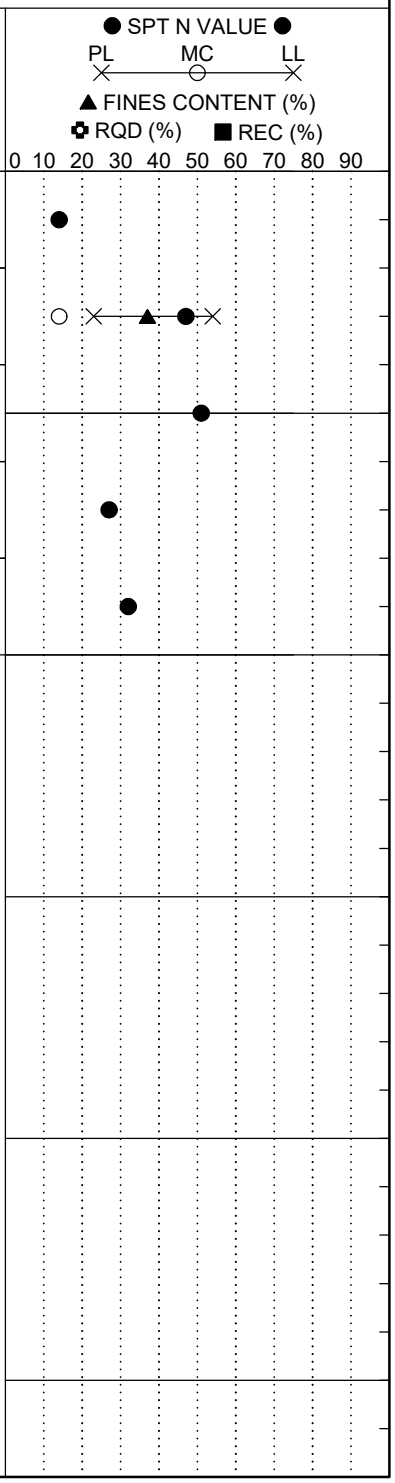
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB- 3		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N		
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1667+24.91	**Offset:**	118.9	**Alignment:**	Proposed
Elev.:	433.9 ft	**Latitude:**	34.17522582	**Longitude:**	-80.97496678	**Date Started:**	9/11/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/11/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	84.2%
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.4	**SURFACE MATERIAL** - TOPSOIL - 5 inches.
	1.0	**FILL** - medium dense, dry, dark grayish brown, Poorly Graded fine to medium SAND with Silt (SP-SM), few low plasticity fines, trace crushed stone, 2.5Y4/2.
428.9		**COASTAL PLAIN** - medium dense, dry, mottled yellowish brown, light gray, red, Clayey fine to medium SAND (SC), some medium plasticity fines, 10YR5/8, 10YR7/1, 2.5YR5/8.
	6.0	@2 feet - dense, mottled brownish yellow, red and light gray, (A-7-6(5)), micaceous, 10YR6/8, 10YR7/1, 2.5YR4/8. LL=54, PL=23, PI=31, NMC=14%, %#200=37
	7.5	
	8.0	@4 feet - very dense, mottled light red, white and yellow, trace mica, 2.5YR6/8, 2.5YR8/1, 2.5Y8/8.
423.9	10.0	Medium dense, dry, mottled red, white and reddish black, Silty fine to medium SAND (SM), some low plasticity fines, trace fine gravel, 2.5YR5/6, 2.5YR8/1, 2.5YR2.5/1.
		Very stiff, dry, white, SILT (ML), few fine to medium sands, 2.5Y8/1.
418.9		Hard, dry, white with yellow and red mottles, SILT with Sand (ML), little fine to medium sands, 2.5Y8/8, 2.5Y8/1, 10R4/8.
		Boring Terminated at 10 feet.
413.9		
408.9		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	6	8	6	6	14
2.0	SS-2	12	20	27	28	47
4.0	SS-3	21	24	27	25	51
6.0	SS-4	12	15	12	12	27
8.0	SS-5	12	16	16	23	32



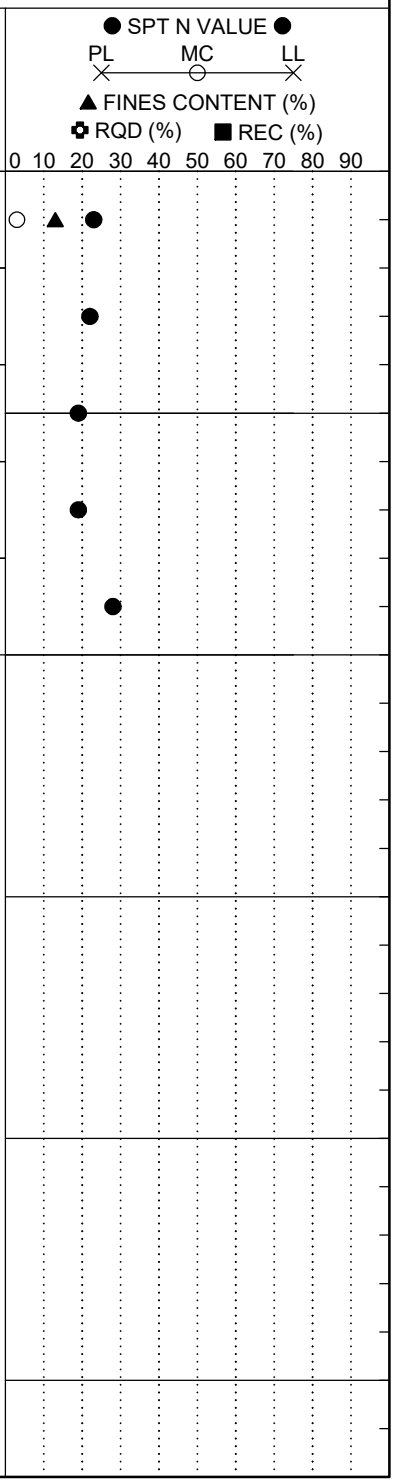
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB- 4		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N		
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1672+37.41	**Offset:**	29.8	**Alignment:**	Proposed
Elev.:	437.4 ft	**Latitude:**	34.17616727	**Longitude:**	-80.97624131	**Date Started:**	9/18/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/18/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	84.2%
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	2	9	14	9	23
	0.5	**SURFACE MATERIAL** - TOPSOIL - 6 inches.							
	2.0	**FILL** - medium dense, dry, gray, light yellowish brown and dark olive brown, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, few fine to coarse crushed stone, micaceous, 2.5Y6/1, 2.5Y6/4, 2.5Y3/3. NMC=3%, %#200=13	2.0	SS-2	8	11	11	11	22
			4.0						
432.4		**COASTAL PLAIN** - medium dense, dry to moist, white and yellow, Silty fine to medium SAND (SM), some low plasticity fines, micaceous, 10YR8/1, 10YR7/6.		SS-3	8	8	11	16	19
			6.0						
	7.0	@4 feet - dry, white, 2.5Y8/1.		SS-4	7	7	12	18	19
	7.8	@6 feet - white with yellow mottles, 2.5Y8/1, 2.5Y8/6.	8.0						
		Very stiff, dry, very pale brown with yellow mottles, Lean CLAY with Sand (CL), little fine to medium sands, 10YR8/3, 10YR8/8.		SS-5	9	11	17	20	28
427.4	10.0								
		Medium dense, moist, pale brown, Silty fine to medium SAND (SM), some low plasticity fines, trace mica, 2.5Y8/2.							
		Boring Terminated at 10 feet,							
422.4									
417.4									
412.4									



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

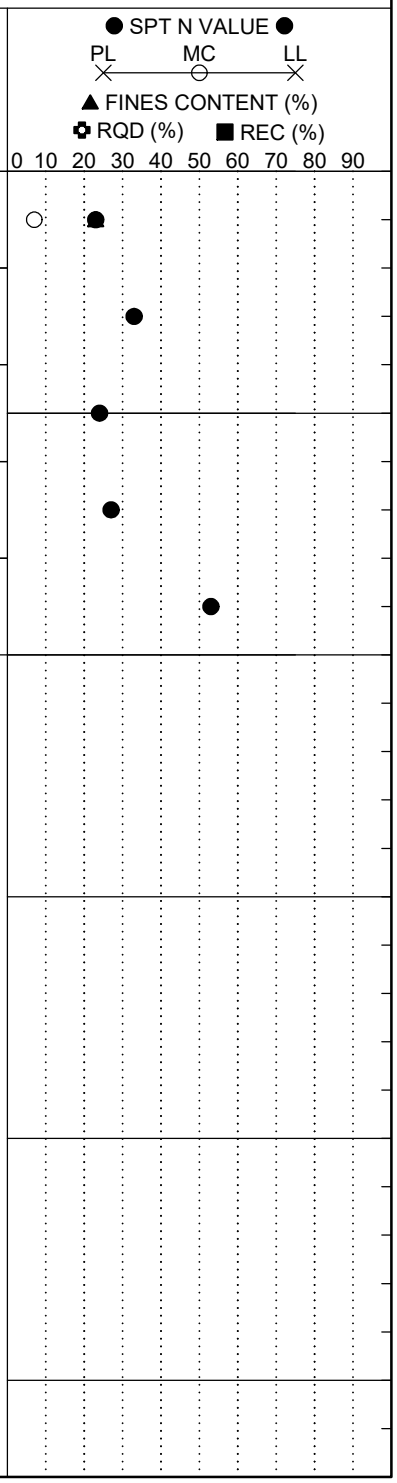
SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB- 5		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N		
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1677+31.51	**Offset:**	98.1	**Alignment:**	Proposed
Elev.:	437.3 ft	**Latitude:**	34.17738115	**Longitude:**	-80.9769767	**Date Started:**	9/11/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/11/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	84.2%
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.
	2.0	**FILL** - medium dense, dry, olive brown and light olive brown, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, trace fine to coarse crushed stone, 2.5Y4/3, 2.5Y5/4. NMC=7%, %#200=23
432.3	5.5	**COASTAL PLAIN** - dense, dry, mottled light yellowish brown, reddish yellow and white, Silty fine to medium SAND (SM), some low plasticity fines, micaceous, 10YR6/4, 7.5YR7/6, 7.5YR8/1.
	6.0	@4 feet - medium dense, dry to moist, mottled white and yellow, trace fine gravel, 2.5Y8/8, 2.5Y8/1.
427.3	10.0	Very stiff, dry, pale brown with yellow mottles, Lean CLAY with Sand (CL), little fine to medium sands, trace mica, 2.5Y8/2, 2.5Y8/8.
		Very stiff, dry, pale brown with brownish yellow mottles, SILT with Sand (ML), little fine to medium sands, trace mica, 2.5Y8/2, 10YR6/8.
		@8 feet - very hard, pale brown with reddish yellow mottles, 5YR7/8, 2.5Y8/2.
422.3		Boring Terminated at 10 feet.
417.3		
412.3		

Graphic Log

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	3	13	10	9	23
2.0	SS-2	7	13	20	17	33
4.0	SS-3	8	12	12	9	24
6.0	SS-4	9	10	17	19	27
8.0	SS-5	14	23	30	24	53



LEGEND

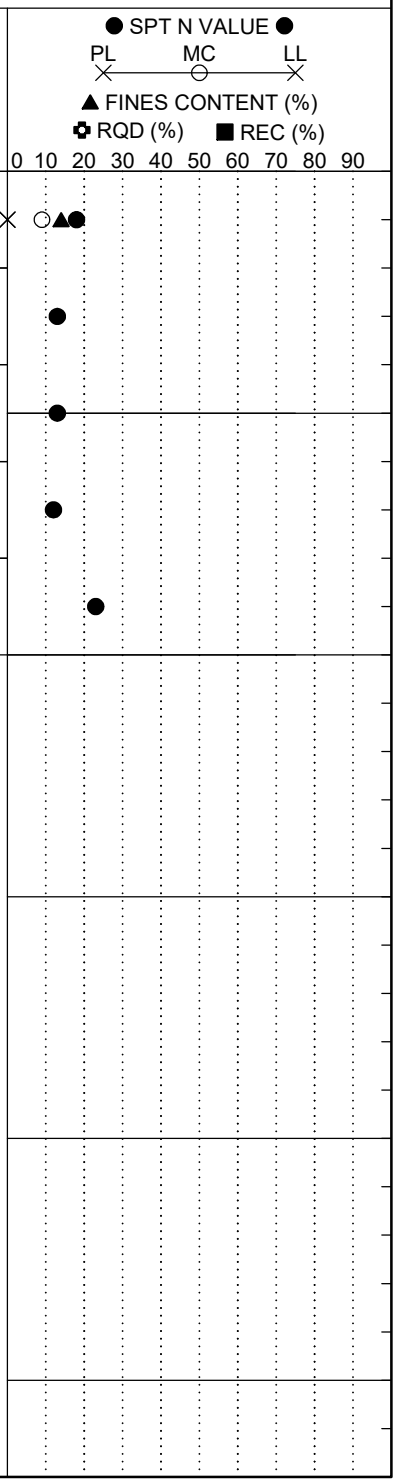
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB- 6		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N		
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1682+18.88	**Offset:**	30.1	**Alignment:**	Proposed
Elev.:	440.8 ft	**Latitude:**	34.17842321	**Longitude:**	-80.97799182	**Date Started:**	9/18/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/18/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	84.2%
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 4 inches.
	2.0	**FILL** - medium dense, dry to moist, olive brown, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, trace organics, trace mica, trace fine to coarse crushed stone, 2.5Y4/4. LL=NP, PL=NP, PI=NP, NMC=9%, %#200=14
	3.8	**COASTAL PLAIN** - medium dense, dry to moist, light olive brown, Silty fine to medium SAND (SM), some low plasticity fines, trace mica, 2.5Y5/6.
435.8		
	8.0	Medium dense, moist, mottled gray and yellow, Clayey fine to medium SAND (SC), some medium plasticity fines, 2.5Y5/1, 2.5Y8/8.
	9.6	@6 feet - dry to moist, mottled gray, light olive brown and white, micaceous, 2.5Y5/1, 2.5Y5/6, 2.5Y8/1.
430.8	10.0	Medium dense, dry to moist, mottled white and yellow, Silty fine to medium SAND (SM), some low plasticity fines, micaceous, 2.5Y8/1, 2.5Y7/8.
		Very stiff, dry, light brownish gray with yellow mottles, Lean CLAY with Sand (CL), little fine to medium sands, 2.5Y6/2, 10YR7/8.
425.8		
		Boring Terminated at 10 feet.
420.8		
415.8		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	3	8	10	14	18
2.0	SS-2	8	7	6	8	13
4.0	SS-3	7	6	7	8	13
6.0	SS-4	3	5	7	16	12
8.0	SS-5	12	12	11	13	23



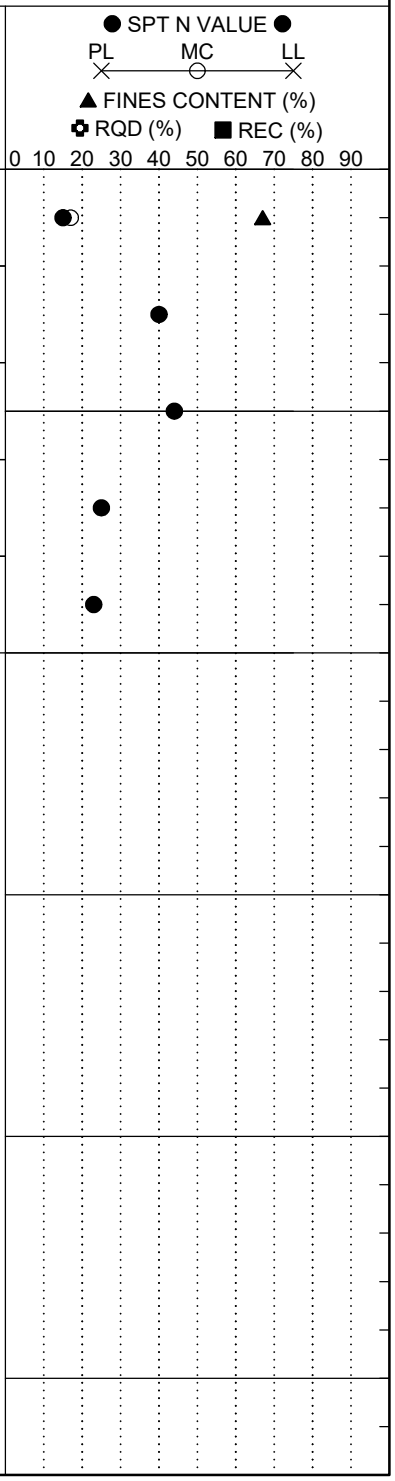
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)			**County:**	Richland	**Boring No.:**	NB- 7
Site Description:	I-77 Exit 26 - Roadways					**Route:**	I-77N
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1687+42.59	**Offset:**	92.7	**Alignment:**	Proposed
Elev.:	437.2 ft	**Latitude:**	34.17977128	**Longitude:**	-80.97859243	**Date Started:**	9/11/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/11/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	84.2%
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	4	10	5	6	15
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.							
	1.5	**FILL** - medium dense, dry, dark grayish brown, Poorly Graded fine to medium SAND with Silt (SP-SM), few low plasticity fines, trace fine to coarse crushed stone, 2.5Y4/2.	2.0	SS-2	13	18	22	22	40
	2.0								
	4.0	**COASTAL PLAIN** - Stiff, dry, white with yellow mottles, Sandy SILT (ML), some fine to medium sands, trace mica, 2.5Y8/1, 2.5Y8/8. NMC=17%, %#200=67	4.0	SS-3	21	21	23	26	44
432.2									
		Dense, dry, mottled white, yellow and dark red, Clayey fine to medium SAND (SC), some medium plasticity fines, trace mica, 2.5Y8/1, 2.5Y8/8, 2.5YR3/6.	6.0	SS-4	13	13	12	11	25
			8.0						
	10.0	Dense, dry to moist, mottled reddish yellow, white and yellow, Silty fine to medium SAND (SM), some low plasticity fines, micaceous, 7.5YR7/6, 7.5YR8/1, 2.5Y8/8.		SS-5	10	10	13	10	23
427.2		@6 feet - medium dense, mottled white, reddish yellow and yellow, 5YR7/6, 5YR8/1, 10YR8/8.							
		@8 feet - moist, mottled white, yellow and light pink, trace fine gravel, 7.5R8/1, 7.5YR8/4, 10YR8/8.							
422.2		Boring Terminated at 10 feet.							
417.2									
412.2									



LEGEND

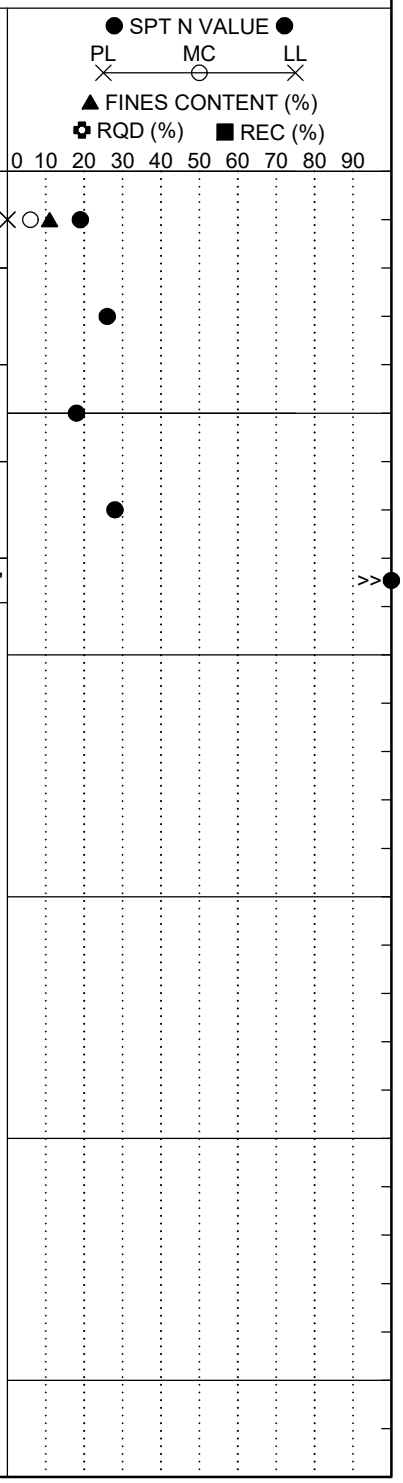
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB- 8		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N		
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1692+27.33	**Offset:**	29.8	**Alignment:**	Proposed
Elev.:	435.0 ft	**Latitude:**	34.18091494	**Longitude:**	-80.9794147	**Date Started:**	9/18/2023
Total Depth:	8.9 ft	**Soil Depth:**	8.9 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/18/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	84.2%
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 4 inches.
	1.5	**FILL** - medium dense, dry to moist, light olive brown and olive brown, Well Graded fine to medium SAND with Silt and Gravel (SW-SM) (A-1-b), few low plasticity fines, micaceous, little fine to coarse crushed stone, trace organics, 2.5Y5/4, 2.5Y4/3. LL=NP, PL=NP, PI=NP, NMC=6%, %#200=11
430.0	4.5	
	6.0	**COASTAL PLAIN** - medium dense, dry to moist, yellow, white and reddish yellow, Silty fine to medium SAND (SM), some low plasticity fines, micaceous, 2.5Y8/8, 7.5YR8/1, 7.5YR8/6.
	8.0	
	8.9	@2 feet - dry, brownish yellow, 10YR6/8.
		@2.5 feet - dry to moist, white and reddish yellow, 7.5YR8/1, 7.5YR8/6.
425.0		@4 feet - moist, white and yellow, trace fine gravel, 2.5Y8/1, 2.5Y8/8.
		Very stiff, dry to moist, pale brown with yellow mottled, Lean CLAY with Sand (CL), little fine to medium sands, 2.5Y8/4, 10YR7/8.
420.0		Very stiff, dry, pale brown with olive yellow mottles, SILT (ML), few fine sands, 2.5Y8/4, 2.5Y6/8.
		Very dense, dry to moist, mottled pale brown and yellow, Silty fine to medium SAND (SM), some low plasticity fines, 2.5Y8/2, 2.5Y8/8.
415.0		Boring Terminated at 8.9 feet.
410.0		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	2	9	10	12	19
2.0	SS-2	12	12	14	12	26
4.0	SS-3	7	7	11	15	18
6.0	SS-4	8	12	16	29	28
8.0	SS-5	27	50/5"			50/5"



LEGEND

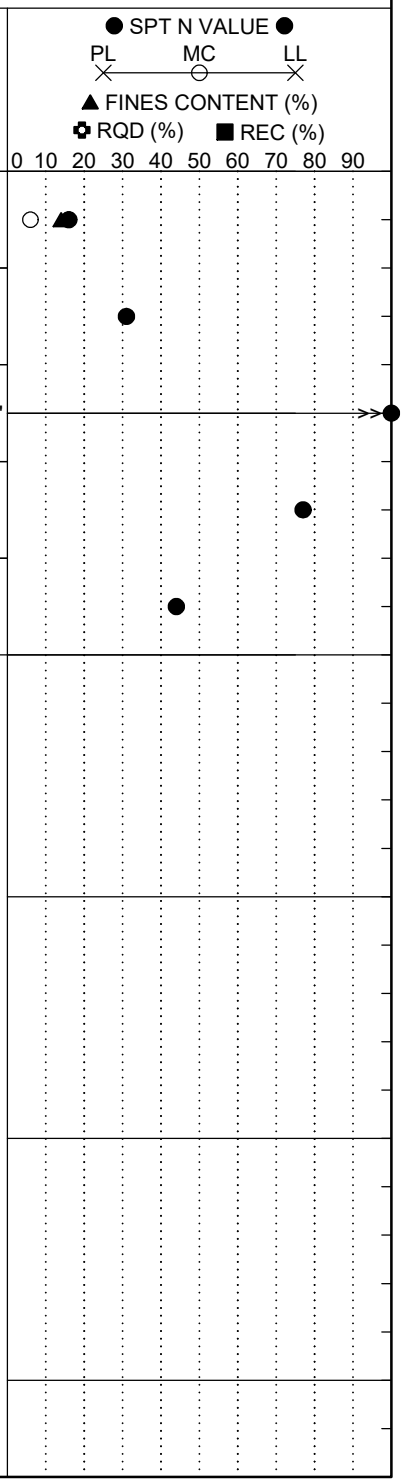
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB- 9		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N		
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1697+42.47	**Offset:**	91.7	**Alignment:**	Proposed
Elev.:	428.7 ft	**Latitude:**	34.18229488	**Longitude:**	-80.97979091	**Date Started:**	9/11/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/11/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	84.2%
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.
	2.5	**FILL** - medium dense, dry, dark grayish brown, Silty fine to medium SAND with Gravel (SM) (A-2-4), little low plasticity fines, little fine to coarse crushed stone, 2.5Y4/2, 10YR6/4. NMC=6%, %#200=14
423.7		**COASTAL PLAIN** - hard, dry, white with yellow mottles, Sandy SILT (ML), some fine to medium sands, 2.5Y8/1, 2.5Y8/8.
		@4 feet - white, 2.5Y8/1.
	7.5	@6 feet - very hard, mottled pale brown, yellow, 2.5Y8/4, 2.5Y8/8.
		Very dense, dry, white, Silty fine to medium SAND (SM), some low plasticity fines, 2.5Y8/1.
418.7	10.0	@8 feet - dense, moist.
		Boring Terminated at 10 feet.
413.7		
408.7		
403.7		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	5	7	9	13	16
2.0	SS-2	7	11	20	27	31
4.0	SS-3	30	50	50/3"		50/3"
6.0	SS-4	36	43	34	35	77
8.0	SS-5	3	13	31	19	44



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

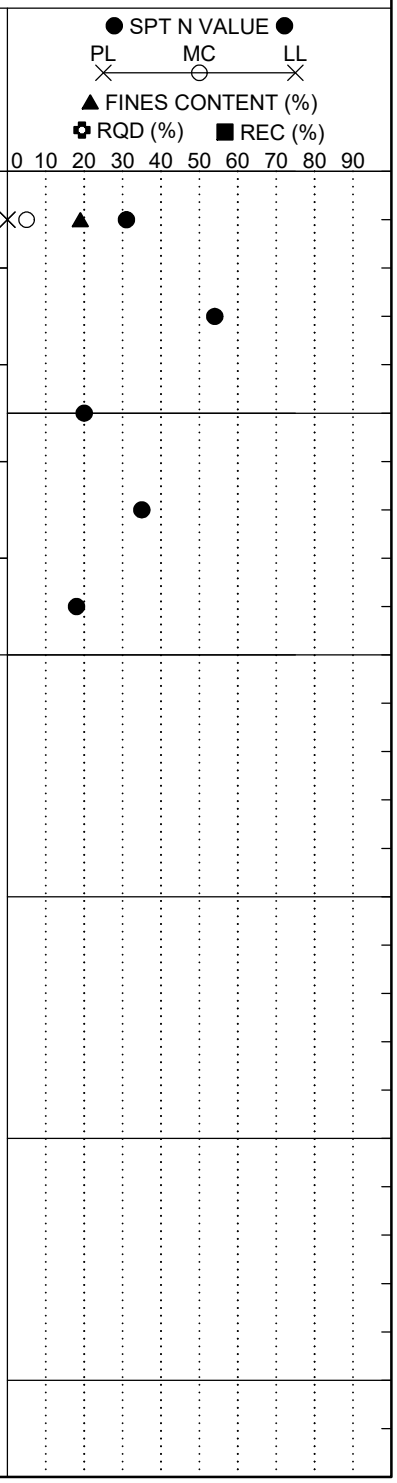
SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB-10
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1702+36.75	**Offset:**	30.1
Alignment:	Proposed				
Elev.:	425.4 ft	**Latitude:**	34.18353529	**Longitude:**	-80.98048704
Date Started:	9/18/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/18/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** 7.5 ft
24HR	N/A				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.4	**SURFACE MATERIAL** - TOPSOIL - 5 inches.
		FILL - dense, dry, grayish brown and black, Silty fine to medium SAND (SM) (A-1-b), little low plasticity fines, trace organics, few fine to coarse crushed stone, 2.5Y5/2, 2.5Y2.5/1. LL=NP, PL=NP, PI=NP, NMC=5%, %#200=19
	4.5	
420.4		@2 feet - very dense, dry to moist, grayish brown, absent crushed stone, 2.5Y5/2.
	6.5	**COASTAL PLAIN** - medium dense, moist, gray with light olive brown mottles, Clayey fine to medium SAND (SC), some medium plasticity fines, trace organics, 2.5Y5/1, 2.5Y5/6.
	9.5	Dense, dry to moist, white, pale brown, Silty fine to medium SAND (SM), some low plasticity fines, trace fine gravel, 2.5Y8/4, 2.5Y8/1.
415.4	10.0	@7.5 feet - moist to wet, pale brown, few fine gravel, 2.5Y8/4.
		@8 feet - wet.
		PIEDMONT RESIDUUM - very stiff, dry, laminated white and pale brown, SILT (ML), few fine sands, 2.5Y8/1, 2.5Y8/2.
410.4		Boring Terminated at 10 feet.
405.4		
400.4		

Graphic Log

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	3	12	19	21	31
2.0	SS-2	12	20	34	25	54
4.0	SS-3	14	10	10	9	20
6.0	SS-4	11	15	20	20	35
8.0	SS-5	7	6	12	15	18



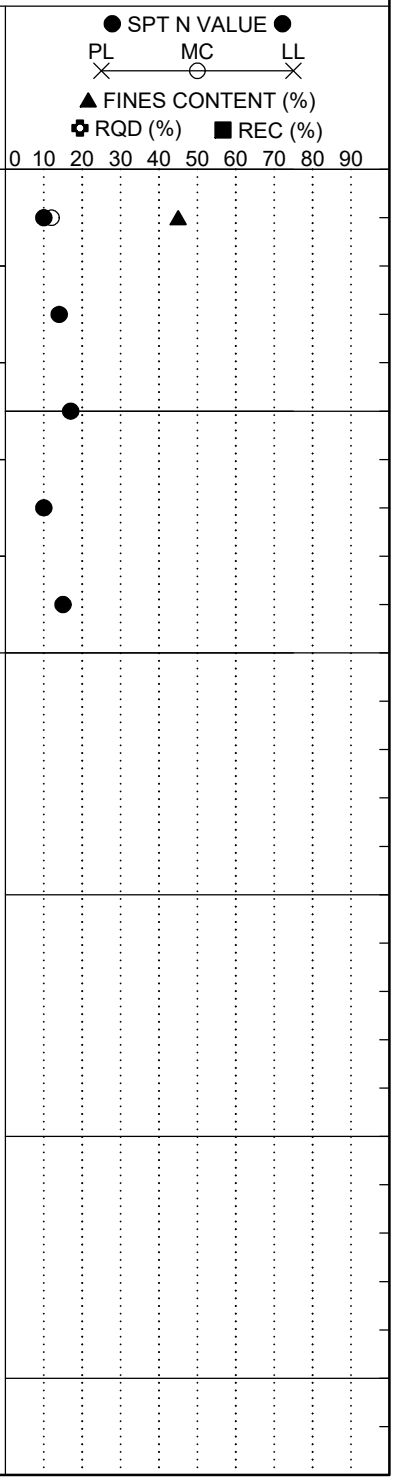
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB-11
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1707+25.79	**Offset:**	27.6
Alignment:	Proposed				
Elev.:	421.4 ft	**Latitude:**	34.1848119	**Longitude:**	-80.98099174
Date Started:	9/18/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/18/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE
24HR	N/A				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	6	5	5	5	10
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.	2.0	SS-2	5	7	7	9	14
	1.5	**FILL** - loose, dry to moist, very dark grayish brown, Silty fine to medium SAND (SM) (A-4), some low plasticity fines, few fine to coarse crushed stone, micaceous, 2.5Y3/2. NMC=12%, %#200=45	4.0	SS-3	4	8	9	7	17
416.4		**COASTAL PLAIN** - loose, dry, mottled yellow, white and very dark gray, Clayey fine to medium SAND (SC), some medium plasticity fines, micaceous, 10YR7/8, 10YR8/1, 10YR3/1.	6.0	SS-4	4	4	6	10	10
	7.0	@2 feet - medium dense, mottled white, yellow and grayish brown, trace mica, 2.5Y8/1, 2.5Y8/6, 2.5Y5/2.	8.0	SS-5	9	9	6	12	15
		@4 feet - mottled light yellowish brown and dark gray, 2.5Y6/4, 2.5Y4/1.							
411.4	10.0	@6 feet - loose, moist, mottled black, very dark grayish brown and light olive brown, trace roots, 2.5Y2.5/1, 2.5Y3/2, 2.5Y5/3.							
		PIEDMONT RESIDUUM - stiff, dry, pale brown, Sandy SILT (ML), some fine to medium sands, few roots, 2.5Y7/3.							
		@8 feet - laminated pale brown and yellow, 2.5Y8/4, 2.5Y8/6.							
406.4		Boring Terminated at 10 feet.							
401.4									
396.4									



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

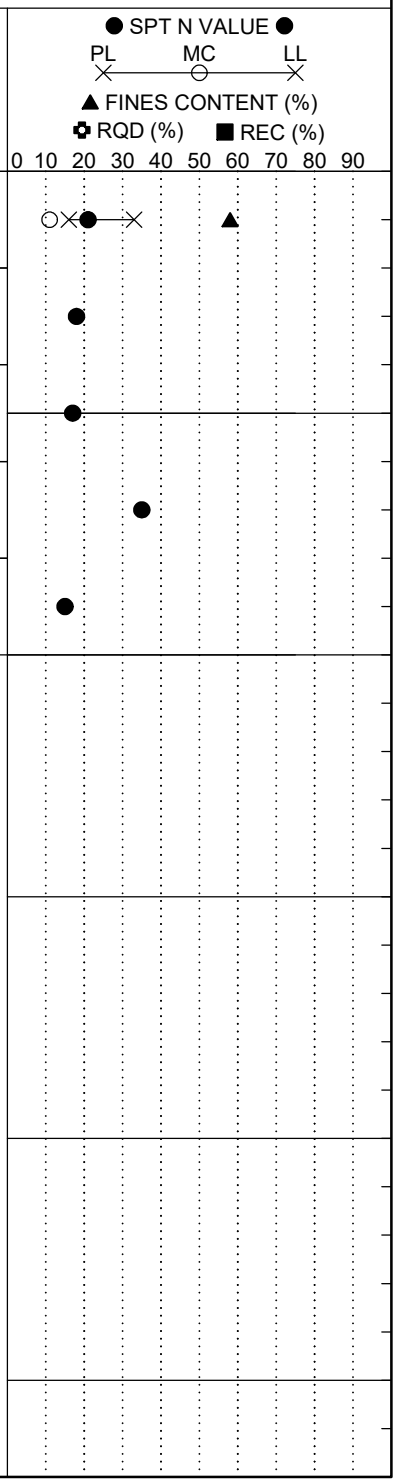
SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)			**County:**	Richland	**Boring No.:**	NB-12
Site Description:	I-77 Exit 26 - Roadways					**Route:**	I-77N
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1712+26.47	**Offset:**	29.0	**Alignment:**	Proposed
Elev.:	424.3 ft	**Latitude:**	34.18612226	**Longitude:**	-80.98149607	**Date Started:**	9/19/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/19/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	84.2%
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 4 inches.
	0.5	**FILL** - medium dense, dry to moist, dark grayish brown, Silty fine to medium SAND (SM), some low plasticity fines, trace organics, micaceous, few fine to coarse crushed stone, 2.5Y4/2.
419.3		**COASTAL PLAIN** - very stiff, dry, mottled yellow, dark gray and yellowish red, Sandy Lean CLAY (CL) (A-6(7)), some fine to medium sands, trace mica, 10YR8/8, 10YR4/1, 5YR5/8. LL=33, PL=16, PI=17, NMC=11%, %#200=58
	7.5	
	8.0	@2 feet - mottled pale brown, white and grayish brown, some fine to coarse sands, micaceous, 2.5Y7/3, 2.5Y8/1, 2.5Y5/2.
		@4 feet - dry to moist, mottled yellow, olive yellow, light gray and yellowish red, 2.5Y8/8, 2.5Y6/8, 2.5Y7/1, 5YR5/8.
414.3	10.0	
		@5.5 feet - mottled olive brown and dark gray, trace roots, absent mica, 2.5Y4/3, 2.5Y4/1.
		@6 feet - hard, dry, mottled black, dark gray and light olive brown, 2.5Y2.5/1, 2.5Y4/1, 2.5Y5/3.
409.3		Dense, dry, light gray, Silty fine to medium SAND (SM), some low plasticity fines, 2.5Y7/2.
		Medium dense, dry to moist, mottled reddish yellow, white and yellow, Clayey fine to coarse SAND (SC), some medium plasticity fines, trace fine gravel, trace mica, 7.5YR7/6, 10YR8/1, 10YR8/8.
404.3		Boring Terminated at 10 feet.
399.3		

Graphic Log

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	4	10	11	11	21
2.0	SS-2	8	7	11	12	18
4.0	SS-3	8	8	9	10	17
6.0	SS-4	7	14	21	16	35
8.0	SS-5	5	7	8	8	15



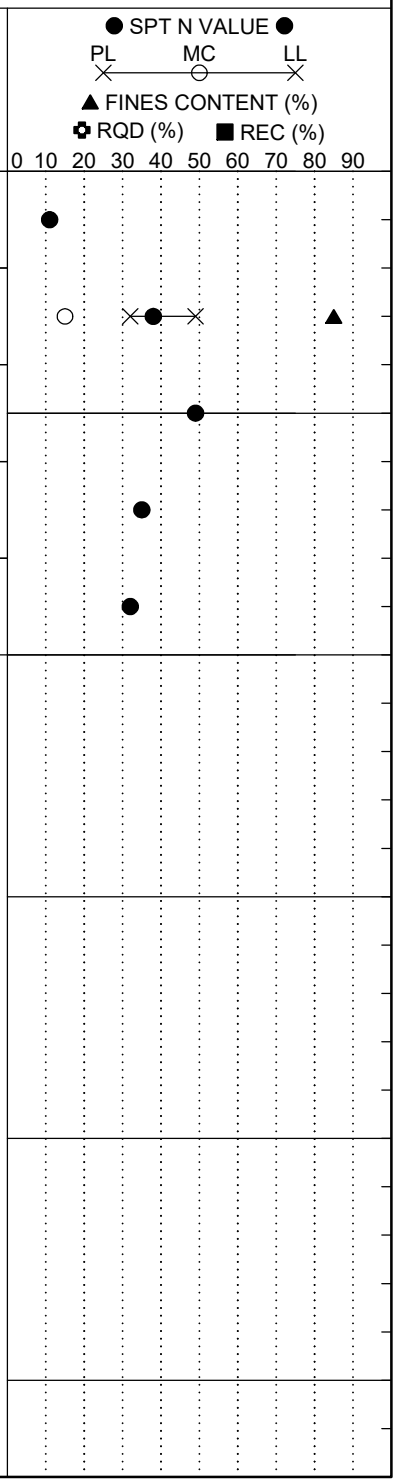
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB-13
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1717+42.88	**Offset:**	30.7
Alignment:	Proposed				
Elev.:	434.5 ft	**Latitude:**	34.18747397	**Longitude:**	-80.9820156
Date Started:	9/19/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/19/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE
24HR	N/A				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	4	7	4	8	11
	0.3	**SURFACE MATERIAL** - TOPSOIL - 4 inches.	2.0	SS-2	11	16	22	25	38
	1.0	**FILL** - medium dense, dry, grayish brown and olive brown, Silty fine to coarse SAND (SM), some low plasticity fines, trace fine to coarse crushed stone, trace organics, micaceous, 2.5Y4/4, 2.5Y5/2.	4.0	SS-3	15	23	26	27	49
429.5		**PIEDMONT RESIDUUM** - stiff, dry, laminated white and yellow, Sandy SILT (ML), little fine to medium sands, trace mica, 10YR8/1, 10YR8/8.	6.0	SS-4	10	14	21	26	35
		@2 feet - hard, (A-7-5(17)). LL=49, PL=32, PI=17, NMC=15%, %#200=85	8.0	SS-5	9	13	19	29	32
		@5 feet - laminated gray, white and yellow, 2.5Y6/1, 2.5Y8/1, 2.5Y8/6.							
	10.0	@9 feet - laminated bluish gray, white and yellow, 5PB5/1, 2.5Y8/1, 2.5Y8/8.							
424.5		Boring Terminated at 10 feet.							
419.5									
414.5									
409.5									



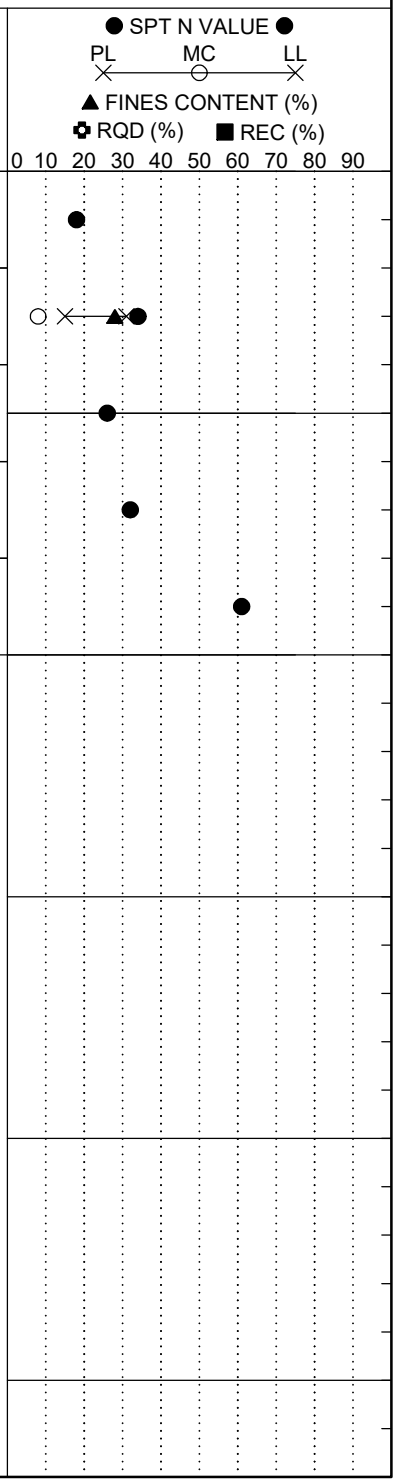
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)			**County:**	Richland	**Boring No.:**	NB-14
Site Description:	I-77 Exit 26 - Roadways					**Route:**	I-77N
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1722+15.79	**Offset:**	33.6	**Alignment:**	Proposed
Elev.:	445.2 ft	**Latitude:**	34.18871295	**Longitude:**	-80.98248698	**Date Started:**	9/19/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/19/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	84.2%
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	3	10	8	16	18
	0.4	**SURFACE MATERIAL** - TOPSOIL - 5 inches.	2.0	SS-2	17	20	14	14	34
	1.0	**FILL** - medium dense, dry, dark grayish brown, Silty fine to coarse SAND (SM), some low plasticity fines, trace fine to coarse crushed stone, trace roots, micaceous, 2.5Y4/2.	4.0	SS-3	11	12	14	18	26
440.2	4.0	**COASTAL PLAIN** - medium dense, dry to moist, mottled yellow, very pale brown and yellowish red, Clayey fine to medium SAND (SC), little medium plasticity fines, trace fine gravel, 10YR7/8, 10YR7/3, 5YR5/8. @2 feet - dense, dry, mottled yellow, (A-2-6(1)), 10YR8/8, 10YR8/6, poor recovery. LL=31, PL=15, PI=16, NMC=8%, %#200=28	6.0	SS-4	10	13	19	27	32
435.2	10.0	**PIEDMONT RESIDUUM** - very stiff, dry to moist, mottled yellow and white, Sandy SILT (ML), some fine to medium sands, 10YR7/8, 10YR8/1. @6 feet - hard, mottled yellow, pale brown and light gray, 10YR7/8, 2.5Y8/4, 2.5Y7/1. @8 feet - very hard, laminated olive yellow, pale brown and gray, 2.5Y6/8, 2.5Y8/4, 2.5Y6/1.	8.0	SS-5	10	25	36	49	61
430.2		Boring Terminated at 10 feet.							
425.2									
420.2									



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

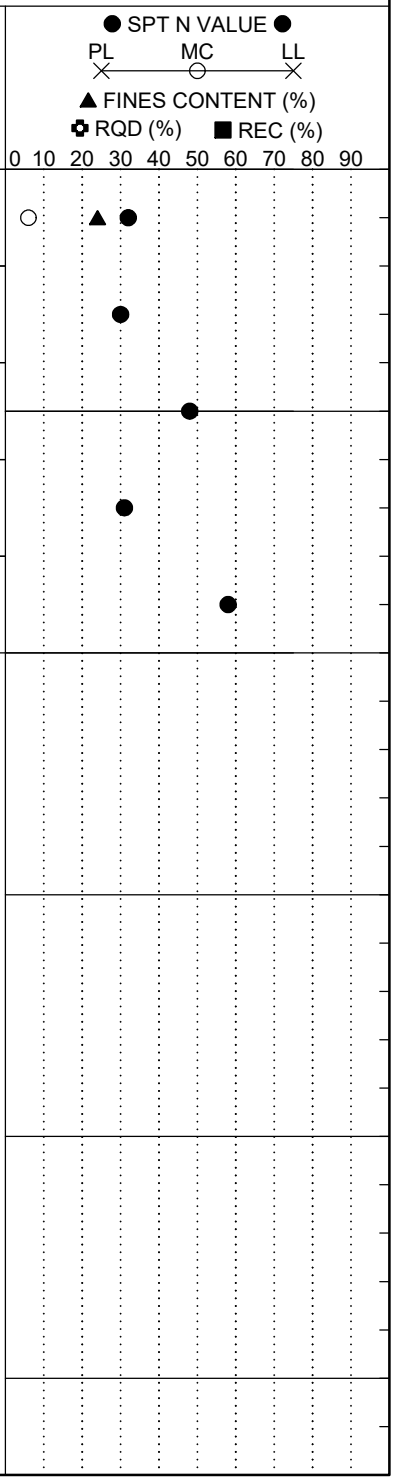
SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB-15
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1727+34.30	**Offset:**	85.9
Alignment:	Proposed				
Elev.:	454.5 ft	**Latitude:**	34.1901129	**Longitude:**	-80.98284938
Date Started:	9/13/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/13/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE **24HR** N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.
	2.0	**FILL** - dense, dry, light olive brown and gray, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, few fine to coarse crushed stone, 2.5Y5/6, 2.5Y6/1. NMC=6%, %#200=24
449.5		**COASTAL PLAIN** - medium dense, dry, mottled brownish yellow, light gray and strong brown, Clayey fine to medium SAND (SC), some medium plasticity fines, 10YR6/8, 10YR7/1, 7.5YR5/8.
	8.0	@4 feet - dense, mottled yellowish red, yellow and very pale brown, trace fine gravel, 5YR5/8, 10YR8/8, 10YR8/4.
	10.0	@6 feet - white with yellowish red and brownish yellow mottles, trace mica, 5YR8/1, 5YR5/8, 10YR6/8.
444.5		Very dense, dry to moist, strong brown, Silty fine to medium SAND (SM), some low plasticity fines, 7.5YR5/8.
		Boring Terminated at 10 feet.
439.5		
434.5		
429.5		

Graphic Log

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	5	17	15	10	32
2.0	SS-2	11	13	17	18	30
4.0	SS-3	20	22	26	27	48
6.0	SS-4	11	15	16	21	31
8.0	SS-5	18	31	27	23	58



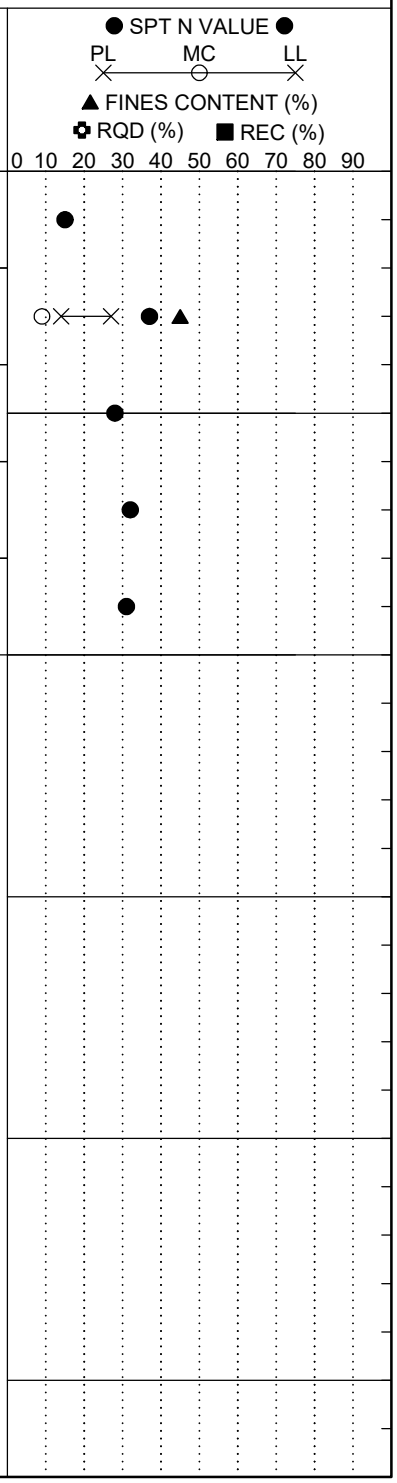
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland			**Boring No.:**	NB-16
Site Description:	I-77 Exit 26 - Roadways					**Route:**	I-77N
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1732+28.58	**Offset:**	29.3	**Alignment:**	Proposed
Elev.:	457.9 ft	**Latitude:**	34.19135756	**Longitude:**	-80.98352964	**Date Started:**	9/19/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/19/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	84.2%
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	5	8	7	6	15
	0.3	**SURFACE MATERIAL** - TOPSOIL - 4 inches.							
	1.0	**FILL** - medium dense, dry to moist, dark grayish brown, Silty fine to coarse SAND (SM), some low plasticity fines, micaceous, trace organics, trace fine to coarse crushed stone, 2.5Y4/2.	2.0	SS-2	11	19	18	23	37
	3.6	Medium dense, dry to moist, light olive brown with white mottles, Clayey fine to medium SAND (SC), some medium plasticity fines, 2.5Y5/6, 2.5Y8/1.	4.0	SS-3	17	15	13	10	28
452.9	5.5	@2 feet - dense, (A-6(2)). LL=27, PL=14, PI=13, NMC=9%, %#200=45	6.0	SS-4	4	11	21	27	32
	8.0	**COASTAL PLAIN** - dense, dry to moist, gray with black, Silty fine to medium SAND (SM), some low plasticity fines, trace organics, 2.5Y5/1, 2.5Y2.5/1.	8.0	SS-5	12	14	17	18	31
447.9	10.0	Medium dense, moist, mottled light olive brown, Clayey fine to medium SAND (SC), some medium plasticity fines, trace organics, 2.5Y5/4, 2.5Y5/6.							
		@6 feet - dense, mottled light olive brown and gray, absent organics, 2.5Y5/6, 2.5Y5/1.							
442.9		@7 feet - mottled light olive and strong brown, fine to coarse, few fine gravel, 2.5Y5/6, 7.5YR5/8.							
		Dense, moist, light olive brown, Silty fine to coarse SAND (SM), some low plasticity fines, few fine gravel, 2.5Y5/6.							
		Boring Terminated at 10 feet.							
437.9									
432.9									



LEGEND

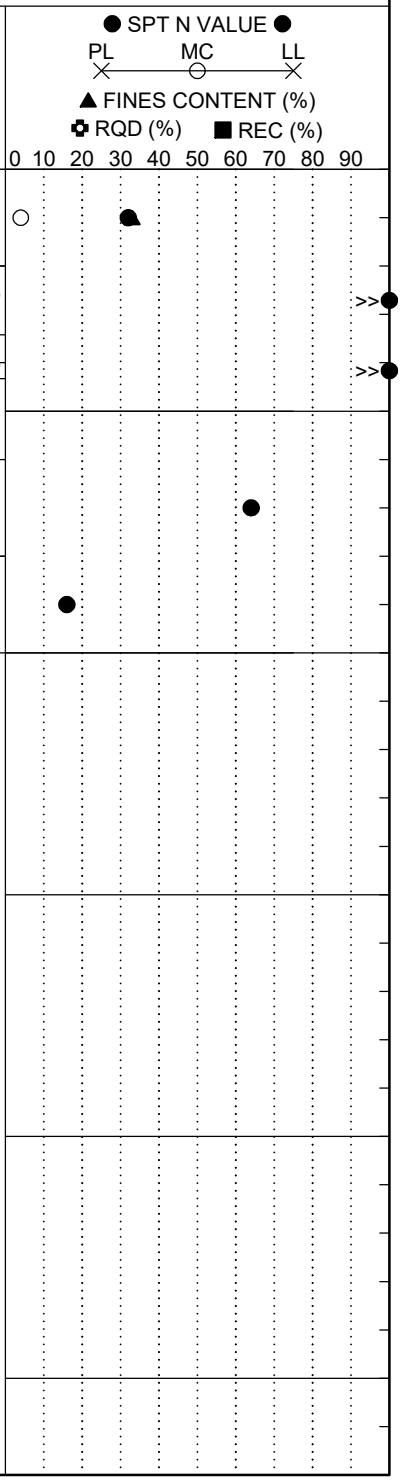
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB-17
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1737+22.08	**Offset:**	85.9
Alignment:	Proposed				
Elev.:	454.3 ft	**Latitude:**	34.19269571	**Longitude:**	-80.98385315
Date Started:	9/13/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/13/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	91.6%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE **24HR** N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.
	0.5	**FILL** - dense, dry, dark olive brown, Poorly Graded fine to medium SAND with Silt (SP-SM), few low plasticity fines, few fine to coarse crushed stone, 2.5Y3/3.
449.3		**COASTAL PLAIN** - dense, dry, mottled yellow and white, Silty fine to medium SAND (SM) (A-2-4), some low plasticity fines, trace mica, 10YR7/8, 10YR8/1. NMC=4%, %#200=33
		@2 feet - very dense, mottled white, reddish yellow and yellow, 7.5YR8/1, 7.5YR7/8, 10YR7/8.
	8.0	@6 feet - dry to moist, mottled yellow and white, trace fine gravel, 10YR8/8, 10YR8/1.
444.3	10.0	**PIEDMONT RESIDUUM** - very stiff, dry, pale brown, SILT (ML), few fine to medium sands, 2.5Y8/4.
		Boring Terminated at 10 feet.
439.3		
434.3		
429.3		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	8	17	15	22	32
2.0	SS-2	17	32	50/5"		50/5"
4.0	SS-3	50/4"				50/4"
6.0	SS-4	32	35	29	28	64
8.0	SS-5	6	6	10	13	16



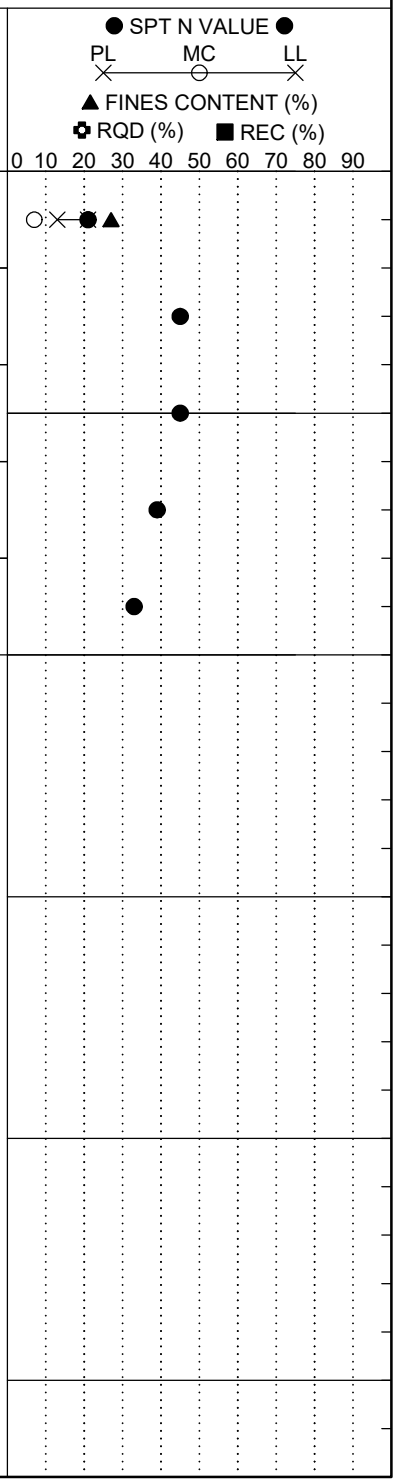
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB-18		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N		
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1742+18.49	**Offset:**	84.2	**Alignment:**	Proposed
Elev.:	449.9 ft	**Latitude:**	34.19399224	**Longitude:**	-80.98436306	**Date Started:**	9/13/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/13/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	91.6%
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	8	11	10	11	21
	0.3	**SURFACE MATERIAL** - TOPSOIL - 4 inches.	2.0	SS-2	11	17	28	21	45
	0.5	**FILL** - medium dense, dry to moist, dark olive brown, Poorly Graded fine to medium SAND with Silt (SP-SM), few low plasticity fines, few fine to coarse crushed stone, 2.5Y3/3.	4.0	SS-3	17	23	22	31	45
444.9	5.0	**COASTAL PLAIN** - medium dense, dry to moist, mottled yellow and white, Clayey fine to medium SAND (SC) (A-2-4), little medium plasticity fines, 2.5Y8/8, 2.5Y8/1. LL=21, PL=13, PI=8, NMC=7%, %#200=27 @2 feet - dense, moist, white, trace fine gravel, 2.5Y8/1. @4 feet - mottled white and yellow, 10YR8/1, 10YR8/8.	6.0	SS-4	18	17	22	30	39
			8.0	SS-5	11	13	20	23	33
439.9	10.0	**PIEDMONT RESIDUUM** - hard, dry, laminated yellow, very pale brown and white, Sandy SILT (ML), some fine to medium sands, 10YR8/8, 10YR8/3, 10YR8/8.							
		Boring Terminated at 10 feet.							
434.9									
429.9									
424.9									



LEGEND

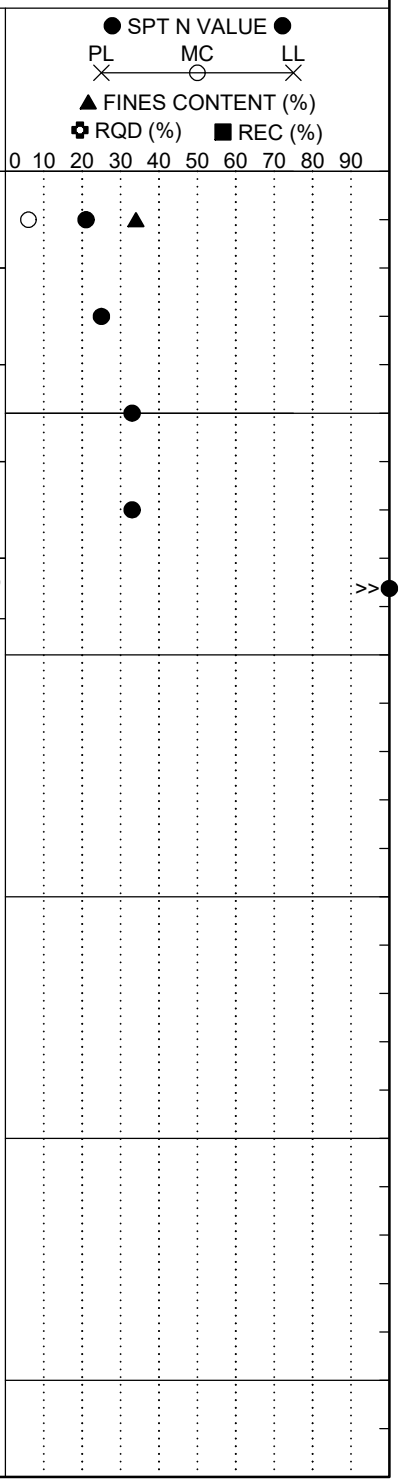
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB-19
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1747+41.43	**Offset:**	29.7
Alignment:	Proposed				
Elev.:	444.5 ft	**Latitude:**	34.19531315	**Longitude:**	-80.9850588
Date Started:	9/19/2023				
Total Depth:	9.3 ft	**Soil Depth:**	9.3 ft	**Core Depth:**	N/A ft
Date Completed:	9/19/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE **24HR** N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.
	1.0	**FILL** - medium dense, dry, dark grayish brown, Silty fine to coarse SAND (SM), some low plasticity fines, micaceous, trace organics, trace fine to coarse crushed stone, 2.5Y4/2.
	2.0	
	4.0	**COASTAL PLAIN** - medium dense, dry, yellow with white mottles, Silty fine to medium SAND (SM) (A-2-4), some low plasticity fines, trace fine gravel, 2.5Y8/6, 2.5Y8/1. NMC=6%, %#200=34
439.5		
	8.0	Medium dense, moist, mottled yellow, brownish yellow, gray and reddish yellow, Clayey fine to medium SAND (SC), some medium plasticity fines, few fine to coarse gravel, 10YR8/6, 10YR6/7, 10YR6/1, 5YR6/8.
	9.3	
434.5		**PIEDMONT RESIDUUM** - hard, dry to moist, mottled white and brownish yellow, Sandy SILT (ML), some fine to medium sands, 2.5Y6/8, 2.5Y8/1.
		@6 feet - mottled pale brown, yellow, white and dark yellowish brown, 2.5Y8/4, 2.5Y8/6, 2.5Y8/1, 10YR4/4.
		@7 feet - laminated white and light grayish olive, 2.5Y8/1, 10Y6/2.
429.5		**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry to moist, laminated white, light grayish olive and yellow, Sandy SILT (ML), some fine to medium sands, 2.5Y8/1, 2.5Y8/6, 10Y6/2.
		Boring Terminated at 9.3 feet.
424.5		
419.5		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	7	8	13	12	21
2.0	SS-2	9	10	15	14	25
4.0	SS-3	9	11	22	40	33
6.0	SS-4	15	16	17	23	33
8.0	SS-5	22	48	50/3"		50/3"



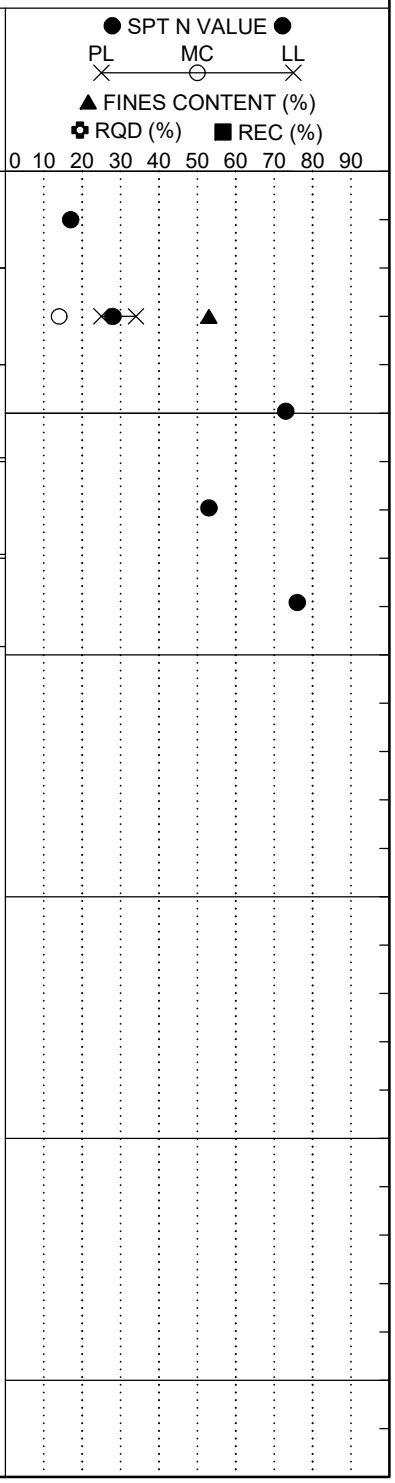
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB-20
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1752+49.24	**Offset:**	82.3
Alignment:	Proposed				
Elev.:	439.6 ft	**Latitude:**	34.19668886	**Longitude:**	-80.98528739
Date Started:	9/13/2023				
Total Depth:	9.8 ft	**Soil Depth:**	9.8 ft	**Core Depth:**	N/A ft
Date Completed:	9/13/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	91.6%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE **24HR** N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	9	9	8	13	17
	0.3	**SURFACE MATERIAL** - TOPSOIL - 4 inches.	2.0	SS-2	12	12	16	26	28
	1.0	**FILL** - medium dense, dry, gray, Poorly Graded fine to medium SAND with Silt (SP-SM), few low plasticity fines, few fine to coarse crushed stone, 5Y5/1.	4.0	SS-3	22	33	40	50/5"	73
434.6		**PIEDMONT RESIDUUM** - very stiff, dry, white with grayish green and red lamination, Sandy SILT (ML), some fine to medium sands, trace mica, 5GY5/2, 2.5YR8/1, 2.5YR4/8.	6.0	SS-4	13	18	35	50/5"	53
		@2 feet - white with grayish green, red and yellow lamination, (A-4(3)), 5GY5/2, 2.5YR8/1, 2.5YR4/8, 2.5Y7/8. LL=34, PL=25, PI=9, NMC=14%, %#200=53	8.0	SS-5	14	28	48	50/4"	76
		@4 feet - very hard, white with red, yellow and light grayish green lamination, 2.5YR8/1, 2.5YR4/8, 10YR7/8, 5GY6/2.							
429.6	9.8	@8 feet - laminated white, pale brown, yellow and yellowish red, trace fine to coarse weathered rock fragments, 2.5Y8/1, 2.5Y8/2, 2.5Y8/8, 5YR4/6.							
		Boring Terminated at 9.8 feet.							
424.6									
419.6									
414.6									



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

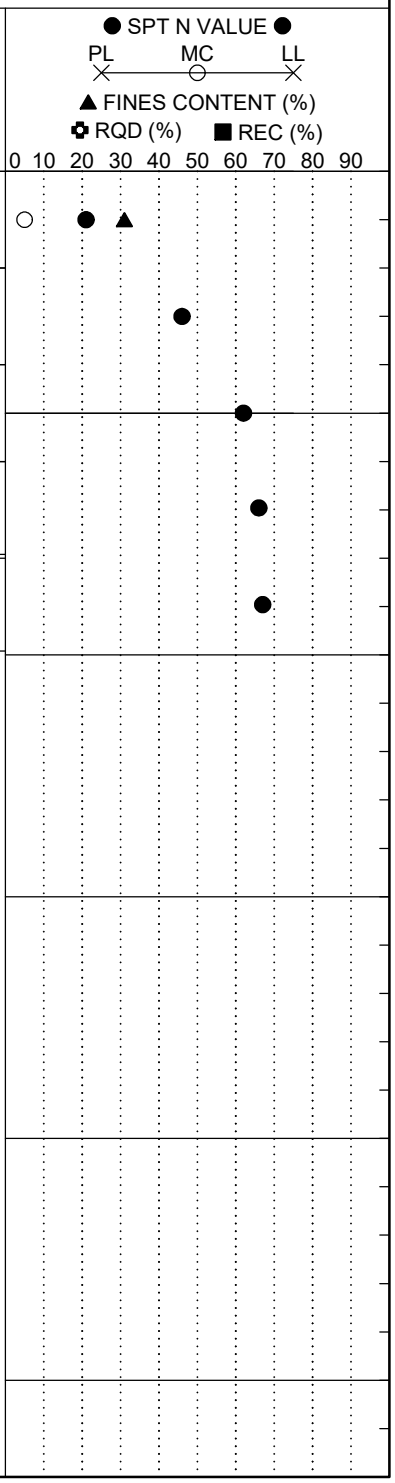
SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB-21
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1757+39.79	**Offset:**	30.6
Alignment:	Proposed				
Elev.:	445.3 ft	**Latitude:**	34.19798545	**Longitude:**	-80.98570277
Date Started:	9/19/2023				
Total Depth:	9.9 ft	**Soil Depth:**	9.9 ft	**Core Depth:**	N/A ft
Date Completed:	9/19/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE **24HR** N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 4 inches.
	2.0	**FILL** - medium dense, dry, dark grayish brown, light olive brown, Silty fine to medium SAND (SM) (A-2-4), some low plasticity fines, few fine to coarse crushed stone, trace organics, trace mica, 2.5Y4/2, 2.5Y5/6. NMC=5%, %#200=31
440.3		**PIEDMONT RESIDUUM** - hard, dry to moist, white with light grayish olive and reddish yellow lamination, Sandy SILT (ML), some fine to medium sands, 2.5Y8/1, 10Y6/2, 5YR7/6.
	8.0	@4 feet - very hard.
	9.9	Very dense, dry to moist, white with light grayish olive and yellow lamination, Silty fine to coarse SAND (SM), some low plasticity fines, trace fine weathered rock fragments, 2.5Y8/1, 2.5Y8/8, 10Y6/2.
435.3		Boring Terminated at 9.9 feet.
430.3		
425.3		
420.3		

Graphic Log

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	6	10	11	11	21
2.0	SS-2	14	18	28	34	46
4.0	SS-3	22	27	35	42	62
6.0	SS-4	19	24	42	50/5"	66
8.0	SS-5	15	28	39	50/5"	67



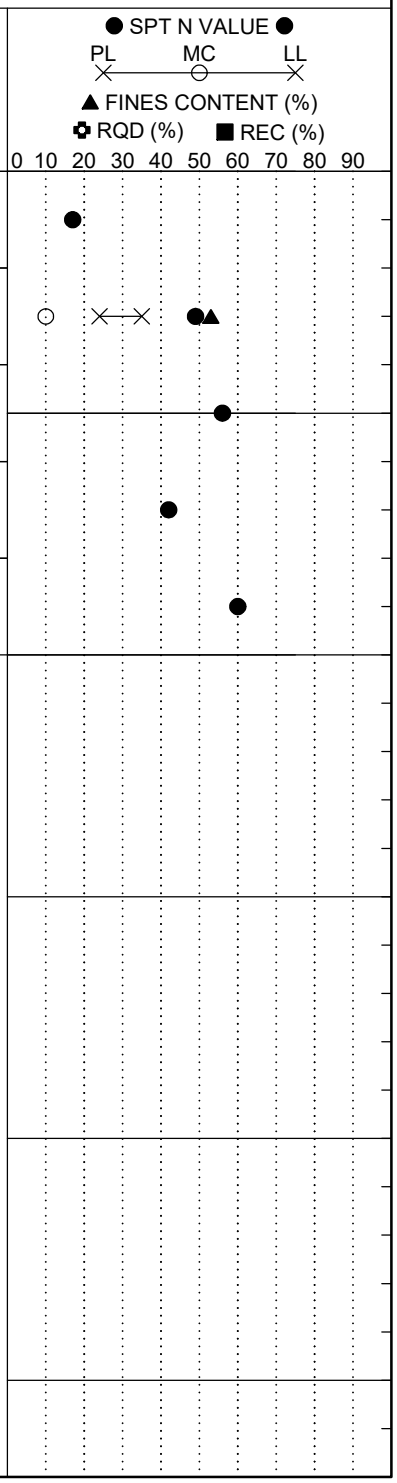
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB-22
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1762+76.04	**Offset:**	81.0
Alignment:	Proposed				
Elev.:	454.5 ft	**Latitude:**	34.19944992	**Longitude:**	-80.98564971
Date Started:	9/13/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/13/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	91.6%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE **24HR** N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0									
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.		0.0						
	1.0	**FILL** - medium dense, dry, dark gray, Poorly Graded fine to medium SAND with Silt (SP-SM), few low plasticity fines, few fine to coarse crushed stone, micaceous, 2.5Y4/1.		2.0	SS-1	8	10	7	7	17
				4.0	SS-2	19	21	28	31	49
449.5		**PIEDMONT RESIDUUM** - very stiff, dry, mottled yellow and white, Sandy SILT (ML), some fine to medium sands, 2.5Y8/6, 2.5Y8/1.		6.0	SS-3	18	23	33	34	56
		@2 feet - hard, (A-6(4)). LL=35, PL=24, PI=11, NMC=10%, %#200=53		8.0	SS-4	12	18	24	31	42
		@4 feet - very hard, white with yellow mottles, 2.5Y8/1, 2.5Y7/8.			SS-5	14	22	38	46	60
		@6 feet - hard.								
444.5	10.0	@8 feet - very hard.								
		Boring Terminated at 10 feet.								
439.5										
434.5										
429.5										



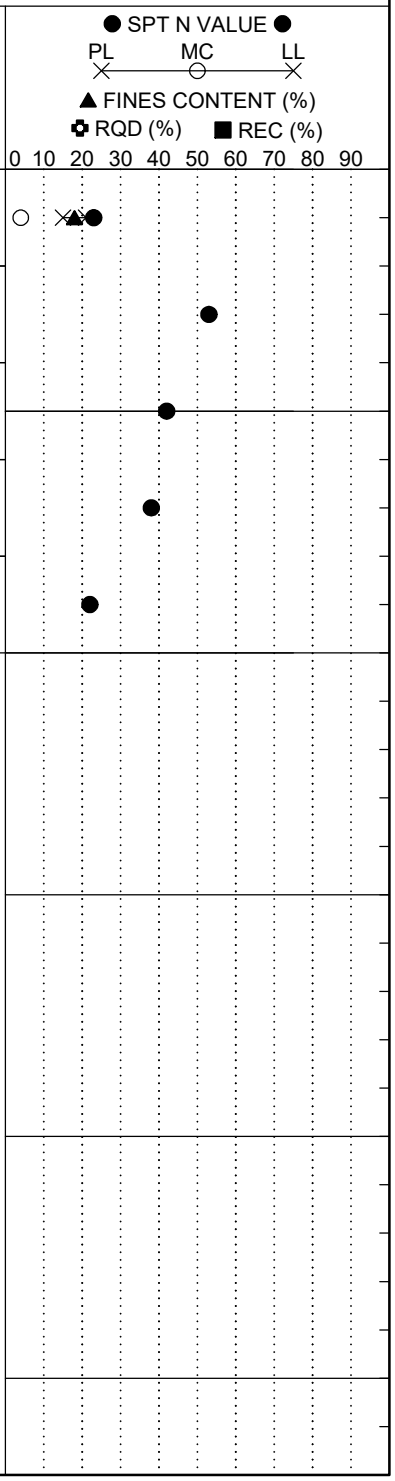
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB-23
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1767+49.63	**Offset:**	28.9
Alignment:	Proposed				
Elev.:	465.4 ft	**Latitude:**	34.20074139	**Longitude:**	-80.98578555
Date Started:	9/19/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/19/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE **24HR** N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0									
	0.3	**SURFACE MATERIAL** - TOPSOIL - 4 inches.		0.0	SS-1	8	10	13	18	23
		FILL - medium dense, dry to moist, dark grayish brown, reddish yellow and light olive brown, Silty, Clayey fine to medium SAND (SC-SM) (A-1-b), little low to medium plasticity fines, few fine to coarse crushed stone, trace organics, trace mica, 2.5Y4/2, 2.5Y5/3, 5YR6/8. LL=21, PL=15, PI=6, NMC=4%, %#200=18		2.0	SS-2	21	25	28	25	53
460.4				4.0	SS-3	22	20	22	30	42
		@2 feet - very dense, light olive brown, absent crushed stone, absent mica, absent organics, 2.5Y5/6, 2.5Y5/3.		6.0	SS-4	15	17	21	22	38
		@4 feet - dense, light olive brown, olive brown, 2.5Y5/6, 2.5Y5/3, 2.5Y4/3.		8.0	SS-5	18	10	12	19	22
		@6 feet - light olive brown, very dark grayish brown, 2.5Y5/4, 2.5Y3/2.								
455.4	10.0	@8 feet - medium dense, moist, dark olive brown, trace roots, 2.5Y3/3.								
		Boring Terminated at 10 feet.								
450.4										
445.4										
440.4										



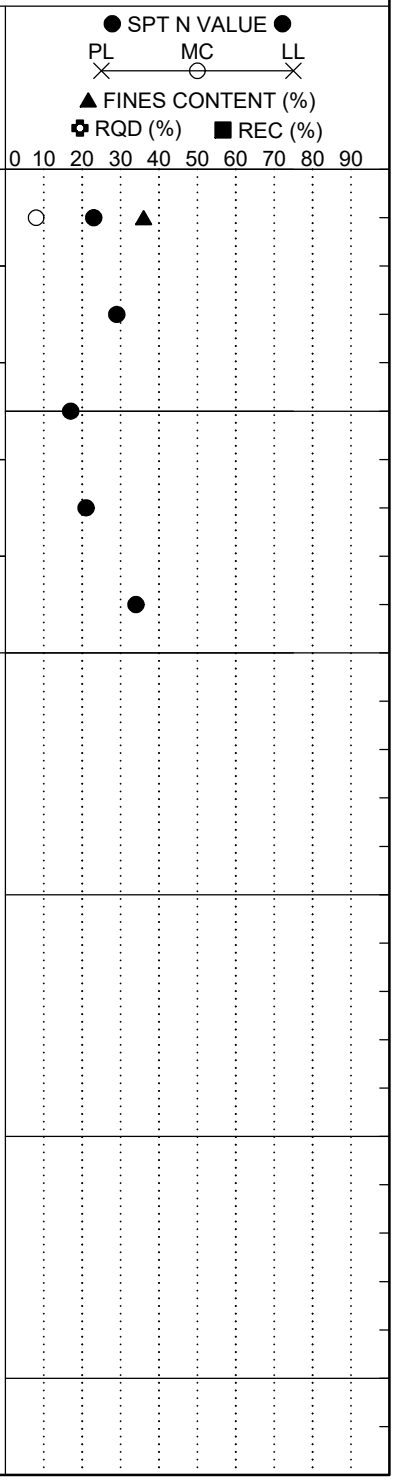
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB-24		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N		
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1772+54.96	**Offset:**	85.7	**Alignment:**	Proposed
Elev.:	473.4 ft	**Latitude:**	34.20209046	**Longitude:**	-80.98541902	**Date Started:**	9/13/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/13/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	91.6%
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	4	7	16	11	23
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.							
		FILL - medium dense, dry, very dark grayish brown, light olive brown, olive brown, Silty fine to medium SAND (SM) (A-4), some low plasticity fines, trace fine to coarse crushed stone, 2.5Y3/2, 2.5Y5/6, 2.5Y4/3. NMC=8%, %#200=36	2.0	SS-2	13	14	15	9	29
	4.0		4.0						
468.4		@2 feet - light olive brown and very dark gray, 2.5Y5/3, 2.5Y3/1.		SS-3	6	8	9	10	17
	6.0	**COASTAL PLAIN** - very stiff, dry, mottled yellow, light olive brown and white, Sandy SILT (ML), some fine to medium sands, 2.5Y7/8, 2.5Y5/6, 2.5Y8/1.	6.0	SS-4	5	8	13	10	21
	8.0	Medium dense, dry to moist, mottled yellow, white and reddish brown, Clayey fine to medium SAND (SC), some medium plasticity fines, trace fine gravel, 2.5Y8/8, 2.5Y8/1, 2.5YR4/4.	8.0	SS-5	6	13	21	26	34
463.4	10.0	**PIEDMONT RESIDUUM** - dense, dry, mottled white and reddish yellow, Silty fine to medium SAND (SM), some low plasticity fines, 7.5YR7/8, 7.5YR8/1.							
		Boring Terminated at 10 feet.							
458.4									
453.4									
448.4									



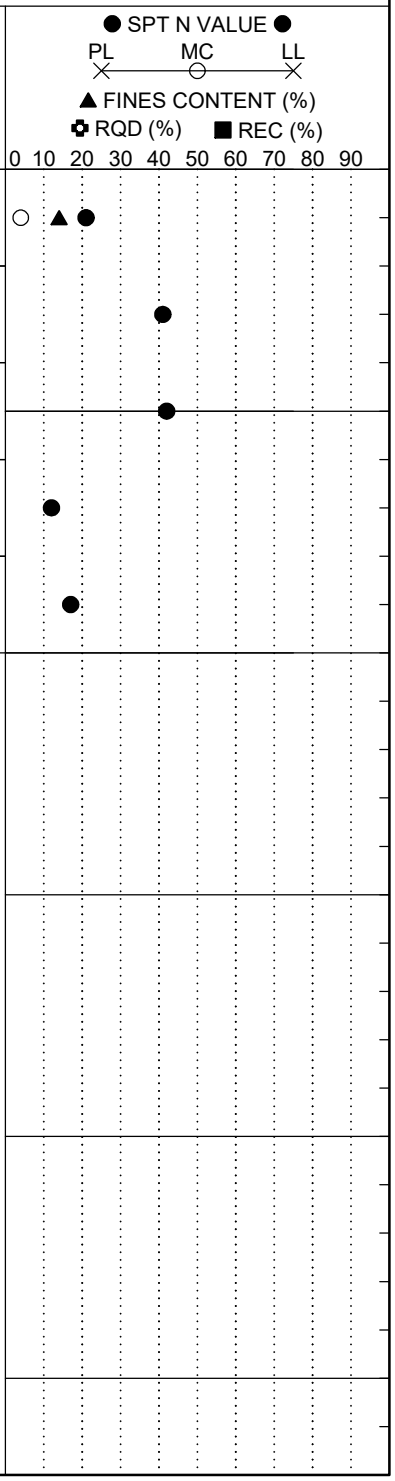
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB-25
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1777+55.81	**Offset:**	27.0
Alignment:	Proposed				
Elev.:	485.0 ft	**Latitude:**	34.20346328	**Longitude:**	-80.98530203
Date Started:	9/20/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/20/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** 9 ft
24HR	N/A				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	7	11	10	11	21
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.	2.0	SS-2	14	20	21	26	41
		FILL - medium dense, dry, olive brown, Silty fine to coarse SAND (SM), little low plasticity fines, few fine to coarse crushed stone, trace organics, trace mica, 2.5Y4/3.	4.0	SS-3	18	18	24	27	42
		@0.5 feet - dry to moist, yellowish brown, fine to medium (A-2-4), 10YR5/6. NMC=4%, %#200=14	6.0	SS-4	8	7	5	4	12
480.0	5.0	@2 feet - dense.	8.0	SS-5	5	8	9	12	17
		@4 feet - pale brown, 2.5Y7/4.							
		COASTAL PLAIN - dense, dry to moist, very dark gray and light yellowish brown, Silty fine to medium SAND (SM), some low plasticity fines, trace organics, trace roots, 2.5Y3/1, 2.5Y6/3.							
475.0	10.0	@6 feet - medium dense, light olive brown, 2.5Y5/4.							
		@8 feet - moist to wet, gray, absent organics, 2.5Y6/1.							
		Boring Terminated at 10 feet.							
470.0									
465.0									
460.0									



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

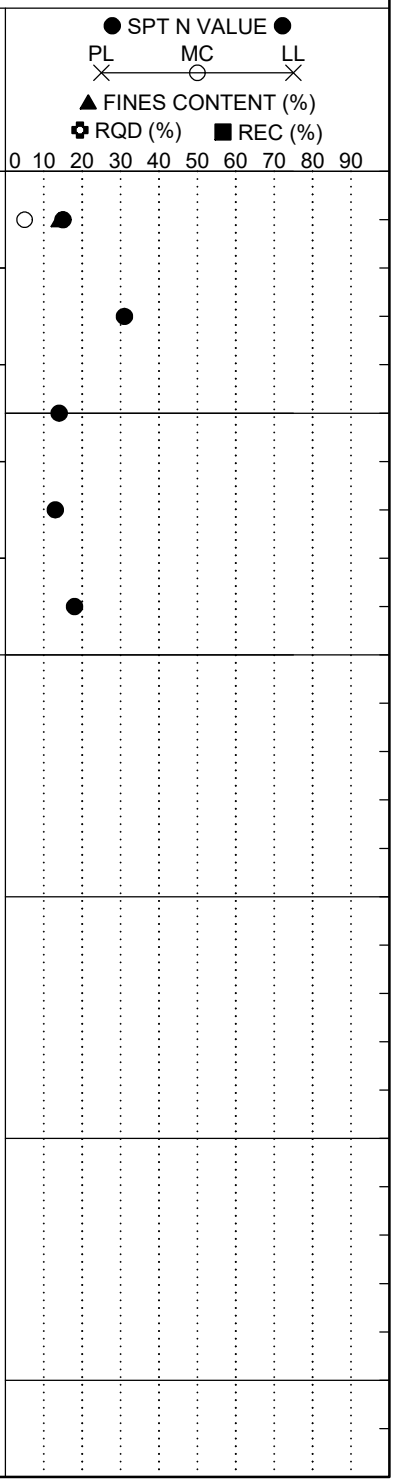
SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB-26
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1782+89.52	**Offset:**	86.5
Alignment:	Proposed				
Elev.:	492.3 ft	**Latitude:**	34.20486732	**Longitude:**	-80.98475589
Date Started:	9/14/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/17/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X/CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	90.3%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE **24HR** N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.
		FILL - medium dense, dry to moist, olive brown and pale brown, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, trace fine crushed stone, 2.5Y4/3, 2.5Y8/4. NMC=5%, %#200=14
	4.5	@2 feet - dense, pale brown, absent crushed stone, 2.5Y8/4.
487.3		@4 feet - medium dense, moist to wet, light olive brown, some low plasticity fines, 2.5Y5/6.
	8.0	**COASTAL PLAIN** - medium dense, moist, mottled gray, brownish yellow and yellowish red, Clayey fine to medium SAND (SC), some medium plasticity fines, 10YR6/1, 10YR6/8, 5YR5/8.
482.3	10.0	@6 feet - mottled brownish yellow, white and yellowish red, 10YR6/8, 10YR8/1, 5YR5/8.
		Medium dense, dry, mottled white, yellow and red, Silty fine to medium SAND (SM), some low plasticity fines, 10YR8/1, 10YR7/8, 2.5YR4/6.
		Boring Terminated at 10 feet.
477.3		
472.3		
467.3		

Graphic Log

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	4	5	10	11	15
2.0	SS-2	15	17	14	14	31
4.0	SS-3	4	5	9	15	14
6.0	SS-4	3	5	8	12	13
8.0	SS-5	4	6	12	10	18



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

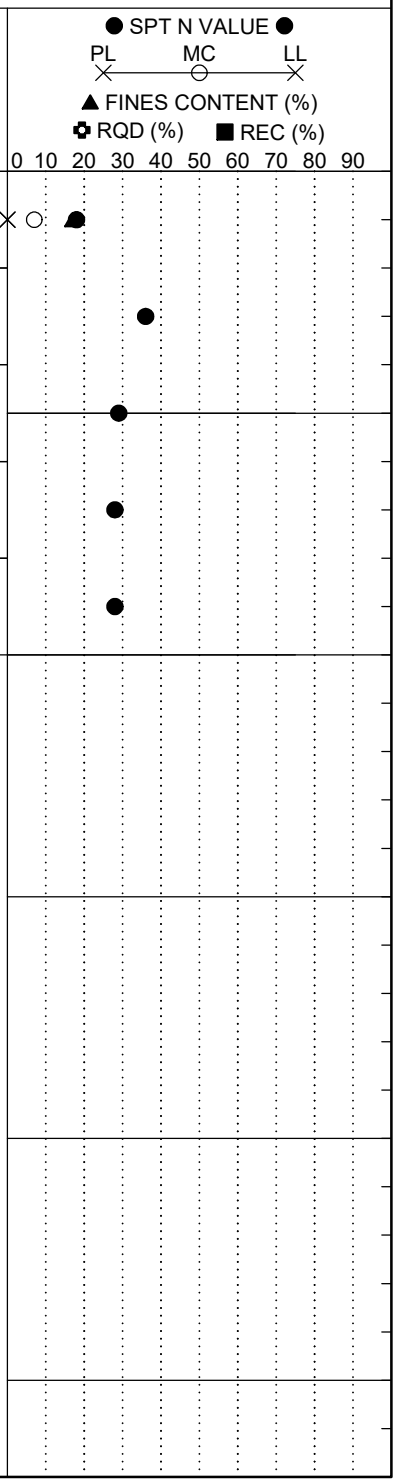
SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB-27
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1787+37.69	**Offset:**	30.0
Alignment:	Proposed				
Elev.:	496.7 ft	**Latitude:**	34.20610494	**Longitude:**	-80.98464231
Date Started:	9/20/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/20/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE **24HR** N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.
		FILL - medium dense, dry to moist, very dark grayish brown, Silty fine to coarse SAND (SM), little low plasticity fines, few fine to coarse crushed stone, trace organics, trace mica, 2.5Y3/2.
		@0.5 feet - dark yellowish brown and light yellowish brown, fine to medium (A-2-4), little nonplastic fines, absent organics, absent mica, absent crushed stone, 2.5Y6/4, 10YR4/4. LL=NP, PL=NP, PI=NP, NMC=7%, %#200=17
491.7		
	6.0	
		@2 feet - dense, yellowish brown and light yellowish brown, 10YR5/6, 2.5Y6/4.
	8.5	@4 feet - medium dense.
	10.0	**COASTAL PLAIN** - medium dense, moist, mottled light gray, yellowish brown and yellowish red, Clayey fine to medium SAND (SC), some medium plasticity fines, trace mica, 10YR7/1, 10YR5/8, 5YR5/8.
486.7		
		Very stiff, dry, mottled white, yellowish brown and red, Sandy SILT (ML), some fine to medium sands, trace mica, 10YR8/1, 10YR5/8, 10R4/8.
		Boring Terminated at 10 feet.
481.7		
476.7		
471.7		

Graphic Log

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	6	8	10	15	18
2.0	SS-2	13	16	20	21	36
4.0	SS-3	16	15	14	17	29
6.0	SS-4	8	12	16	28	28
8.0	SS-5	8	12	16	21	28



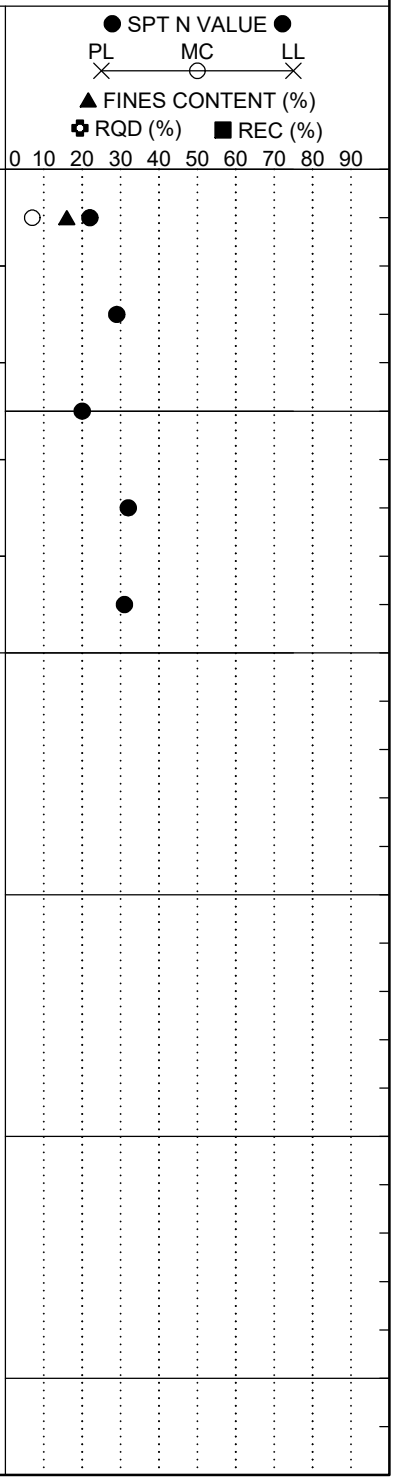
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB-28
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1792+36.67	**Offset:**	83.9
Alignment:	Proposed				
Elev.:	500.5 ft	**Latitude:**	34.20741857	**Longitude:**	-80.9841372
Date Started:	9/17/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/17/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE
24HR	N/A				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	5	11	11	12	22
	0.4	**SURFACE MATERIAL** - TOPSOIL - 5 inches.	2.0	SS-2	15	14	15	14	29
		FILL - medium dense, dry to moist, dark grayish brown and light olive brown, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, trace fine to coarse crushed stone, 2.5Y4/2, 2.5Y5/4. NMC=7%, %#200=16	4.0	SS-3	6	8	12	17	20
495.5	4.0	@2 feet - light olive brown, absent crushed stone, 2.5Y5/4.	6.0	SS-4	8	14	18	23	32
		COASTAL PLAIN - medium dense, dry to moist, mottled brownish yellow, white and yellowish red, Clayey fine to medium SAND (SC), some medium plasticity fines, 10YR6/8, 10YR8/1, 5YR5/8.	8.0	SS-5	11	12	19	40	31
490.5	10.0	@6 feet - dense, red with brownish yellow and white mottles, 2.5YR4/8, 10YR6/8, 10YR8/1.							
		@8 feet - dry, mottled light red, white and yellow, 2.5YR6/8, 10YR7/1, 10YR6/8.							
		Boring Terminated at 10 feet.							
485.5									
480.5									
475.5									



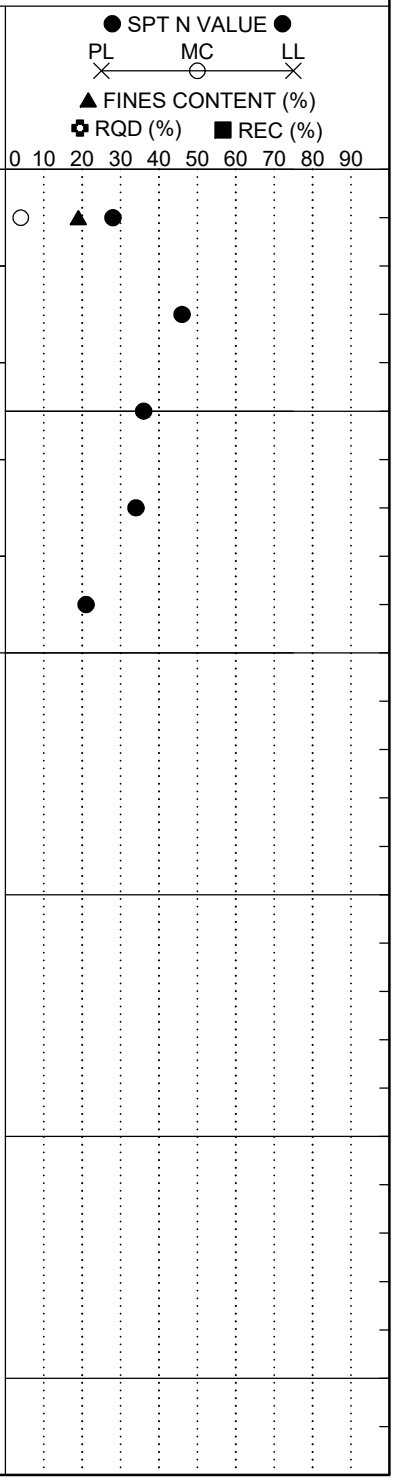
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB-29
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1797+69.95	**Offset:**	30.8
Alignment:	Proposed				
Elev.:	504.0 ft	**Latitude:**	34.20888339	**Longitude:**	-80.98395597
Date Started:	9/20/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/20/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE
24HR	N/A				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	10	12	16	22	28
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.							
		FILL - medium dense, dry, dark olive brown, Silty fine to coarse SAND (SM), little low plasticity fines, few fine to coarse crushed stone, trace organics, trace mica, 2.5Y3/3.	2.0	SS-2	27	20	26	24	46
		@0.5 feet - dry to moist, light olive brown and pale brown, (A-2-4), 2.5Y5/6, 2.5Y7/4. NMC=4%, %#200=19	4.0	SS-3	15	17	19	15	36
499.0	6.0	@2 feet - dense, moist, yellow, 10YR7/8.	6.0	SS-4	8	19	15	18	34
	8.0	**COASTAL PLAIN** - dense, moist, mottled yellow, light gray and red, Clayey fine to medium SAND (SC), some medium plasticity fines, trace mica, 10YR8/8, 10YR8/1, 2.5YR5/8.	8.0	SS-5	8	7	14	21	21
494.0	10.0	Medium dense, dry to moist, mottled white, yellow and reddish yellow, Silty fine to medium SAND (SM), some low plasticity fines, trace mica, 10YR8/8, 10YR8/1, 7.5YR6/8.							
		Boring Terminated at 10 feet.							
489.0									
484.0									
479.0									



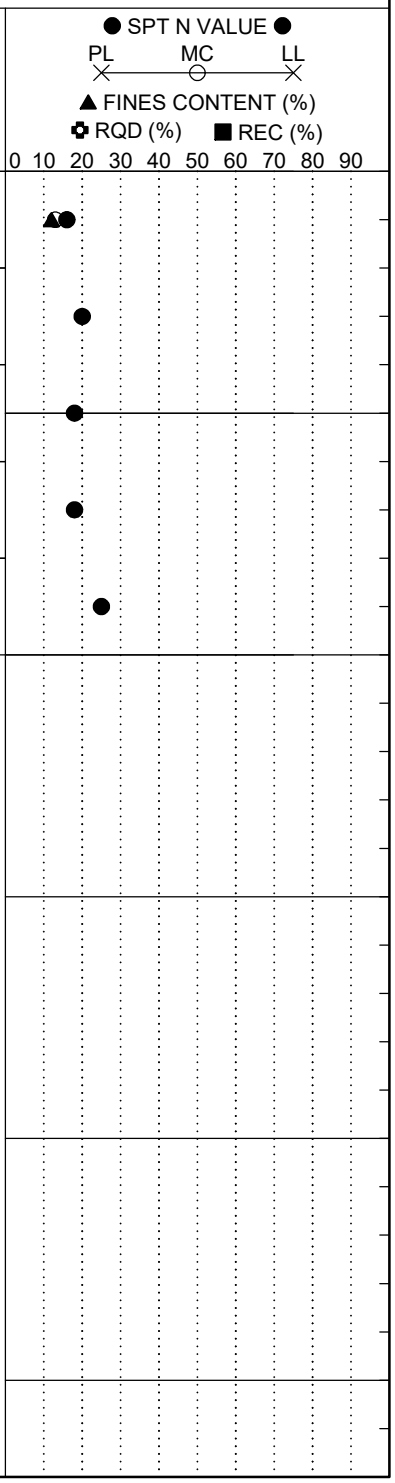
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB-30
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1803+73.26	**Offset:**	83.7
Alignment:	Proposed				
Elev.:	510.9 ft	**Latitude:**	34.21050073	**Longitude:**	-80.9834262
Date Started:	9/13/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/13/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE
24HR	N/A				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	5	8	8	9	16
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.	2.0	SS-2	8	9	11	13	20
	2.0	**FILL** - medium dense, dry to moist, light olive brown, Poorly Graded fine to medium SAND with Silt (SP-SM), few low plasticity fines, trace fine to coarse crushed stone, 10YR5/4. NMC=13%, %#200=12	4.0	SS-3	8	9	9	10	18
505.9	4.0	Medium dense, dry to moist, light olive brown, Silty fine to medium SAND (SM), some low plasticity fines, 10YR5/6.	6.0	SS-4	5	6	12	12	18
	6.0	Medium dense, dry to moist, light olive brown, Poorly Graded fine to medium SAND with Silt (SP-SM), few low plasticity fines, trace mica, 10YR5/4.	8.0	SS-5	8	11	14	14	25
500.9	8.0	**COASTAL PLAIN** - medium dense, moist, mottled brownish yellow and very pale brown, Clayey fine to medium SAND (SC), some medium plasticity fines, 10YR6/7, 10YR7/3.							
	10.0	Medium dense, moist, mottled yellow, white and reddish yellow, Silty fine to medium SAND (SM), some low plasticity fines, micaceous, 10YR7/8, 10YR8/1, 7.5YR7/8.							
495.9		Boring Terminated at 10 feet.							
490.9									
485.9									



LEGEND

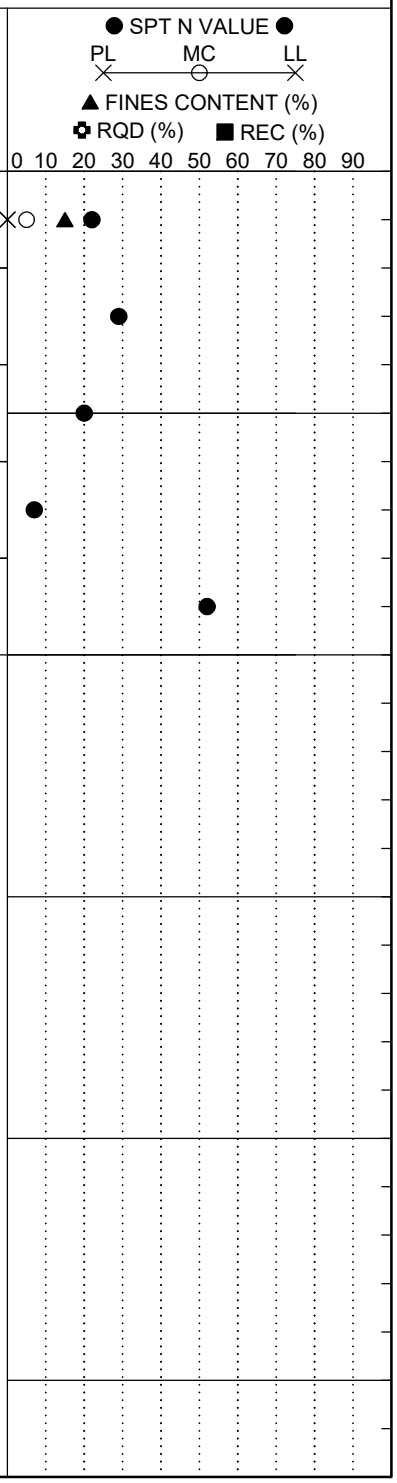
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB-31
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1807+63.71	**Offset:**	29.3
Alignment:	Proposed				
Elev.:	511.1 ft	**Latitude:**	34.21159341	**Longitude:**	-80.98347699
Date Started:	9/20/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/20/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** 6 ft
24HR	N/A				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.
	2.0	**FILL** - medium dense, dry to moist, dark olive brown, Silty fine to coarse SAND (SM), little low plasticity fines, few fine to coarse crushed stone, trace organics, trace mica, 2.5Y3/3. LL=NP, PL=NP, PI=NP, NMC=5%, %#200=15
506.1		**COASTAL PLAIN** - medium dense, dry to moist, mottled strong brown, yellow and pale brown, Silty fine to medium SAND (SM), some low plasticity fines, micaceous, 7.5YR5/8, 2,5Y8/8, 2.5Y8/4.
		@4 feet - mottled white, pale brown and light olive brown, 2.5Y8/1, 2.5Y8/4, 2.5Y5/3.
		@6 feet - loose, moist to wet, yellow, absent mica, 10YR7/6.
501.1	10.0	@7 feet - dry, mottled yellow and white, 10YR7/8, 10YR8/1.
		@8 feet - very dense, moist, yellowish red, 5YR5/8.
		Boring Terminated at 10 feet.
496.1		
491.1		
486.1		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	7	9	13	15	22
2.0	SS-2	15	13	16	14	29
4.0	SS-3	9	9	11	9	20
6.0	SS-4	5	2	5	9	7
8.0	SS-5	4	19	33	29	52



LEGEND

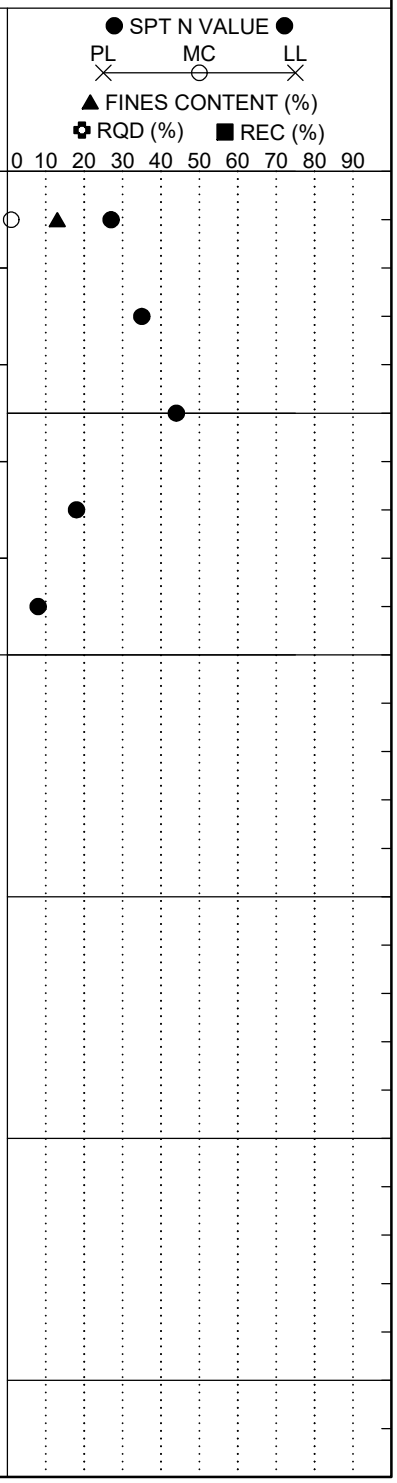
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	NB-32
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77N
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1812+38.20	**Offset:**	84.1
Alignment:	Proposed				
Elev.:	516.2 ft	**Latitude:**	34.21290585	**Longitude:**	-80.98325907
Date Started:	9/18/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/18/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** 9 ft
24HR	N/A				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 4 inches.
	0.5	**FILL** - medium dense, dry to moist, olive brown, strong brown and white, Poorly Graded fine to medium SAND with Silt (SP-SM), few low plasticity fines, trace fine to coarse crushed stone, micaceous, 2.5Y4/3, 7.5YR5/8, 7.5YR8/1.
511.2		**COASTAL PLAIN** - medium dense, dry to moist, strong brown and white, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, micaceous, 7.5YR5/8, 7.5YR8/1. NMC=1%, %#200=13
		@2 feet - dense.
		@6 feet - medium dense, strong brown and brownish yellow, some low plasticity fines, micaceous, 7.5YR5/8, 10YR6/6.
506.2	10.0	@8 feet - loose, moist to wet, strong brown, 7.5YR5/8.
		Boring Terminated at 10 feet.
501.2		
496.2		
491.2		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	5	13	14	14	27
2.0	SS-2	15	16	19	22	35
4.0	SS-3	18	22	22	20	44
6.0	SS-4	9	8	10	10	18
8.0	SS-5	4	4	4	6	8



LEGEND

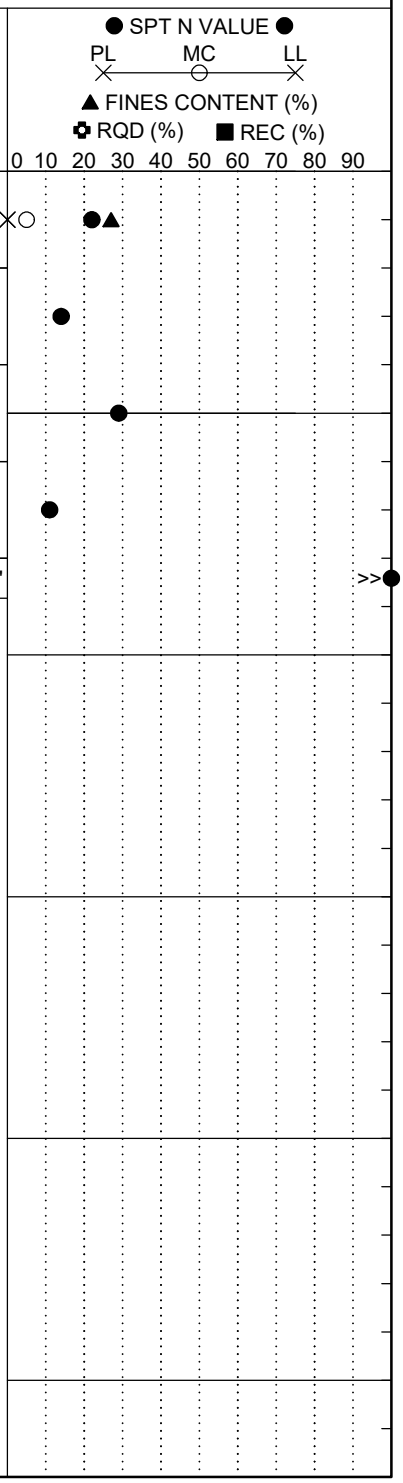
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	R- 1		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp D		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1722+83.56	**Offset:**	-6.6	**Alignment:**	Proposed
Elev.:	448.3 ft	**Latitude:**	34.189007488	**Longitude:**	-80.981931656	**Date Started:**	10/2/2023
Total Depth:	8.8 ft	**Soil Depth:**	8.8 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/2/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** NE	**24HR**	NE

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.
	2.0	**COASTAL PLAIN** - medium dense, dry, very pale brown to light gray, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, trace roots, 10YR7/3 to 10YR7/2. LL=NP, PL=NP, PI=NP, NMC=5%, %#200=27
443.3		Medium dense, dry to moist, mottled very pale brown, strong brown and yellowish red, Clayey fine to coarse SAND (SC), some medium plasticity fines, 10YR7/3, 7.5YR5/8, 5YR5/8.
	6.0	
	8.0	@4 feet - mottled yellowish red, strong brown and light gray, 5YR5/8, 7.5YR5/8, 10YR7/1.
	8.8	
438.3		Stiff, dry, white with yellow mottles, Lean CLAY (CL), few fine to medium sands, 10YR8/1, 10YR7/6.
		Very hard, dry, white with yellow and yellowish red, SILT (ML), few fine to medium sands, 10YR8/1, 5YR5/8, 10YR7/6.
		Boring Terminated at 8.8 feet.
433.3		
428.3		
423.3		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	10	13	9	7	22
2.0	SS-2	4	6	8	11	14
4.0	SS-3	13	11	18	20	29
6.0	SS-4	3	5	6	19	11
8.0	SS-5	35	50/4"			50/4"



LEGEND

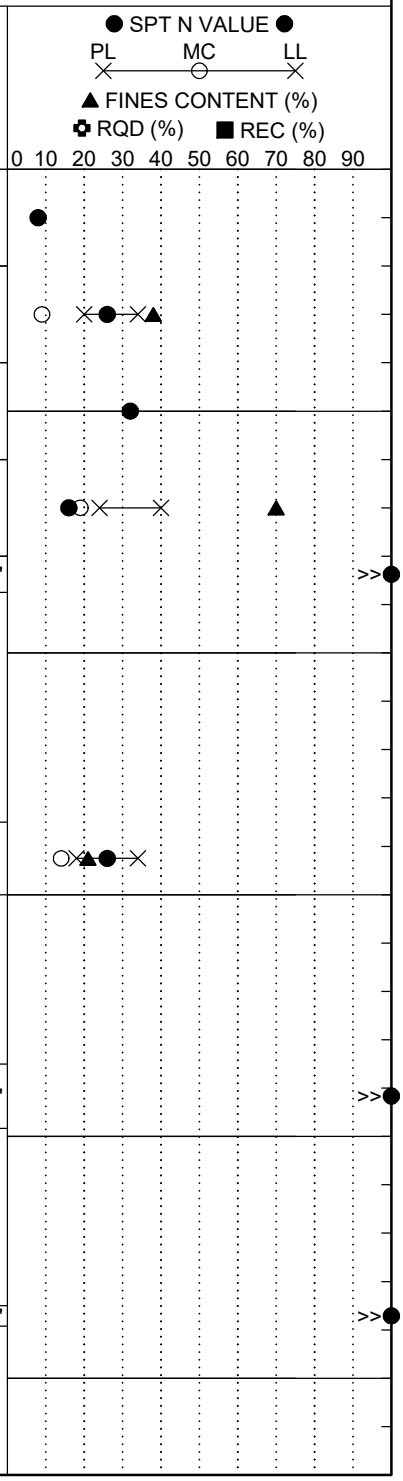
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	R- 2		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp D		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1728+23.75	**Offset:**	18.6	**Alignment:**	Proposed
Elev.:	451.1 ft	**Latitude:**	34.190458998	**Longitude:**	-80.981540603	**Date Started:**	9/29/2023
Total Depth:	35 ft	**Soil Depth:**	35 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/29/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	14.1 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.
	2.0	**COASTAL PLAIN** - loose, dry, very pale brown to grayish brown, Silty fine to coarse SAND (SM), some low plasticity fines, trace organics, 10YR7/3 to 10YR5/2.
446.1	6.0	Medium dense, dry, mottled very pale brown, strong brown and gray, Clayey fine to coarse SAND (SC) (A-6(1)), some medium plasticity fines, 10YR7/3, 7.5YR5/8, 10YR6/1. LL=34, PL=20, PI=14, NMC=9%, %#200=38 @4 feet - dense, mottled yellowish brown, light gray and pale red, 10YR5/8, 10YR7/1, 10R6/4.
441.1		Very stiff, dry to moist, mottled light gray, yellowish brown and red, Lean CLAY with Sand (CL) (A-6(10)), little fine to medium sands, 10YR7/1, 10YR5/8, 2.5YR4/8. LL=40, PL=24, PI=16, NMC=19%, %#200=70 @8 feet - very hard, slightly cemented.
436.1	13.5	▼Medium dense, moist, light gray to white, Clayey fine to medium SAND (SC) (A-2-6(0)), little medium plasticity fines, trace fine gravel, 10YR7/1, 10YR8/1. LL=34, PL=18, PI=16, NMC=14%, %#200=21
431.1	18.5	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, laminated brownish yellow and very pale brown, SILT (ML), trace fine sands, relict rock structure, 10YR6/6 to 10YR6/8, 10YR8/3.
426.1	23.5	@23.5 feet - laminated brownish yellow to yellowish brown and white, few fine to coarse sands, 10YR6/8 to 10YR5/8, 10YR8/1.

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	2	3	5	6	8
2.0	SS-2	11	13	13	18	26
4.0	SS-3	11	15	17	15	32
6.0	SS-4	4	6	10	17	16
8.0	SS-5	20	50/3"			50/3"
13.5	SS-6	11	11	15		26
18.5	SS-7	13	27	50/4"		50/4"
23.5	SS-8	50/5"				50/5"



LEGEND

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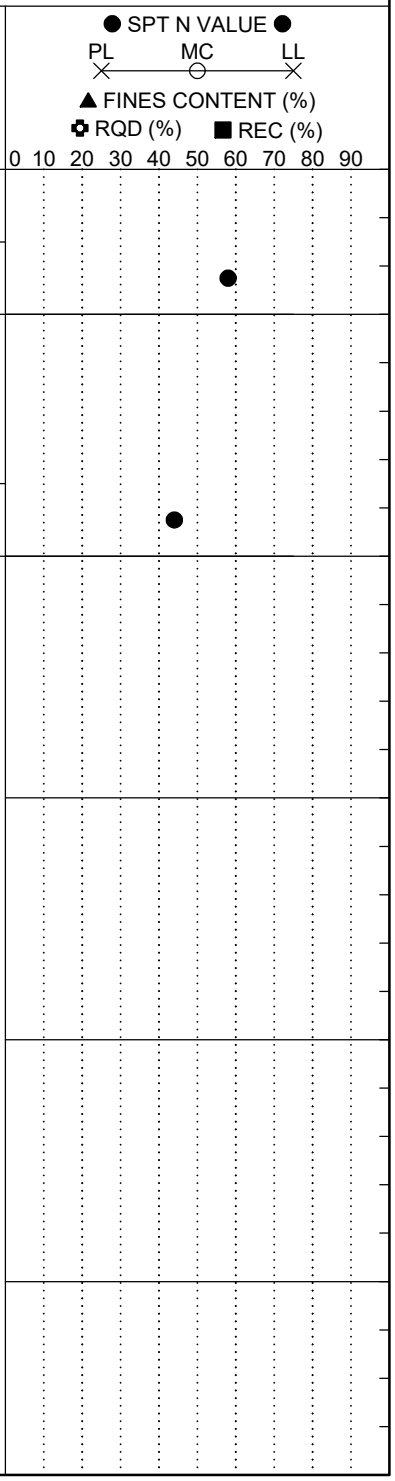
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	R- 2
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp D
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1728+23.75	**Offset:**	18.6
Alignment:	Proposed				
Elev.:	451.1 ft	**Latitude:**	34.190458998	**Longitude:**	-80.981540603
Date Started:	9/29/2023				
Total Depth:	35 ft	**Soil Depth:**	35 ft	**Core Depth:**	N/A ft
Date Completed:	9/29/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	87.6%				
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A
24HR	14.1 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	28.5			28.5						
421.1		**PIEDMONT RESIDUUM** - very hard, dry, laminated yellowish brown and brownish yellow, SILT (ML), trace fine to medium sands, relict rock structure, 10YR5/8, 10YR6/8.			SS-9	20	22	36		58
				33.5						
416.1	35.0	@33.5 feet - hard, laminated yellowish brown and dark reddish gray, trace fine to coarse sands, trace fine rock fragments, 10YR5/8, 5R4/1.			SS-10	8	20	24		44
		Boring Terminated at 35 feet.								
411.1										
406.1										
401.1										



LEGEND

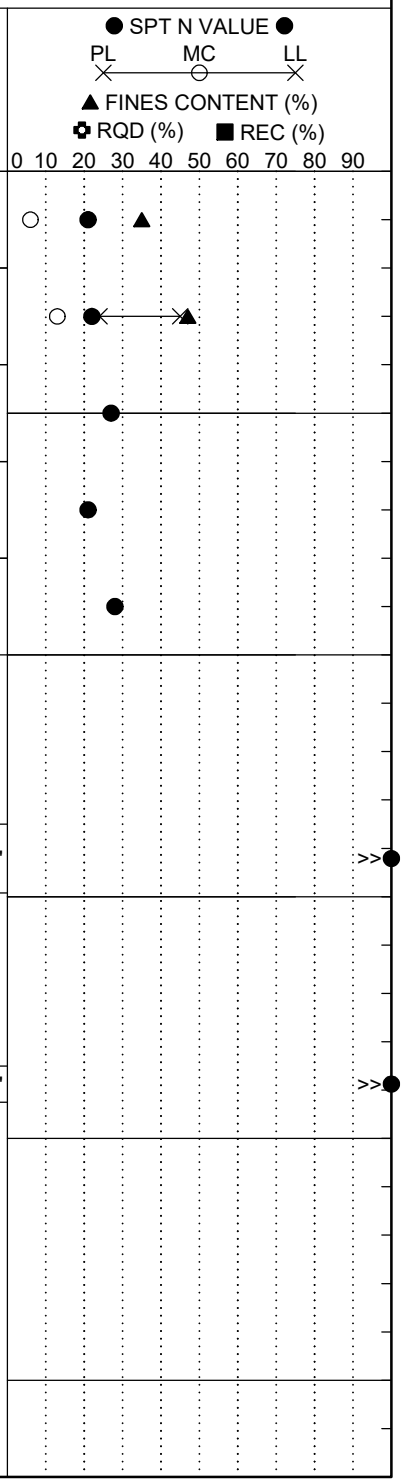
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	R- 3		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp A		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1735+42.63	**Offset:**	-7.9	**Alignment:**	Proposed
Elev.:	458.6 ft	**Latitude:**	34.192906251	**Longitude:**	-80.982219458	**Date Started:**	9/22/2023
Total Depth:	19.3 ft	**Soil Depth:**	19.3 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/22/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-750X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81.6%
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** N/A	**24HR**	NE

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.1	**SURFACE MATERIAL** - TOPSOIL - 1 inch.
	2.0	**COASTAL PLAIN** - medium dense, dry, pale brown to light yellowish brown, Silty fine to medium SAND (SM) (A-2-4), some low plasticity fines, trace roots, 10YR6/3 to 10YR6/4. NMC=6%, %#200=35
453.6		Medium dense, dry, mottled brownish yellow and gray, Clayey fine to medium SAND (SC) (A-7-6(6)), some medium plasticity fines, few roots, 10YR6/6, 10YR6/1. LL=45, PL=24, PI=21, NMC=13%, %#200=47
		@4 feet - mottled gray and brownish yellow, fine to coarse, 10YR6/1, 10YR6/6.
		@6 feet - moist, light gray with brownish yellow mottled, trace fine gravel, 10YR7/1, 10YR6/6.
448.6		@8 feet - mottled gray, red and brownish yellow, 10YR7/1, 10YR5/6, 10YR6/6.
	13.5	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, laminated brownish yellow and very pale brown, SILT (ML), trace fine sands, relict rock structure, 10YR6/8, 10YR7/3.
443.6		
	19.3	@18.5 feet - laminated weak red and brownish yellow, 10R5/4, 10YR6/8.
438.6		Boring Terminated at 19.3 feet.
433.6		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	7	11	10	9	21
2.0	SS-2	7	10	12	15	22
4.0	SS-3	13	13	14	14	27
6.0	SS-4	4	7	14	11	21
8.0	SS-5	7	14	14	10	28
13.5	SS-6	20	35	50/5"		50/5"
18.5	SS-7	43	50/3"			50/3"



LEGEND

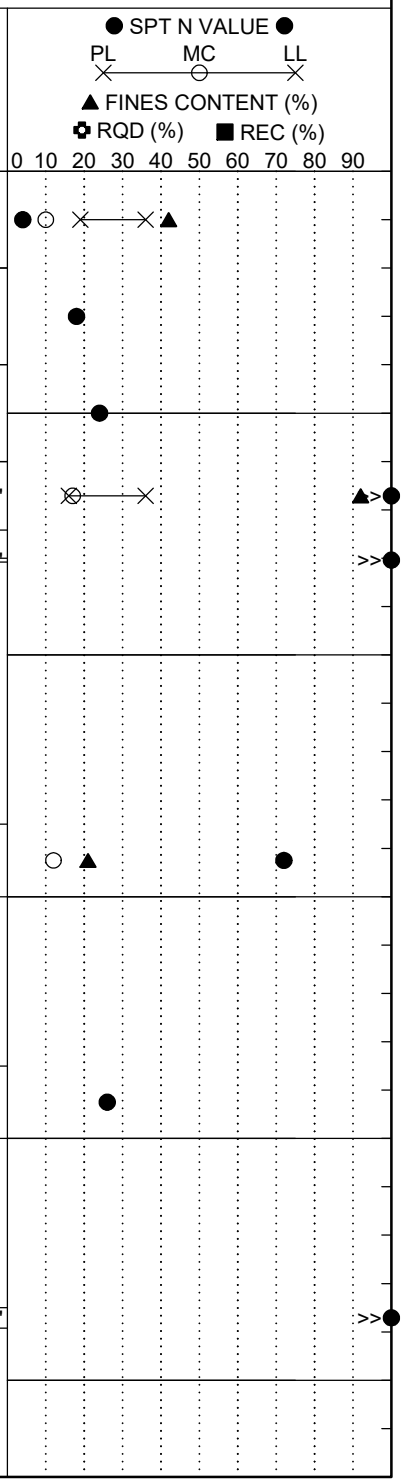
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	R- 4
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp A
Eng./Geo.:	H. Skerkis	**Boring Location:**	1740+35.3	**Offset:**	-21.3
Alignment:	Proposed				
Elev.:	465.3 ft	**Latitude:**	34.193778079	**Longitude:**	-80.98345533
Date Started:	10/4/2023				
Total Depth:	38.6 ft	**Soil Depth:**	38.6 ft	**Core Depth:**	N/A ft
Date Completed:	10/4/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	87.6%				
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A
24HR	16.3 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.
		COASTAL PLAIN - very loose, dry to moist, brownish yellow, Clayey fine to medium SAND (SC) (A-6(3)), some medium plasticity fines, trace organics, 10YR6/8. LL=36, PL=19, PI=17, NMC=10%, %#200=42
460.3	5.5	@2 feet - medium dense, brownish yellow and yellowish brown, fine to coarse, 10YR6/8, 10YR5/8.
		@4 feet - mottled strong brown, yellowish red and light brown, few fine gravel, 7.5YR5/8, 5YR5/8, 7.5YR6/4.
	8.0	Very stiff, moist, pale brown, Lean CLAY (CL), few fine to medium sands, 10YR8/4.
455.3		@6 feet - very hard, mottled very pale brown, yellow and strong brown, (A-6(18)), 10YR8/3, 10YR7/8, 7.5YR4/6. LL=36, PL=16, PI=20, NMC=17%, %#200=92
		Very dense, dry to moist, mottled very pale brown, yellow and strong brown, Silty fine to medium SAND (SM), some low plasticity fines, 10YR8/3, 10YR7/8, 7.5YR4/6.
450.3		@13.5 feet - moist, white and very pale brown, (A-2-4), little low plasticity fines, 10YR8/1, 10YR8/3. NMC=12%, %#200=21
	19.5	@18.5 feet - medium dense, moist to wet, few fine gravel.
445.3		**PIEDMONT RESIDUUM** - very stiff, moist, yellow, Lean CLAY with Sand (CL), little fine to medium sands, 10YR8/6, 10YR8/8.
	23.5	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, moist, laminated very pale brown, white and yellow, Sandy SILT (ML), some fine to medium sands, 10YR7/3, 10YR8/1, 10YR8/6.
440.3		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	1	1	3	6	4
2.0	SS-2	5	7	11	11	18
4.0	SS-3	10	16	8	6	24
6.0	SS-4	5	13	50/5"		50/5"
8.0	SS-5	50/1"				50/1"
13.5	SS-6	34	36	36		72
18.5	SS-7	16	16	10		26
23.5	SS-8	50/5"				50/5"



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	R- 4
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp A
Eng./Geo.:	H. Skerkis	**Boring Location:**	1740+35.3	**Offset:**	-21.3
Alignment:	Proposed				
Elev.:	465.3 ft	**Latitude:**	34.193778079	**Longitude:**	-80.98345533
Date Started:	10/4/2023				
Total Depth:	38.6 ft	**Soil Depth:**	38.6 ft	**Core Depth:**	N/A ft
Date Completed:	10/4/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	87.6%				
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A
24HR	16.3 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	28.5	Very hard, moist, laminated light gray, white and yellow, Sandy Lean CLAY (CL), some fine to coarse sands, 10YR7/1, 10YR8/1, 10YR7/8.		28.5	SS-9	50/3"				50/3"
435.3				33.5	SS-10	50/5"				50/5"
430.3										
	38.6	Boring Terminated at 38.6 feet.		38.5	SS-11	50/1"				50/1"
425.3										
420.3										
415.3										

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

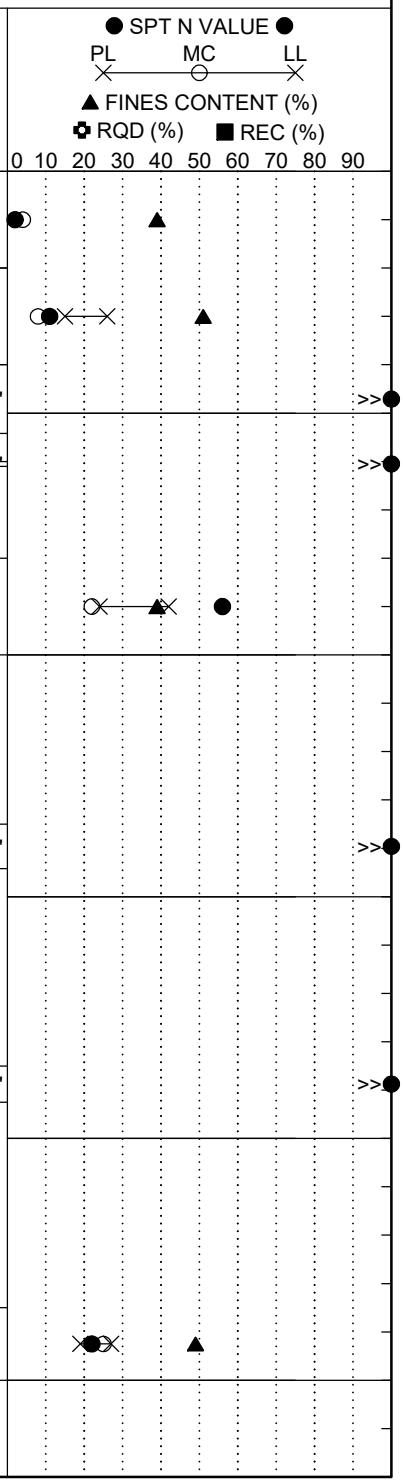
SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	R- 5		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp A		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1745+27.56	**Offset:**	22.7	**Alignment:**	Proposed
Elev.:	456.3 ft	**Latitude:**	34.194879039	**Longitude:**	-80.984399067	**Date Started:**	10/3/2023
Total Depth:	33.8 ft	**Soil Depth:**	33.8 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/3/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	17.6 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.
	2.0	**COASTAL PLAIN** - very loose, dry, light brownish gray to grayish brown, Silty fine to medium SAND (SM), some low plasticity fines, trace roots, trace organics, 10YR6/2 to 10YR5/2. NMC=4%, %#200=39
	4.0	Stiff, dry, mottled very pale brown, strong brown and yellowish red, Sandy Lean CLAY (CL) (A-6(2)), some fine to medium sands, trace roots, 10YR7/4, 7.5YR5/8, 5YR5/8. LL=26, PL=15, PI=11, NMC=8%, %#200=51
451.3		
	8.0	Very hard, dry, stratified gray, white and yellow, Lean CLAY (CL), few fine to medium sands, slightly cemented, 10YR6/1, 10YR8/1, 10YR7/6.
446.3		@6 feet - No Recovery.
	13.5	**PIEDMONT RESIDUUM** - very dense, laminated white and pale yellow, Clayey fine to medium SAND (SC) (A-7-6(3)), some medium plasticity fines, relict rock structure, 5Y8/1, 5Y8/2. LL=42, PL=24, PI=18, NMC=22%, %#200=39
441.3		**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, laminated white and pale yellow, SILT (ML), few fine to coarse sands, relict rock structure, 5Y8/1, 5Y8/2.
		@18.5 feet - laminated pale yellow and white, 5Y8/2, 5Y8/1.
436.3		
	23.5	**PIEDMONT RESIDUUM** - medium dense, dry, laminated white and pale yellow, Clayey fine SAND (SC) (A-4(1)), some medium plasticity fines, relict rock structure, 5Y8/1, 5Y8/2. LL=27, PL=19, PI=8, NMC=25%, %#200=49
431.3		

Graphic Log

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	1	1	1	4	2
2.0	SS-2	4	6	5	5	11
4.0	SS-3	7	9	50/5"		50/5"
6.0	~~SS-4~~	~~50/0"~~				~~50/0"~~
8.0	SS-5	17	27	29	33	56
13.5	SS-6	21	50/5"			50/5"
18.5	SS-7	25	50/3"			50/3"
23.5	SS-8	14	12	10		22



LEGEND

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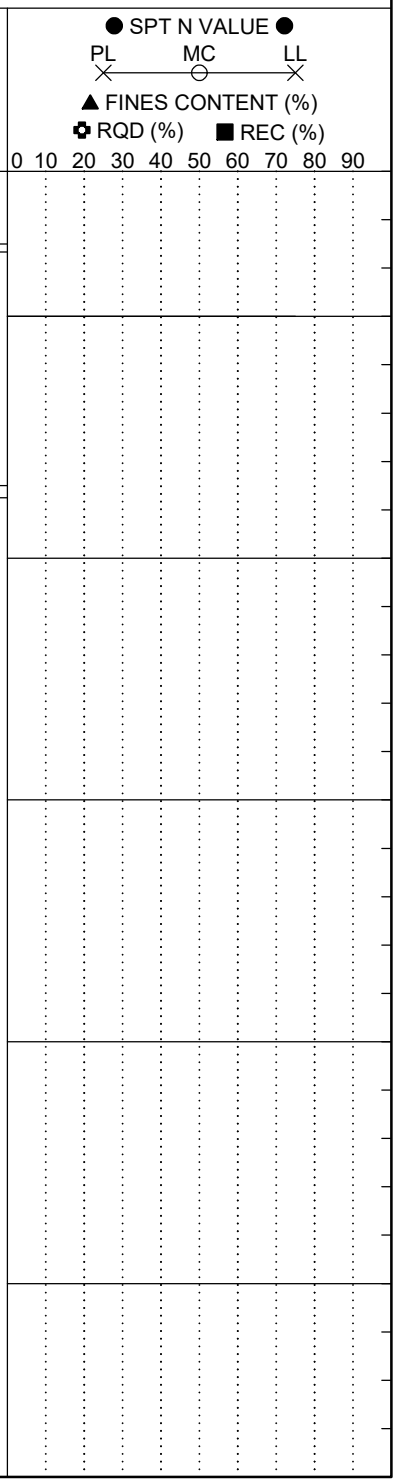
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	R- 5		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp A		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1745+27.56	**Offset:**	22.7	**Alignment:**	Proposed
Elev.:	456.3 ft	**Latitude:**	34.194879039	**Longitude:**	-80.984399067	**Date Started:**	10/3/2023
Total Depth:	33.8 ft	**Soil Depth:**	33.8 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/3/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	17.6 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	28.5	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, laminated white and yellow, SILT with Sand (ML), little fine to coarse sands, quartz vein fragments, relict rock structure, 10YR8/1, 10YR7/6.		28.5	SS-9	50/2"				
426.3										
	33.8	@33.5 feet - laminated white and yellowish brown, 10YR8/1, 10YR5/8.		33.5	SS-10	50/3"				
421.3		Boring Terminated at 33.8 feet.								
416.3										
411.3										
406.3										



LEGEND

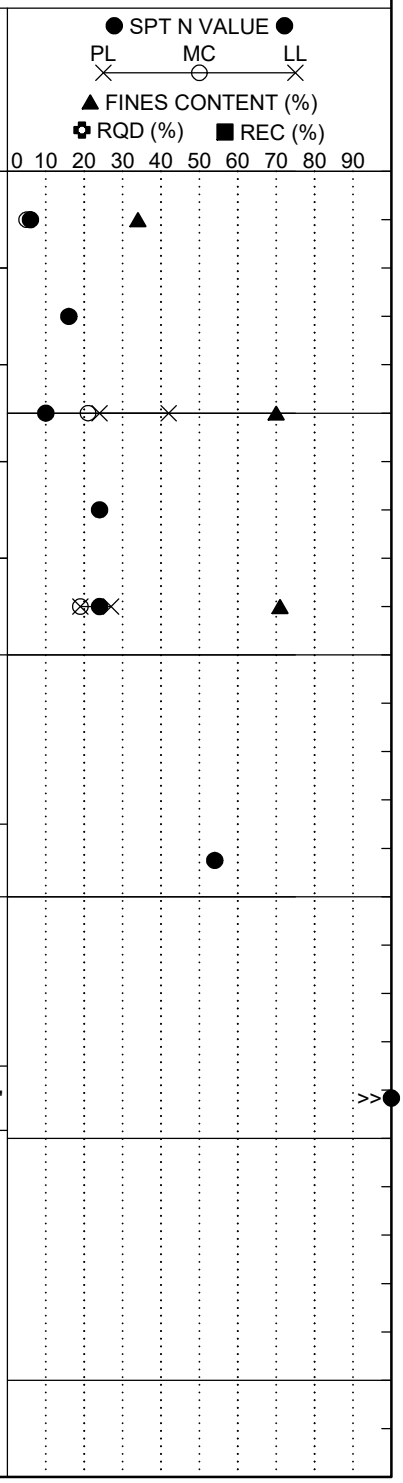
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland			**Boring No.:**	R- 6
Site Description:	I-77 Exit 26 - Roadways					**Route:**	Loop A
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1739+54.94	**Offset:**	-2.2	**Alignment:**	Proposed
Elev.:	463.2 ft	**Latitude:**	34.192650666	**Longitude:**	-80.982509012	**Date Started:**	10/6/2023
Total Depth:	19.8 ft	**Soil Depth:**	19.8 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/6/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	12.6 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.1	**SURFACE MATERIAL** - TOPSOIL - 1 inch.
	2.0	**COASTAL PLAIN** - loose, dry, very pale brown and brown, Silty fine to medium SAND (SM) (A-2-4), some low plasticity fines, trace roots, 10YR7/3, 10YR5/3. NMC=5%, %#200=34
458.2		Very stiff, dry, light yellowish brown to yellowish brown and yellowish red, Sandy Lean CLAY (CL), some fine to coarse sands, 10YR6/4 to 10YR5/4, 5YR5/8.
	6.0	@4 feet - stiff, moist, light gray with yellowish brown to red mottles, (A-7-6(12)), some fine to medium sands, 10YR7/1, 10YR6/6, 2.5YR4/8. LL=42, PL=24, PI=18, NMC=21%, %#200=70
	8.0	
453.2		Very stiff, dry, light gray with red and yellow mottles, Lean CLAY (CL), trace fine sands, 10YR7/1, 2.5YR4/8, 10YR7/6.
		Very stiff, dry, slightly laminated light gray, red and yellow, Lean CLAY with Sand (CL) (A-4(4)), little fine to coarse sands, 10YR7/1, 2.5YR5/8, 10YR7/6. LL=27, PL=19, PI=8, NMC=19%, %#200=71
	13.5	
448.2		Very dense, moist, mottled light gray, reddish yellow and pale brown, Silty fine to medium SAND (SM), some low plasticity fines, 10YR7/1, 7.5YR7/8, 10YR6/3.
	18.5	
	19.8	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, laminated white to light gray with yellow mottles, SILT (ML), trace fine to medium sands, relict rock structure, 10YR8/1 to 10YR7/1, 10YR7/8.
443.2		Boring Terminated at 19.8 feet.
438.2		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	2	3	3	5	6
2.0	SS-2	7	7	9	12	16
4.0	SS-3	4	5	5	6	10
6.0	SS-4	5	11	13	16	24
8.0	SS-5	4	9	15	17	24
13.5	SS-6	9	24	30		54
18.5	SS-7	13	34	50/4"		50/4"



LEGEND

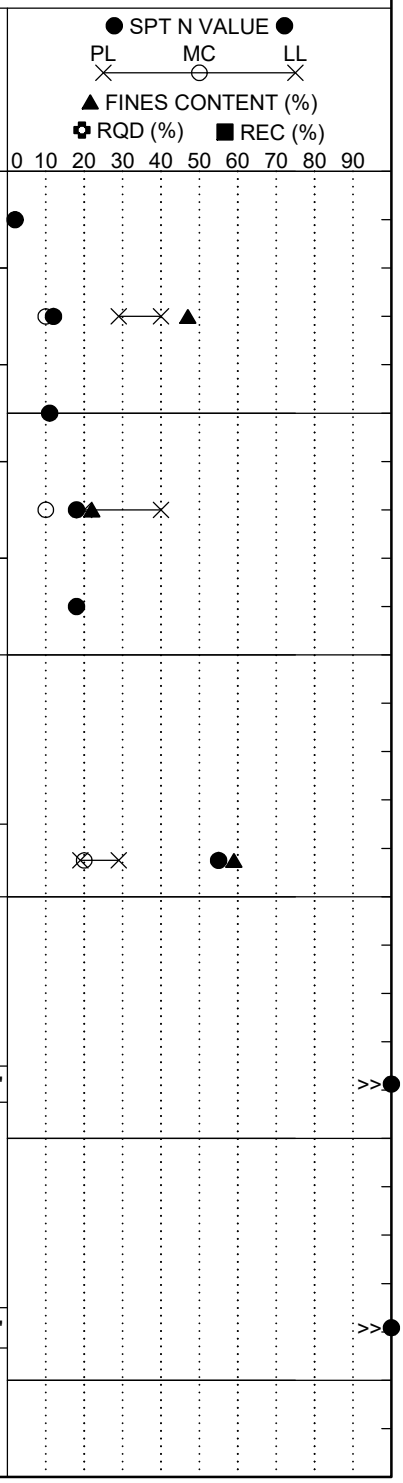
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	R- 7		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Loop A		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1744+16.42	**Offset:**	1.1	**Alignment:**	Proposed
Elev.:	453.5 ft	**Latitude:**	34.191612792	**Longitude:**	-80.982564052	**Date Started:**	10/2/2023
Total Depth:	39.9 ft	**Soil Depth:**	39.9 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/2/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	13.1 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 4 inches.
	2.0	**COASTAL PLAIN** - very loose, moist, gray to grayish brown, Clayey fine to coarse SAND (SC), some medium plasticity fines, few organics, 10YR6/1 to 10YR5/2.
	4.0	Medium dense, moist, gray with yellowish brown mottles, Silty fine to medium SAND (SM) (A-6(3)), some low plasticity fines, trace organics, 10YR6/1, 10YR5/8. LL=40, PL=29, PI=11, NMC=10%, %#200=47
448.5		
		Medium dense, moist, gray with yellowish brown mottles, Clayey fine to coarse SAND (SC), little medium plasticity fines, 10YR6/1, 10YR5/6 to 10YR5/8.
	9.0	@6 feet - (A-2-6(1)), trace fine to coarse quartz gravel. LL=40, PL=20, PI=20, NMC=10%, %#200=22
443.5		**PIEDMONT RESIDUUM** - very stiff, dry, laminated white and light gray, Sandy Lean CLAY (CL), some fine sands, relict rock structure, 5Y8/1, 5Y7/1.
		@13.5 feet - very hard, (A-4(3)). LL=29, PL=19, PI=10, NMC=20%, %#200=59
438.5		
	18.5	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, laminated white and light gray, SILT with Sand (ML), few fine to medium sands, relict rock structure, 5Y8/1, 5Y7/1.
433.5		
428.5		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	1	1	1	4	2
2.0	SS-2	3	7	5	4	12
4.0	SS-3	4	5	6	7	11
6.0	SS-4	4	8	10	12	18
8.0	SS-5	9	10	8	13	18
13.5	SS-6	13	25	30		55
18.5	SS-7	38	50/3"			50/3"
23.5	SS-8	35	50/4"			50/4"



LEGEND

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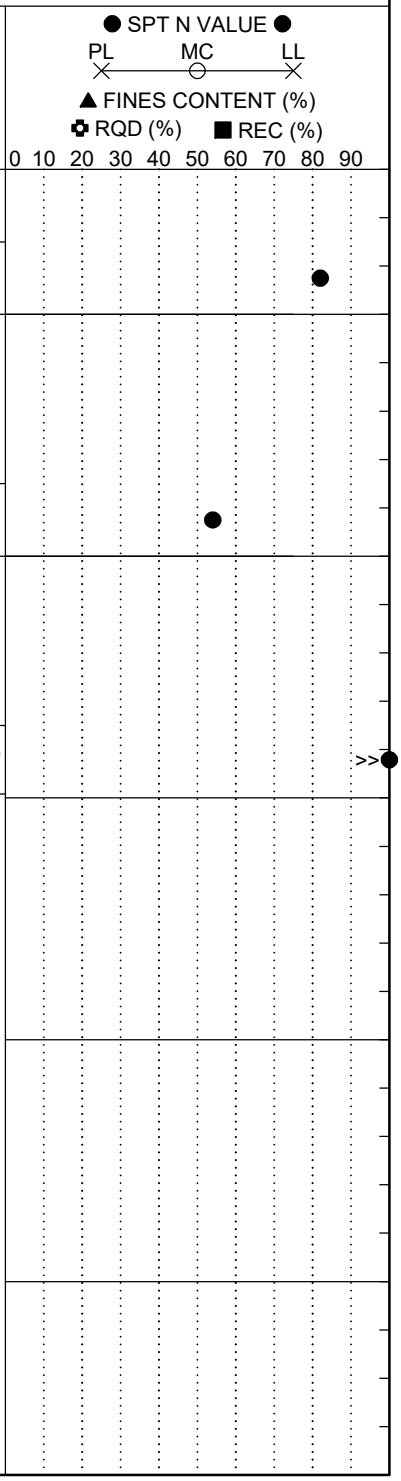
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	R- 7		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Loop A		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1744+16.42	**Offset:**	1.1	**Alignment:**	Proposed
Elev.:	453.5 ft	**Latitude:**	34.191612792	**Longitude:**	-80.982564052	**Date Started:**	10/2/2023
Total Depth:	39.9 ft	**Soil Depth:**	39.9 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/2/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	13.1 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	28.5			28.5						
423.5		**PIEDMONT RESIDUUM** - very hard, dry, laminated gray, light gray and white, SILT with Sand (ML), few fine sands, relict rock structure, 5Y5/1, 5Y7/1, 5Y8/1.			SS-9	24	39	43		82
	33.5			33.5						
418.5		Very hard, dry, laminated white, yellowish brown and light gray, SILT (ML), trace fine sands, relict rock structure, 10YR8/1, 10YR5/8, 5Y6/1.			SS-10	10	19	35		54
	38.5			38.5						
413.5	39.9	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, laminated white and yellowish brown, SILT (ML), trace fine sands, relict rock structure, 10YR8/1, 10YR5/6 to 10YR5/8.			SS-11	19	36	50/5"		50/5"
		Boring Terminated at 39.9 feet.								
408.5										
403.5										



LEGEND

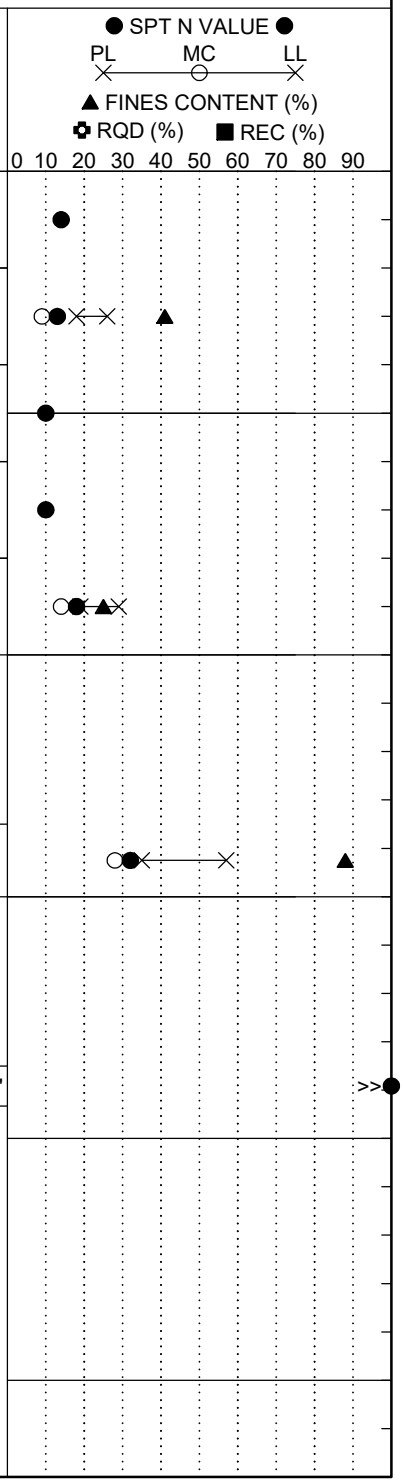
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	R- 8
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp BA
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1733+90.33	**Offset:**	-11.0
Alignment:	Proposed				
Elev.:	459.8 ft	**Latitude:**	34.192942451	**Longitude:**	-80.982531878
Date Started:	9/22/2023				
Total Depth:	19.3 ft	**Soil Depth:**	19.3 ft	**Core Depth:**	N/A ft
Date Completed:	9/22/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-750X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	81.6%				
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** N/A
24HR	12.2 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.
	0.5	**COASTAL PLAIN** - medium dense, dry, dark grayish brown to brown, Silty fine to medium SAND (SM), some low plasticity fines, trace roots, 10YR4/2 to 10YR5/3.
454.8		Medium dense, moist, brownish yellow and yellowish brown, Clayey fine to coarse SAND (SC), some medium plasticity fines, trace roots, 10YR6/8, 10YR5/8.
		@2 feet - mottled light gray and brownish yellow, (A-4(0)), 10YR7/1, 10YR6/8. LL=26, PL=18, PI=8, NMC=9%, %#200=41
		@4 feet - loose.
		@6 feet - trace fine gravel.
449.8		@8 feet - medium dense, light gray, very pale brown and yellow, (A-2-4), little medium plasticity fines, 10YR7/1, 10YR7/3, 10YR7/6. LL=29, PL=19, PI=10, NMC=14%, %#200=25
	13.5	**PIEDMONT RESIDUUM** - hard, dry, laminated very pale brown and brownish yellow, Elastic SILT with Sand (MH) (A-7-5(24)), little fine sands, relict rock structure, 10YR8/3, 10YR6/6 to 10YR6/8. LL=57, PL=35, PI=22, NMC=28%, %#200=88
444.8		
	18.5	
	19.3	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, laminated brownish yellow, pink and white, SILT (ML), trace fine sands, 10YR6/6 to 10YR6/8, 2.5YR8/3, 10YR8/1.
439.8		Boring Terminated at 19.3 feet.
434.8		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	3	10	4	5	14
2.0	SS-2	6	7	6	5	13
4.0	SS-3	3	4	6	6	10
6.0	SS-4	4	4	6	8	10
8.0	SS-5	4	7	11	16	18
13.5	SS-6	7	12	20		32
18.5	SS-7	37	50/4"			50/4"



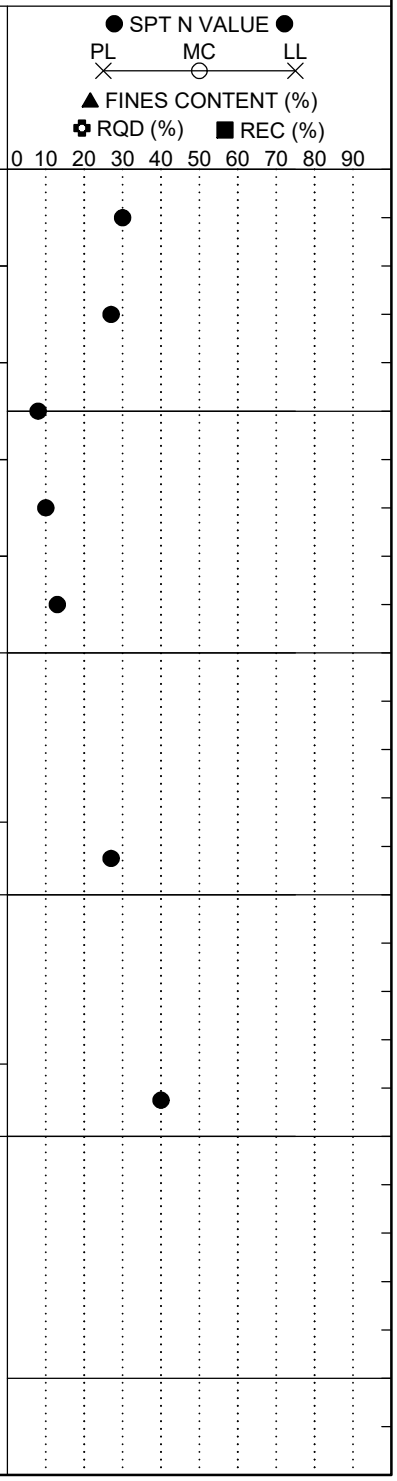
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	R- 9
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp BA
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1752+16.82	**Offset:**	45.2
Alignment:	Proposed				
Elev.:	440.1 ft	**Latitude:**	34.196524048	**Longitude:**	-80.98589425
Date Started:	10/26/2023				
Total Depth:	20 ft	**Soil Depth:**	20 ft	**Core Depth:**	N/A ft
Date Completed:	10/26/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	87.6%				
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A
24HR	17.4 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	7	15	15	14	30
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.							
	2.0	**FILL** - medium dense, dry, mottled reddish yellow, white and brownish yellow, Clayey fine to medium SAND (SC), some medium plasticity fines, trace roots, 7.5YR6/6, 7.5YR8/1, 10YR6/6. NMC=9%, %#200=47	2.0	SS-2	16	16	11	16	27
			4.0						
435.1		Very stiff, dry to moist, mottled gray, brownish yellow and white, Sandy SILT (ML), some fine to coarse sands, trace fine gravel, trace fine to coarse charcoal gravel, 10YR5/1, 10YR6/6, 7.5YR8/1.		SS-3	9	4	4	5	8
	6.0	@4 feet - firm, mottled brownish yellow, very pale brown and dark gray, (A-4(3)), some fine to medium sands, 10YR6/6, 10YR7/3, 10YR4/1. LL=34, PL=26, PI=8, NMC=24%, %#200=55	6.0	SS-4	3	3	7	11	10
			8.0	SS-5	1	4	9	14	13
430.1		**PIEDMONT RESIDUUM** - stiff, dry, laminated white and light gray with yellow mottles, SILT with Sand (ML), little fine to medium sands, relict rock structure, 10YR8/1 to 10YR7/1, 10YR7/6.							
		@8 feet - trace coarse quartz gravel.							
	13.5		13.5						
425.1		Very stiff, dry, laminated very pale brown, light reddish brown and light red, SILT (ML), few fine sands, relict rock structure, 10YR8/2, 2.5YR7/4, 7.5R7/6.		SS-6	5	11	16		27
			18.5						
		@18.5 feet - hard, laminated weak red and reddish gray, 5R5/4, 5R6/1.		SS-7	10	15	25		40
420.1	20.0	Boring Terminated at 20 feet.							
415.1									



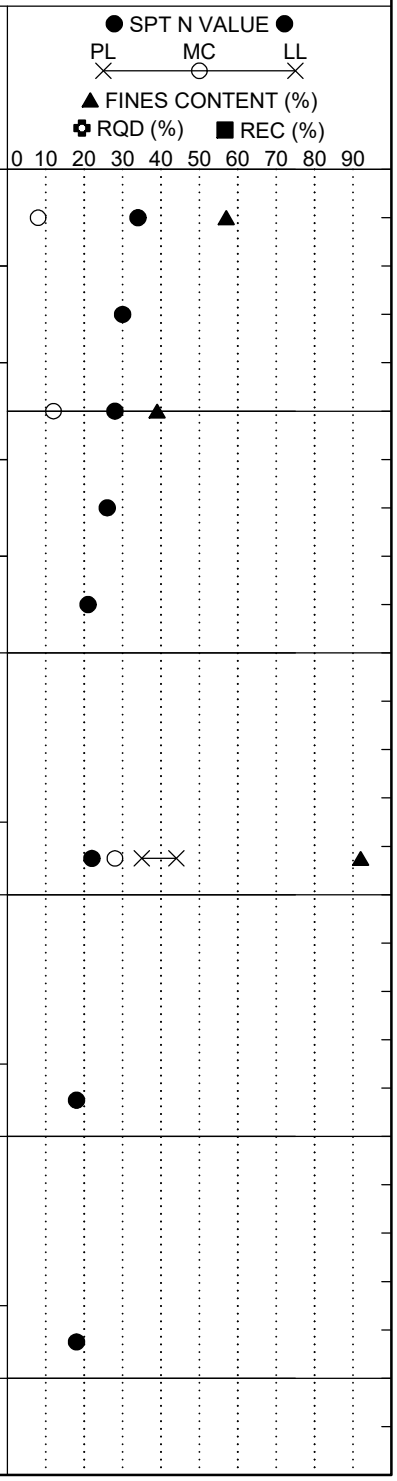
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	R-10		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1748+21.22	**Offset:**	70.6	**Alignment:**	Proposed
Elev.:	447.5 ft	**Latitude:**	34.195482825	**Longitude:**	-80.98573739	**Date Started:**	10/31/2023
Total Depth:	30 ft	**Soil Depth:**	30 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/31/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	NE

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	8	17	17	18	34
	0.1	**SURFACE MATERIAL** - TOPSOIL - 1 inch.							
	2.0	**FILL** - hard, dry, reddish yellow to strong brown, Sandy Lean CLAY (CL), some fine to medium sands, trace roots, 7.5YR6/6 to 7.5YR5/6. NMC=8%, %#200=57	2.0	SS-2	26	17	13	16	30
	4.0	Medium dense, dry, reddish yellow to very pale brown to weak red, Silty fine to coarse SAND (SM), some low plasticity fines, few fine to coarse crushed stone, 7.5YR6/6, 10YR7/3, 10R5/4.	4.0	SS-3	13	14	14	17	28
442.5									
		Medium dense, dry to moist, grayish brown and reddish yellow with dark gray mottles, Clayey fine to coarse SAND (SC), some medium plasticity fines, 10YR5/2, 7.5YR6/8, 10YR4/1, poor recovery. NMC=12%, %#200=39	6.0	SS-4	6	12	14	14	26
			8.0	SS-5	7	10	11	11	21
437.5		@6 feet - trace fine crushed stone.							
		@8 feet - light brownish gray and brownish yellow, 10YR6/2, 10YR6/6.							
	13.5	**PIEDMONT RESIDUUM** - very stiff, dry, laminated brownish yellow to yellow and gray, SILT (ML) (A-5(12)), few fine sands, relict rock structure, 10YR6/8 to 10YR7/8, 10YR5/1. LL=44, PL=35, PI=9, NMC=28%, %#200=92	13.5	SS-6	4	9	13		22
432.5									
		@18.5 feet - laminated brownish yellow, dark gray and gray, 10YR6/8, 10YR4/1, 10YR5/1.	18.5	SS-7	6	7	11		18
427.5									
		@23.5 feet - laminated light gray and dark gray with yellowish brown mottles, 10YR7/1, 10YR4/1, 10YR5/8.	23.5	SS-8	4	8	10		18
422.5									



LEGEND

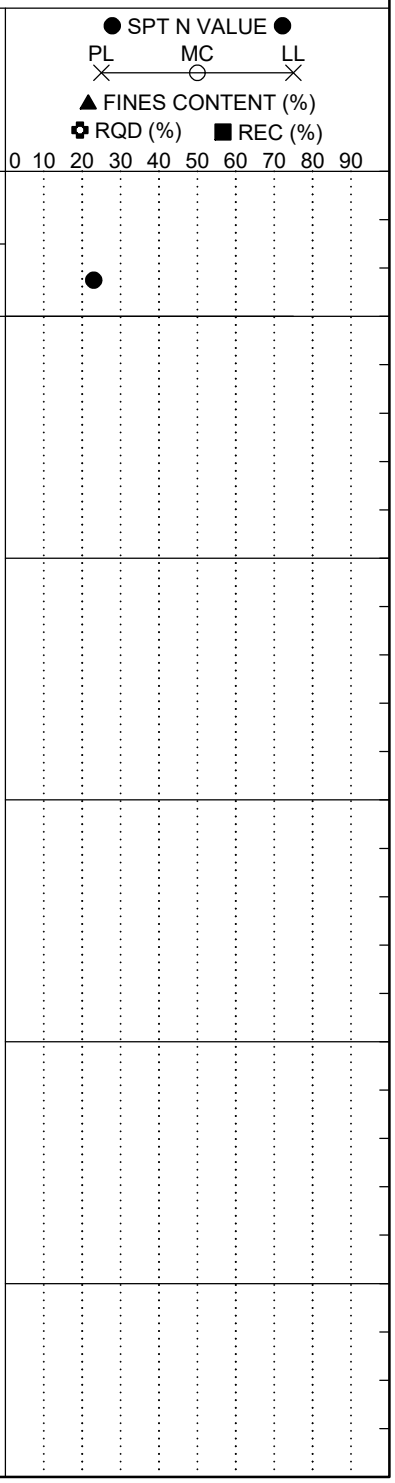
Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	R-10		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1748+21.22	**Offset:**	70.6	**Alignment:**	Proposed
Elev.:	447.5 ft	**Latitude:**	34.195482825	**Longitude:**	-80.98573739	**Date Started:**	10/31/2023
Total Depth:	30 ft	**Soil Depth:**	30 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/31/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	NE

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
				28.5						
	30.0	@28.5 feet - laminated yellowish red and gray with red and yellowish brown mottles, few fine sands, 5YR5/6 to 5YR5/8, 10YR5/1, 10R4/6, 10YR5/8.			SS-9	6	11	12		23
417.5		Boring Terminated at 30 feet.								
412.5										
407.5										
402.5										
397.5										



LEGEND

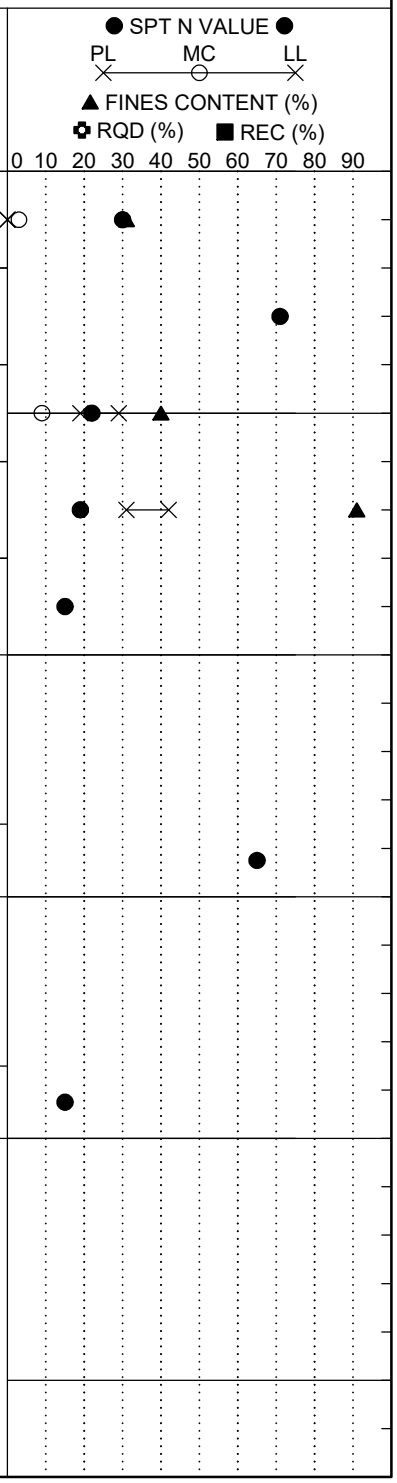
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	R-11
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C
Eng./Geo.:	H. Skerkis	**Boring Location:**	1724+64.07	**Offset:**	-14.2
Alignment:	Proposed				
Elev.:	455.6 ft	**Latitude:**	34.189222076	**Longitude:**	-80.98325398
Date Started:	10/26/2023				
Total Depth:	20 ft	**Soil Depth:**	20 ft	**Core Depth:**	N/A ft
Date Completed:	10/26/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	91.0%				
Core Size:	N/A	**Driller:**	T. Shearin	**Groundwater:**	**TOB** NE
24HR	NE				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.2	**SURFACE MATERIALS** - TOPSOIL - 2 inches.
		COASTAL PLAIN - medium dense, dry to moist, light brownish gray and brown, Silty fine to medium SAND (SM) (A-2-4), some low plasticity fines, 10YR6/2, 10YR5/3. LL=NP, PL=NP, PI=NP, NMC=3%, %#200=31
	4.0	
450.6		@2 feet - very dense, very pale brown, yellow and brownish yellow, 10YR7/4, 10YR7/8, 10YR6/6.
		Medium dense, dry to moist, brownish yellow and yellow, Clayey fine to medium SAND (SC) (A-4(1)), some medium plasticity fines, 10YR6/8, 10YR7/8. LL=29, PL=19, PI=10, NMC=9%, %#200=40
	8.0	
445.6		@6 feet - light gray with yellowish brown and yellowish red mottles, fine to coarse, 10YR7/1, 10YR5/6, 5YR5/8.
		Stiff, dry to moist, light gray with yellowish brown and yellowish red mottles, SILT (ML) (A-7-5(13)), few fine to medium sands, 10YR7/1, 10YR5/6, 5YR5/8. LL=42, PL=31, PI=11, NMC=19%, %#200=91
	13.5	
440.6		Very dense, dry to moist, mottled light gray, yellowish brown and yellowish red, Silty fine to coarse SAND (SM), some low plasticity fines, 10YR7/1, 10YR5/6, 5YR5/8.
	18.5	
435.6	20.0	**PIEDMONT RESIDUUM** - stiff, dry to moist, very pale brown and yellow, Sandy SILT (ML), some fine to coarse sands, 10YR8/4, 10YR8/6, 10YR7/8.
		Boring Terminated at 20 feet.
430.6		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	3	9	21	26	30
2.0	SS-2	25	39	32	35	71
4.0	SS-3	8	9	13	18	22
6.0	SS-4	10	9	10	12	19
8.0	SS-5	5	6	9	12	15
13.5	SS-6	18	33	32		65
18.5	SS-7	10	7	8		15



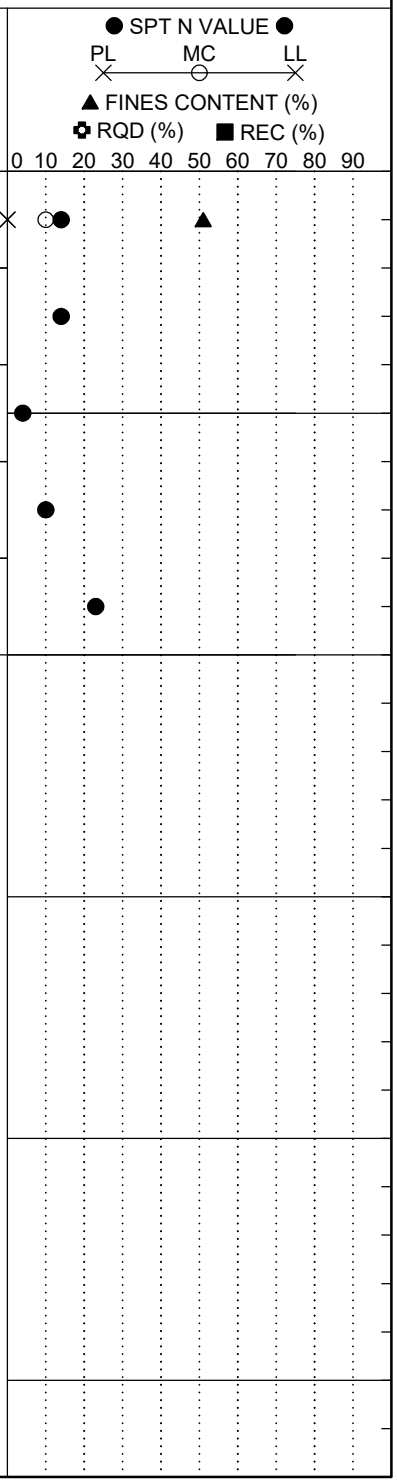
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	R-12		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C		
Eng./Geo.:	H. Skerkis	**Boring Location:**	1720+19.86	**Offset:**	-23.3	**Alignment:**	Proposed
Elev.:	431.9 ft	**Latitude:**	34.188054981	**Longitude:**	-80.98281556	**Date Started:**	10/26/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/26/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	91.0%
Core Size:	N/A	**Driller:**	T. Shearin	**Groundwater:**	**TOB** 5.4 ft	**24HR**	4 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0									
	0.2	**SURFACE MATERIALS** - TOPSOIL - 2 inches.		0.0	SS-1	4	6	8	12	14
		FILL - stiff, dry to moist, mottled brownish yellow, yellow and very pale brown, Sandy SILT (ML) (A-4(0)), some fine to medium sands, trace organics, 10YR6/6, 10YR7/8, 10YR7/4. LL=NP, PL=NP, PI=NP, NMC=10%, %#200=51		2.0	SS-2	9	7	7	7	14
	4.5			4.0						
426.9		@2 feet - moist, mottled olive yellow and dark grayish brown, fine to medium, 2.5Y6/6, 2.5Y6/8, 2.5Y4/2.			SS-3	3	2	2	2	4
	6.0	@4 feet - very soft.		6.0	SS-4	3	3	7	2	10
		COASTAL PLAIN - very loose, moist to wet, dark grayish brown and light yellowish brown, Clayey fine to medium SAND (SC), some medium plasticity fines, 2.5Y4/2, 2.5Y6/4.		8.0	SS-5	4	7	16	15	23
421.9	10.0	**PIEDMONT RESIDUUM** - stiff, moist, brownish yellow and yellow, Sandy SILT (ML), some fine to medium sands, 10YR6/8, 10YR7/8.								
		@8 feet - very stiff, laminated brownish yellow, yellow and white, 10YR6/8, 10YR7/8, 10YR8/1.								
		Boring Terminated at 10 feet.								
416.9										
411.9										
406.9										



LEGEND

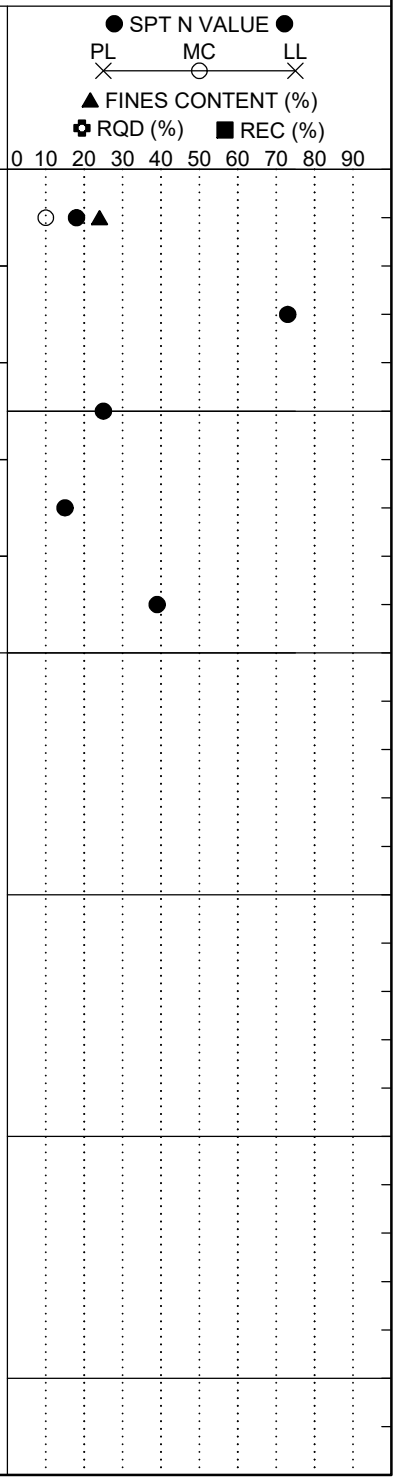
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	SB-12
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77S
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1757+03.08	**Offset:**	-30.8
Alignment:	Proposed				
Elev.:	445.0 ft	**Latitude:**	34.19786596	**Longitude:**	-80.98589047
Date Started:	9/24/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/24/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE
24HR	N/A				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.
	2.0	**FILL** - medium dense, dry to moist, very dark grayish brown and dark olive brown, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, trace organics, trace fine to coarse crushed stone, 2.5Y3/2, 2.5Y3/3. NMC=10%. %#200=24
	4.0	
440.0		**COASTAL PLAIN** - very dense, dry to moist, olive brown, Silty fine to medium SAND (SM), some low plasticity fines, trace organics, 2.5Y4/3.
	6.0	Medium dense, dry to moist, mottled light olive brown, yellow and brownish yellow, Clayey fine to medium SAND (SC), some medium plasticity fines, trace roots, 2.5Y5/4, 10YR7/6, 10YR6/6.
435.0	10.0	Medium dense, dry to moist, mottled yellow, light gray and yellowish red, Silty fine to medium SAND (SM), some low plasticity fines, 10YR8/8, 10YR7/2, 5YR5/8. @8 feet - dense, trace fine to coarse gravel.
		Boring Terminated at 10 feet.
430.0		
425.0		
420.0		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	7	7	11	13	18
2.0	SS-2	17	39	34	16	73
4.0	SS-3	11	12	13	11	25
6.0	SS-4	7	7	8	10	15
8.0	SS-5	18	17	22	16	39



LEGEND

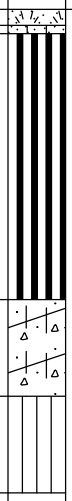
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

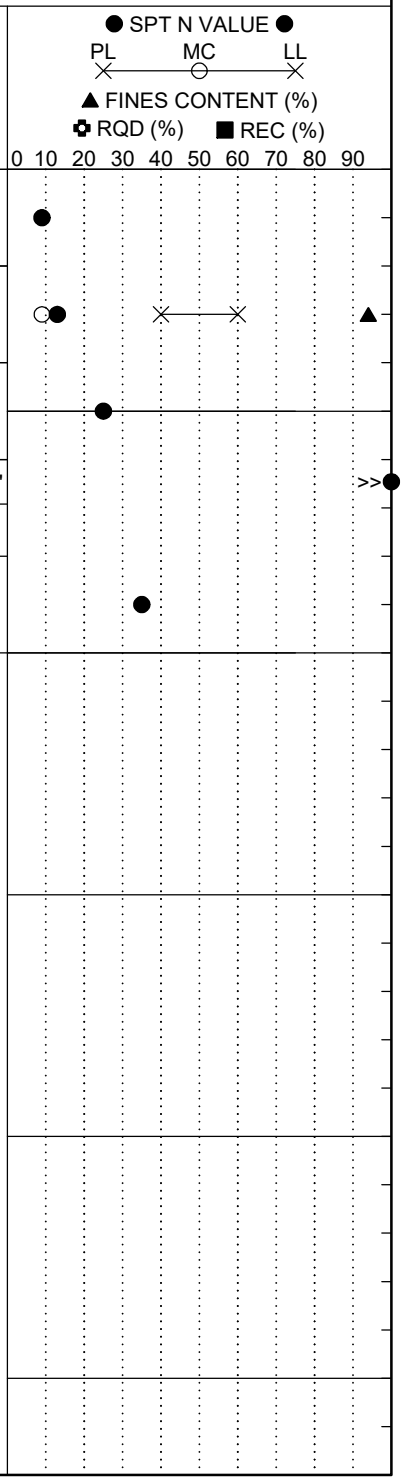
Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	SB-13
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77S
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1752+21.38	**Offset:**	-27.2
Alignment:	Proposed				
Elev.:	440.9 ft	**Latitude:**	34.19655458	**Longitude:**	-80.98562412
Date Started:	9/20/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/20/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE
24HR	N/A				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 4 inches.
	0.5	**FILL** - loose, dry to moist, dark olive brown, Silty fine to coarse SAND (SM), some low plasticity fines, few fine to coarse crushed stone, trace organics, trace mica, 2.5Y3/3.
435.9		**PIEDMONT RESIDUUM** - stiff, dry, mottled yellow and white, Elastic SILT (MH), few fine to medium sands, trace roots, 10YR8/8, 10YR8/1.
	6.0	@2 feet - mottled pinkish gray, yellow and white, (A-7-5(26)), absent roots, 7.5YR6/2, 10YR8/8, 10YR8/1. LL=60, PL=40, PI=20, NMC=9%, %#200=94
	8.0	@4 feet - very stiff, very pale brown, 10YR8/3.
430.9	10.0	**PARTIALLY WEATHERED ROCK (PWR)** - very dense, dry, mottled white, reddish yellow and light grayish olive, Silty fine to coarse SAND (SM), some low plasticity fines, trace fine weathered rock fragments, 7.5YR5/8, 7.5YR8/1, 10Y6/2.
425.9		**PIEDMONT RESIDUUM** - hard, dry, laminated yellow, white and light grayish olive, Sandy SILT (ML), some fine to medium sands, 2.5Y8/6, 2.5Y8/1, 10Y6/2.
		Boring Terminated at 10 feet.
420.9		
415.9		

Graphic Log



Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	5	4	5	5	9
2.0	SS-2	7	6	7	9	13
4.0	SS-3	7	9	16	25	25
6.0	SS-4	31	50/5"			50/5"
8.0	SS-5	6	11	24	35	35



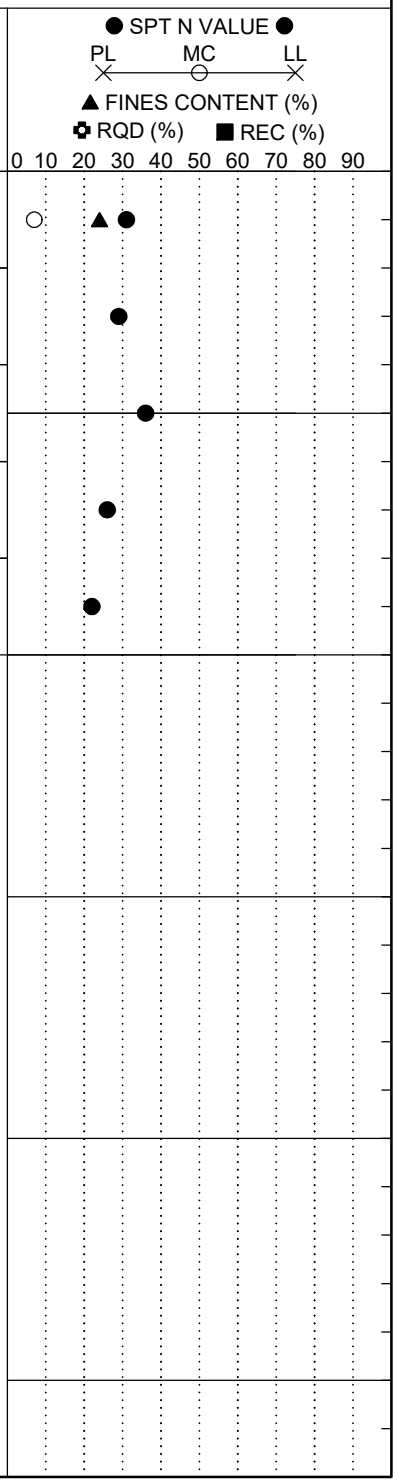
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	SB-14		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77S		
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1747+14.29	**Offset:**	-81.7	**Alignment:**	Proposed
Elev.:	447.1 ft	**Latitude:**	34.19515436	**Longitude:**	-80.98538647	**Date Started:**	9/24/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/24/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	84.2%
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	**FILL** - dense, dry, grayish brown, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, few fine to coarse crushed stone, trace organics, 2.5Y5/2. NMC=7%, %#200=24	0.0	SS-1	8	18	13	13	31
	2.0	**PIEDMONT RESIDUUM** - very stiff, dry, white and yellow, Sandy SILT (ML), some fine to medium sands, trace roots, 10YR8/1, 10YR8/8.	2.0	SS-2	10	12	17	19	29
442.1		@4 feet - hard, white with yellow mottles, absent roots, 10YR8/1, 10YR8/8.	4.0	SS-3	16	17	19	20	36
		@6 feet - very stiff.	6.0	SS-4	9	12	14	18	26
		@8 feet - laminated white and pale brown with strong brown mottles, 2.5Y8/1, 2.5Y8/3, 7.5YR5/8.	8.0	SS-5	6	9	13	13	22
437.1	10.0	Boring Terminated at 10 feet.							
432.1									
427.1									
422.1									



LEGEND

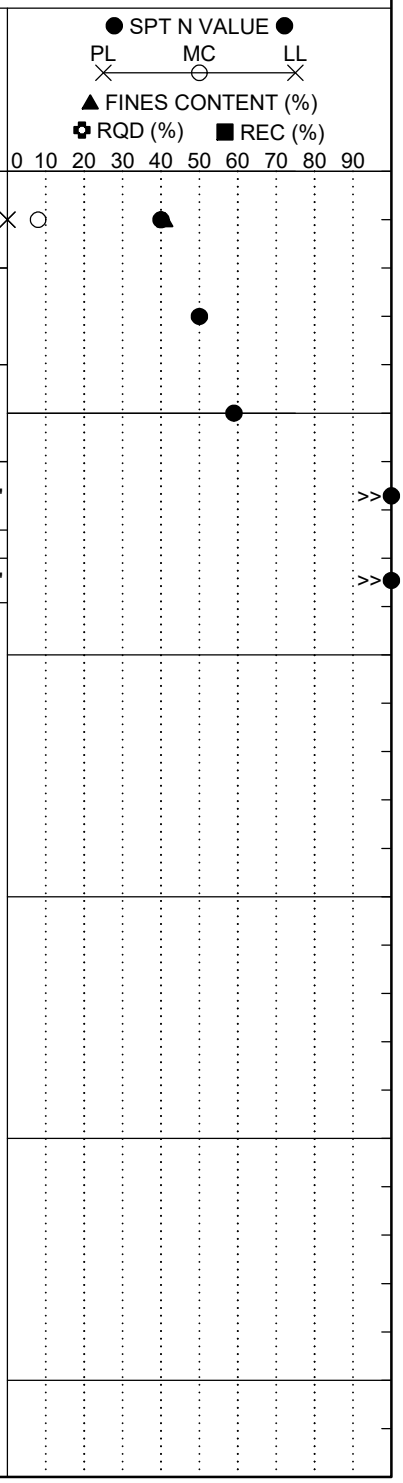
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	SB-15
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77S
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1742+16.82	**Offset:**	-30.5
Alignment:	Proposed				
Elev.:	449.9 ft	**Latitude:**	34.19389097	**Longitude:**	-80.98472241
Date Started:	9/20/2023				
Total Depth:	8.9 ft	**Soil Depth:**	8.9 ft	**Core Depth:**	N/A ft
Date Completed:	9/20/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE **24HR** N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.
	0.5	**FILL** - dense, dry to moist, dark olive brown, Silty fine to coarse SAND (SM), some low plasticity fines, few fine to coarse crushed stone, trace organics, trace mica, 2.5Y3/3.
	4.0	**COASTAL PLAIN** - dense, dry, mottled very pale brown and yellow, Silty fine to medium SAND (SM) (A-4(0)), some low plasticity fines, trace mica, 10YR7/3, 10YR8/8. LL=NP, PL=NP, PI=NP, NMC=8%, %#200=41
444.9		
	6.0	@2 feet - fine to coarse, trace fine to coarse quartz gravel.
	8.9	**PIEDMONT RESIDUUM** - very hard, dry, mottled yellow, Sandy SILT (ML), some fine to medium sands, 10YR8/6, 10YR8/8.
439.9		**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, mottled yellow, Sandy SILT (ML), some fine to medium sands, 10YR8/6, 10YR8/8.
		Boring Terminated at 8.9 feet.
434.9		
429.9		
424.9		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	6	19	21	46	40
2.0	SS-2	22	26	24	25	50
4.0	SS-3	17	22	37	50/5"	59
6.0	SS-4	16	34	50/5"		50/5"
8.0	SS-5	20	50/5"			50/5"



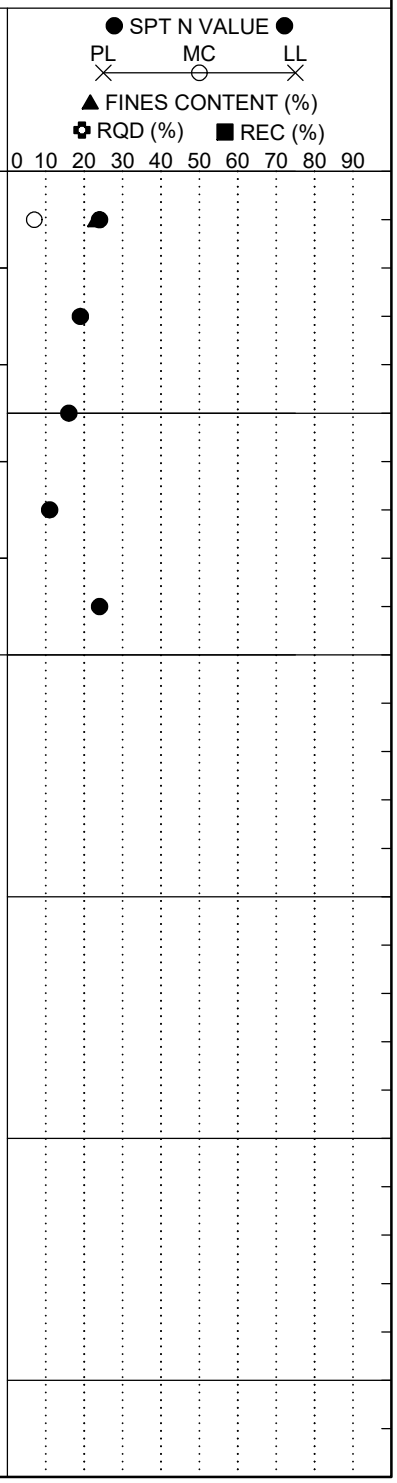
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	SB-16
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77S
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1736+79.75	**Offset:**	-83.0
Alignment:	Proposed				
Elev.:	456.0 ft	**Latitude:**	34.19244234	**Longitude:**	-80.98434181
Date Started:	9/24/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/24/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE **24HR** N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0									
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.		0.0	SS-1	5	11	13	8	24
		FILL - medium dense, dry, very dark grayish brown, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, trace fine to coarse crushed stone, trace organics, trace mica, 2.5Y3/2. NMC=7%, %#200=23		2.0	SS-2	8	9	10	9	19
	4.0	@2 feet - mottled light olive brown, white, trace wood, absent mica, absent crushed stone, 2.5Y5/3, 2.5Y8/1.		4.0	SS-3	8	8	8	5	16
451.0				6.0						
	7.0	Medium dense, dry to moist, light olive brown, grayish brown, Clayey fine to medium SAND (SC), some medium plasticity fines, trace organics, trace fine to coarse crushed stone, 2.5Y5/3, 2.5Y5/2.		8.0	SS-4	3	4	7	11	11
		COASTAL PLAIN - medium dense, moist, mottled gray and yellow, Clayey fine to medium SAND (SC), some medium plasticity fines, 2.5Y6/1, 2.5Y8/8.			SS-5	7	11	13	18	24
446.0	10.0	@8 feet - dry to moist, mottled white and yellow, trace fine gravel, 2.5Y8/1, 2.5Y8/8.								
		Boring Terminated at 10 feet.								
441.0										
436.0										
431.0										



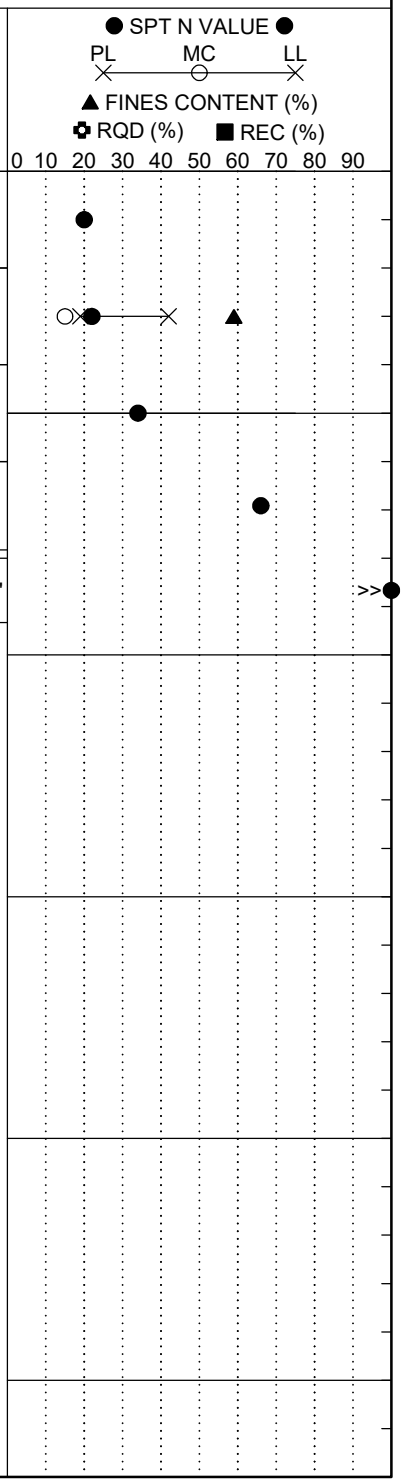
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)			**County:**	Richland	**Boring No.:**	SB-17
Site Description:	I-77 Exit 26 - Roadways					**Route:**	I-77S
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1732+00.49	**Offset:**	-31.4	**Alignment:**	Proposed
Elev.:	458.1 ft	**Latitude:**	34.19123279	**Longitude:**	-80.98369232	**Date Started:**	9/20/2023
Total Depth:	9.3 ft	**Soil Depth:**	9.3 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/20/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	84.2%
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0								
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.	0.0	SS-1	8	13	7	7	20
	1.0	**FILL** - medium dense, dry, dark olive brown, Silty fine to medium SAND (SM), some low plasticity fines, few fine to coarse crushed stone, trace organics, trace mica, 2.5Y3/3.	2.0	SS-2	10	10	12	13	22
453.1		**COASTAL PLAIN** - very stiff, dry to moist, mottled brownish yellow and yellowish brown, Sandy Lean CLAY (CL), some fine to medium sands, 10YR6/8, 10YR5/8.	4.0	SS-3	12	14	20	24	34
	6.0	@2 feet - (A-7-6(11)). LL=42, PL=19, PI=23, NMC=15%, %#200=59	6.0	SS-4	18	26	40	50/4"	66
		@3 feet - hard, mottled yellow, light gray and red, 10YR7/8, 10YR7/2, 2.5YR5/8.	8.0	SS-5	31	41	50/4"		50/4"
	9.3	Very dense, dry to moist, mottled yellow, white and yellowish red, Silty fine to medium SAND (SM), some low plasticity fines, trace mica, 10YR8/8, 10YR7/8, 10YR8/1, 5YR5/8.							
448.1		@8 feet - mottled yellow with very pale brown, absent mica, 10YR7/6, 10YR8/4.							
		Boring Terminated at 9.3 feet.							
443.1									
438.1									
433.1									



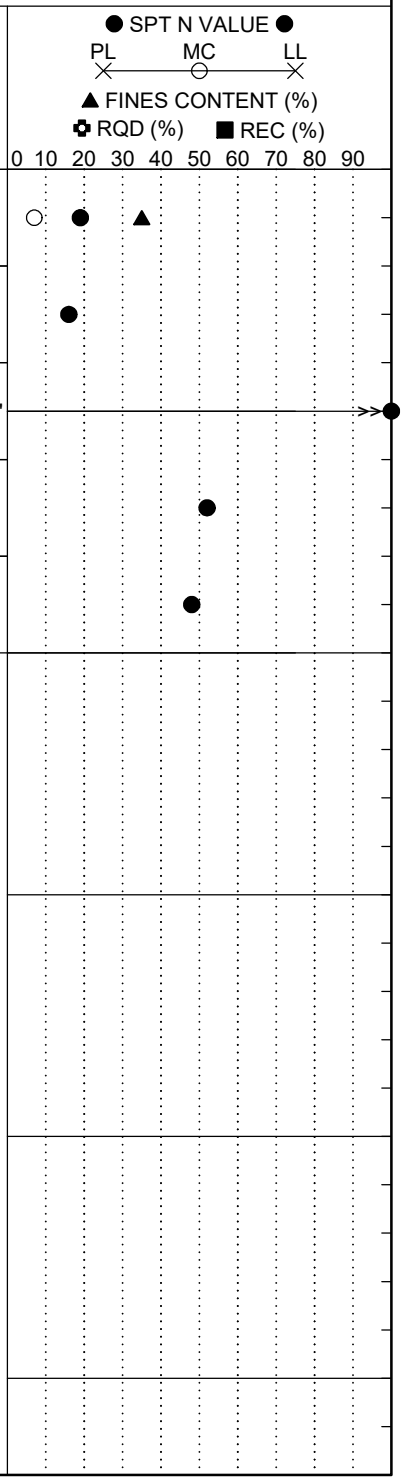
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	SB-18
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77S
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1726+66.58	**Offset:**	-83.8
Alignment:	Proposed				
Elev.:	454.3 ft	**Latitude:**	34.18979248	**Longitude:**	-80.98331465
Date Started:	9/24/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/24/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE **24HR** N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0									
	0.1	**SURFACE MATERIAL** - TOPSOIL - 1 inch.		0.0	SS-1	6	10	9	7	19
	2.0	**FILL** - medium dense, dry, very dark grayish brown, Silty fine to medium SAND (SM) (A-2-4), some low plasticity fines, few fine to coarse crushed stone, trace organics, trace fine to coarse brick fragments, 2.5Y3/2. NMC=7%, %#200=35		2.0	SS-2	8	7	9	22	16
	4.0			4.0						
449.3		**COASTAL PLAIN** - medium dense, dry, mottled yellowish brown, strong brown and yellowish red, Clayey fine to medium SAND (SC), some medium plasticity fines, 10YR5/8, 7.5YR5/8, 5YR5/8.			SS-3	25	42	50/5"		50/5"
				6.0						
					SS-4	23	24	28	50/5"	52
		Very dense, dry to moist, mottled white, yellow and reddish yellow, Silty fine to medium SAND (SM), some low plasticity fines, trace mica, 10YR8/1, 10YR8/8, 5YR6/8.		8.0						
					SS-5	21	22	26	24	48
444.3	10.0	@6 feet - reddish yellow with white and yellow mottles, trace fine to coarse gravel, 5YR6/8, 2.5Y8/1, 2.5Y8/6.								
		@8 feet - dense.								
		Boring Terminated at 10 feet.								
439.3										
434.3										
429.3										



LEGEND

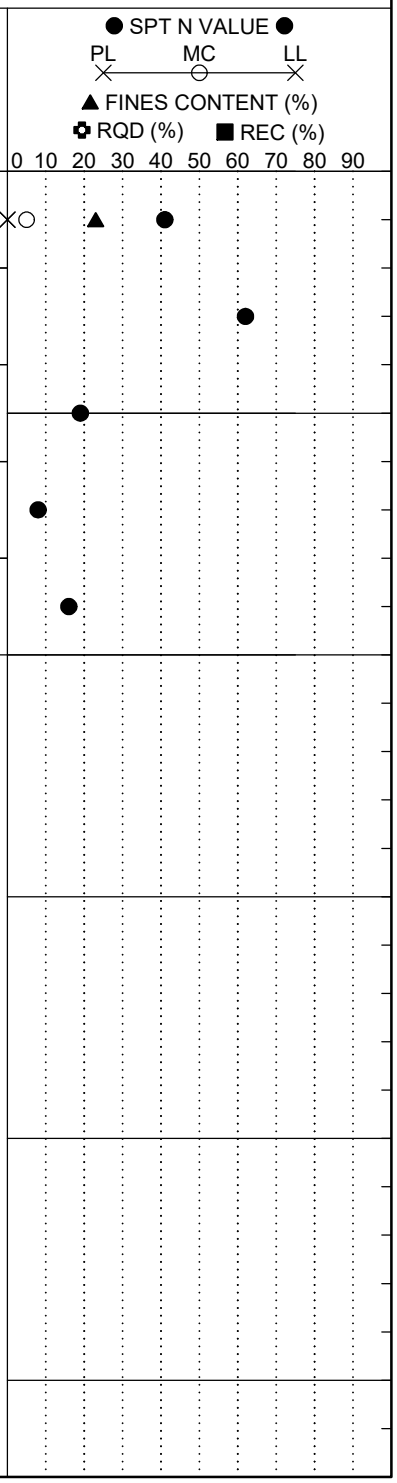
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	SB-19
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77S
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1721+69.94	**Offset:**	-28.7
Alignment:	Proposed				
Elev.:	443.8 ft	**Latitude:**	34.18854043	**Longitude:**	-80.98263657
Date Started:	9/21/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/21/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE
24HR	N/A				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.
		FILL - dense, dry to moist, very dark grayish brown, Silty fine to medium SAND (SM), little low plasticity fines, few fine to coarse crushed stone, trace organics, trace mica, 2.5Y3/2.
	4.0	@0.5 feet - mottled light gray and very dark gray, (A-2-4), little nonplastic fines, absent crushed stone, 2.5Y7/2, 2.5Y4/1. LL=NP, PL=NP, PI=NP, NMC=5%, %#200=23
438.8		@2 feet - very dense.
		COASTAL PLAIN - medium dense, moist, light olive brown, Clayey fine to coarse SAND (SC), some medium plasticity fines, trace roots, 2.5Y5/4.
	8.5	@6 feet - loose, mottled pale brown and yellow, 2.5Y7/6, 2.5Y7/4.
433.8	10.0	**PIEDMONT RESIDUUM** - medium dense, dry to moist, mottled yellow, white and light olive brown, Silty fine to medium SAND (SM), some low plasticity fines, 2.5Y7/8, 2.5Y8/1, 2.5Y5/6.
		Boring Terminated at 10 feet.
428.8		
423.8		
418.8		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	7	17	24	46	41
2.0	SS-2	33	33	29	18	62
4.0	SS-3	11	10	9	6	19
6.0	SS-4	3	3	5	6	8
8.0	SS-5	11	10	6	16	16



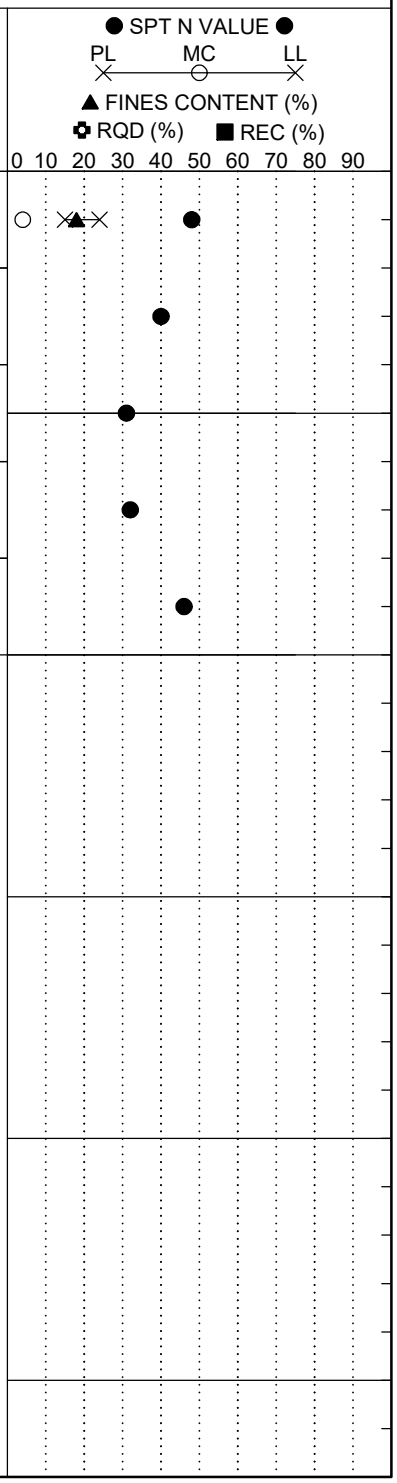
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	SB-20
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77S
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1716+66.53	**Offset:**	-29.6
Alignment:	Proposed				
Elev.:	432.6 ft	**Latitude:**	34.1872234	**Longitude:**	-80.98212769
Date Started:	9/21/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/21/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE **24HR** N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0									
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.		0.0						
	0.5	**FILL** - dense, dry to moist, very dark grayish brown, Silty fine to coarse SAND (SM), some low plasticity fines, few fine to coarse crushed stone, trace organics, trace mica, 2.5Y3/2.			SS-1	11	14	34	44	48
	2.0			2.0	SS-2	14	20	20	22	40
				4.0						
427.6		**COASTAL PLAIN** - dense, dry, mottled very pale brown and reddish yellow, Clayey fine to medium SAND (SC) (A-2-4), little medium plasticity fines, trace fine quartz gravel, 10YR7/4, 7.5YR7/6. LL=24, PL=15, PI=9. NMC=4%, %#200=18			SS-3	13	14	17	18	31
				6.0						
					SS-4	9	14	18	25	32
		PIEDMONT RESIDUUM - hard, dry, mottled yellow, white and pinkish gray, Sandy SILT (ML), some fine sands, 10YR8/8, 10YR8/1, 5YR7/2.		8.0						
					SS-5	13	19	27	36	46
422.6	10.0	@6 feet - trace fine quartz weathered rock fragments.								
		@9 feet - laminated yellow, white, yellowish red, gray, 10YR7/8, 10YR8/1, 5YR5/8, 10YR5/1.								
		Boring Terminated at 10 feet.								
417.6										
412.6										
407.6										



LEGEND

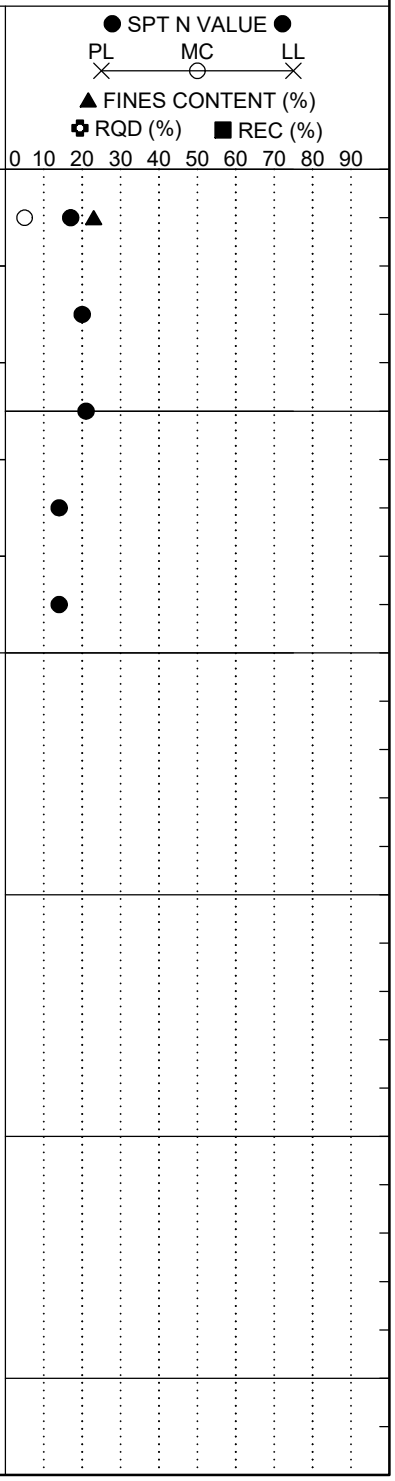
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	SB-21
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77S
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1711+65.00	**Offset:**	-29.3
Alignment:	Proposed				
Elev.:	423.4 ft	**Latitude:**	34.18591227	**Longitude:**	-80.98161718
Date Started:	9/21/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/21/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE **24HR** N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.
	2.0	**FILL** - medium dense, dry, dark gray, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, few fine to coarse crushed stone, micaceous, trace mica, 2.5Y4/1. NMC=5%, %#200=23
	4.0	Medium dense, dry, mottled reddish yellow, white, yellow and light reddish brown, Silty fine to medium SAND (SM), some low plasticity fines, trace mica, 5YR6/6, 5YR6/4, 10YR8/8, 10YR8/1.
418.4	6.0	**COASTAL PLAIN** - medium dense, moist, mottled light olive brown and very dark gray, Clayey fine to medium SAND (SC), some medium plasticity fines, trace organics, 2.5Y5/4, 2.5Y5/6, 2.5Y3/1.
	8.0	Medium dense, dry to moist, mottled light olive brown and very dark gray, Silty fine to medium SAND (SM), some low plasticity fines, trace organics, trace roots, 2.5Y5/3, 2.5Y3/1.
413.4	10.0	Medium dense, moist, mottled brownish yellow, white and reddish yellow, Clayey fine to medium SAND (SC), some medium plasticity fines, micaceous, 10YR6/8, 10YR8/1, 5YR5/8.
408.4		Boring Terminated at 10 feet.
403.4		
398.4		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	10	9	8	7	17
2.0	SS-2	5	9	11	14	20
4.0	SS-3	12	10	11	12	21
6.0	SS-4	11	8	6	5	14
8.0	SS-5	4	7	7	6	14



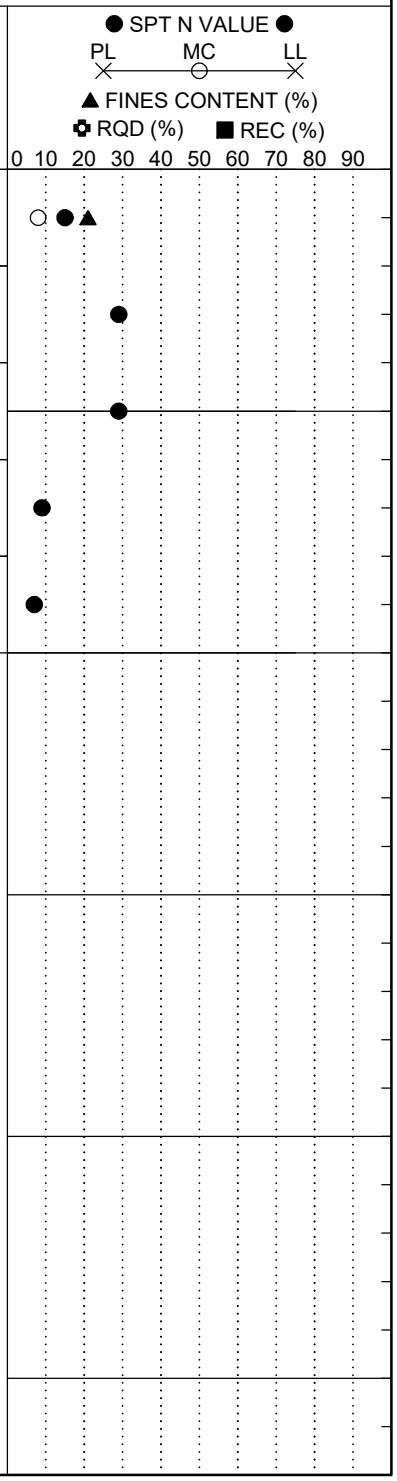
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	SB-22
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77S
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1706+67.83	**Offset:**	-31.4
Alignment:	Proposed				
Elev.:	422.0 ft	**Latitude:**	34.1846105	**Longitude:**	-80.98111864
Date Started:	9/21/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/21/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE **24HR** N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0									
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.		0.0	SS-1	6	7	8	11	15
		FILL - medium dense, dry to moist, olive brown and dark olive brown, Silty fine to medium SAND with Gravel (SM) (A-1-b), little low plasticity fines, little fine to coarse crushed stone, trace organics, trace mica, 2.5Y4/3, 2.5Y3/3. NMC=8%, %#200=21		2.0	SS-2	10	14	15	15	29
	4.0			4.0						
417.0		@2 feet - mottled light olive brown, very dark gray and light gray, absent crushed stone, 2.5Y5/6, 2.5Y3/1, 2.5Y7/2.			SS-3	10	14	15	12	29
		COASTAL PLAIN - medium dense, dry to moist, mottled reddish yellow, pale brown and white, Clayey fine to coarse SAND (SC), some medium plasticity fines, micaceous, 5YR6/8, 2.5Y8/4, 2.5Y8/1.		6.0	SS-4	4	3	6	8	9
		@6 feet - loose, mottled pale brown, white, reddish yellow and yellow, 2.5Y7/8.		8.0	SS-5	4	3	4	5	7
412.0	10.0	@8 feet - moist, yellow, pale brown, reddish yellow and dark gray, absent mica, 2.5Y8/8, 2.5Y8/4, 2.5Y4/1, 7.5YR7/6.								
		Boring Terminated at 10 feet.								
407.0										
402.0										
397.0										



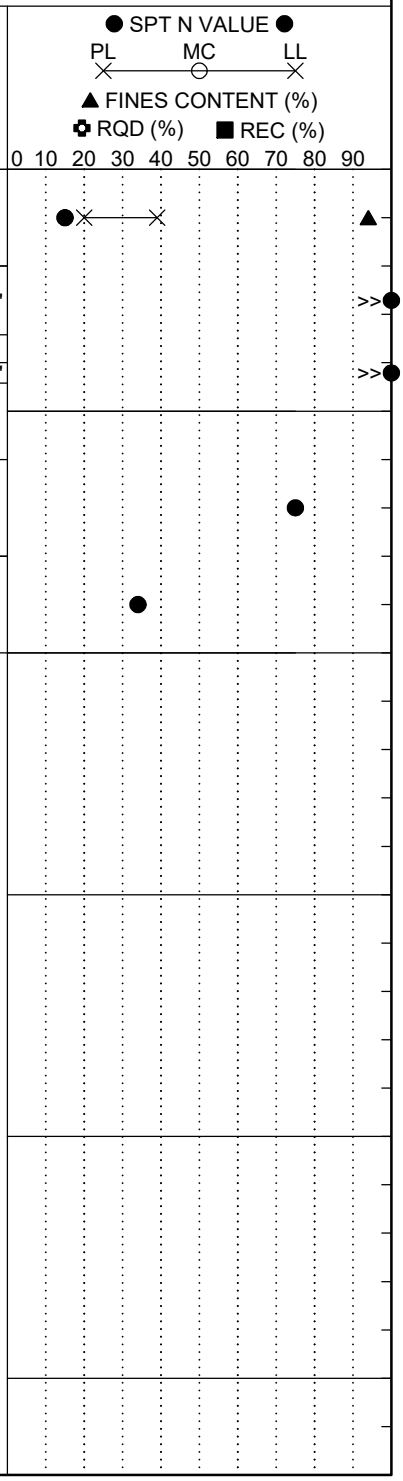
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	SB-23
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77S
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1701+55.17	**Offset:**	-27.6
Alignment:	Proposed				
Elev.:	425.9 ft	**Latitude:**	34.18327329	**Longitude:**	-80.98058547
Date Started:	9/21/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/21/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE **24HR** N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0						
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.							
	0.5	**FILL** - medium dense, dry to moist, very dark grayish brown, Silty fine to coarse SAND (SM), some low plasticity fines, few fine to coarse crushed stone, trace organics, trace mica, 2.5Y3/2.		SS-1	6	6	9	12	15
	2.0		2.0	SS-2	11	21	50/5"		50/5"
			4.0	SS-3	50/5"				50/5"
420.9		**COASTAL PLAIN** - stiff, dry, mottled pale brown, yellow and reddish yellow, Lean CLAY (CL) (A-6(19)), few fine to medium sands, 2.5Y8/2, 2.5Y8/8, 5YR5/8. LL=39, PL=20, PI=19, NMC=15%, %#200=94							
	6.0		6.0						
		Very hard, dry, pale brown with brownish yellow, Sandy SILT (ML), some fine to medium sands, 2.5Y8/2, 10YR6/8.		SS-4	16	30	45	44	75
			8.0						
		@4 feet - white, 2.5Y8/1.		SS-5	8	14	20	26	34
415.9	10.0	Very dense, moist, yellowish brown, yellow and very pale brown, Silty fine to medium SAND (SM), some low plasticity fines, 10YR5/8, 10YR8/8, 10YR8/4.							
		@8 feet - dense, moist to wet.							
		Boring Terminated at 10 feet.							
410.9									
405.9									
400.9									



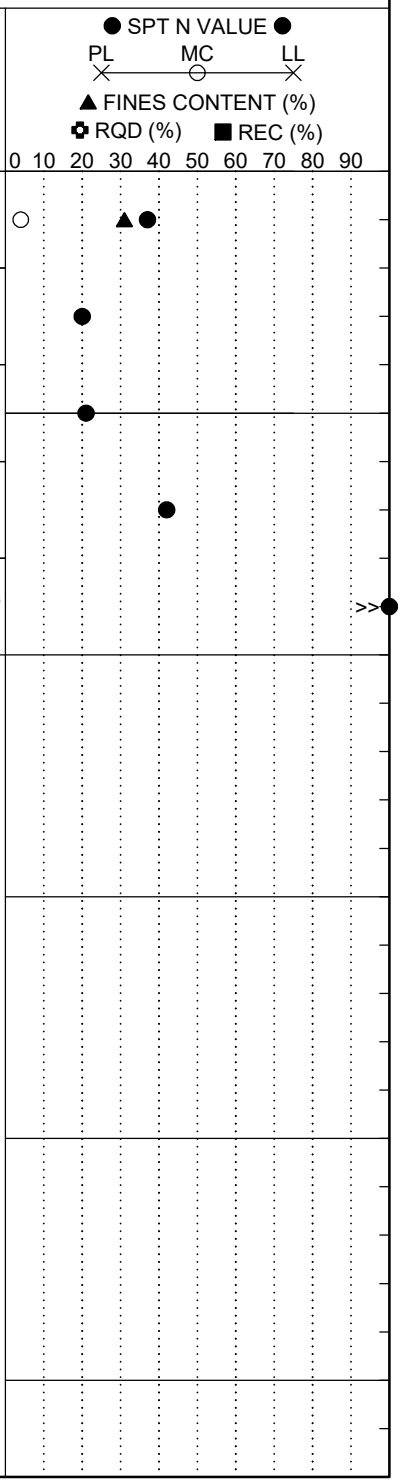
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	SB-24
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77S
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1696+52.80	**Offset:**	-79.2
Alignment:	Proposed				
Elev.:	432.8 ft	**Latitude:**	34.18191451	**Longitude:**	-80.98023601
Date Started:	9/24/2023				
Total Depth:	9.2 ft	**Soil Depth:**	9.2 ft	**Core Depth:**	N/A ft
Date Completed:	9/24/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE
24HR	N/A				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	**FILL** - dense, dry, light olive brown, Silty fine to medium SAND (SM) (A-2-4), some low plasticity fines, few fine to coarse crushed stone, trace mica, 2.5Y5/3. NMC=4%, %#200=31	0.0	SS-1	17	18	19	9	37
		@2 feet - medium dense, dry to moist, dark yellowish brown, absent crushed stone, 10YR4/6.	2.0	SS-2	13	9	11	12	20
	4.0		4.0						
	4.5	**COASTAL PLAIN** - medium dense, moist, white and yellow, Silty fine to medium SAND (SM), some low plasticity fines, trace mica, 10YR8/1, 10YR7/8.		SS-3	7	9	12	16	21
427.8			6.0						
		Very stiff, dry, pale brown with yellow mottles, Lean CLAY with Sand (CL), little fine to medium sands, 2.5Y8/4, 2.5Y7/8.		SS-4	11	18	24	31	42
	8.0		8.0						
	9.2	@6 feet - hard, light gray with brownish yellow mottles, 2.5Y7/2, 10YR6/8.		SS-5	19	42	50/2"		50/2"
422.8		**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, white with yellowish brown mottles, Sandy SILT (ML), some fine to medium sands, 10YR8/1, 10YR5/8.							
		Boring Terminated at 9.2 feet.							
417.8									
412.8									
407.8									



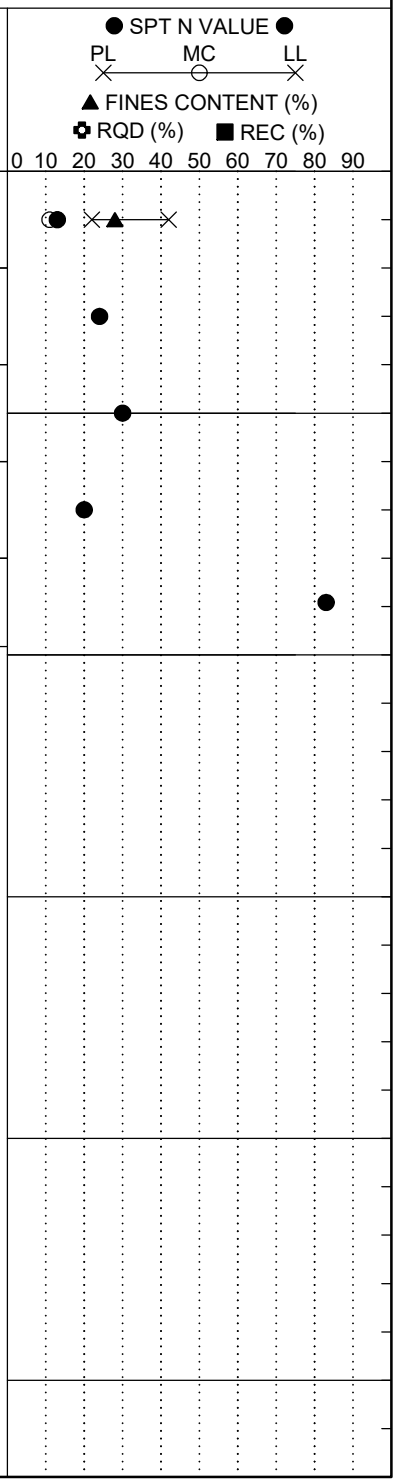
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	SB-25
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77S
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1691+61.29	**Offset:**	-29.9
Alignment:	Proposed				
Elev.:	435.0 ft	**Latitude:**	34.18068542	**Longitude:**	-80.97951686
Date Started:	9/21/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/21/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE **24HR** N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0									
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.		0.0	SS-1	7	7	6	6	13
	0.5	**FILL** - medium dense, dry to moist, very dark grayish brown, Silty fine to coarse SAND (SM), some low plasticity fines, few fine to coarse crushed stone, trace organics, trace mica, 2.5Y3/2.		2.0	SS-2	11	12	12	13	24
430.0	6.0	**COASTAL PLAIN** - medium dense, dry to moist, white with yellow and yellowish red, Clayey fine to medium SAND (SC) (A-2-7(1)), little medium plasticity fines, micaceous, 2.5Y8/1, 2.5Y8/8, 5YR4/7. LL=42, PL=22, PI=20, NMC=11%, %#200=28		4.0	SS-3	13	16	14	10	30
	8.0	@2 feet - moist, white with reddish yellow.		6.0	SS-4	8	9	11	17	20
	9.8	@4 feet - moist to wet, white with reddish yellow, 2.5Y8/1, 5YR5/8.		8.0	SS-5	18	38	45	50/4"	83
425.0		Very stiff, dry to moist, pale brown, reddish yellow and yellowish brown, Lean CLAY (CL), few fine to medium sands, trace mica, 2.5Y8/3, 7.5YR7/8, 10YR6/8.								
		Very hard, dry, pale brown with yellow mottled, Sandy Lean CLAY (CL), some fine to medium sands, 2.5Y8/4, 10YR8/8, 10YR7/8.								
420.0		Boring Terminated at 9.8 feet.								
415.0										
410.0										



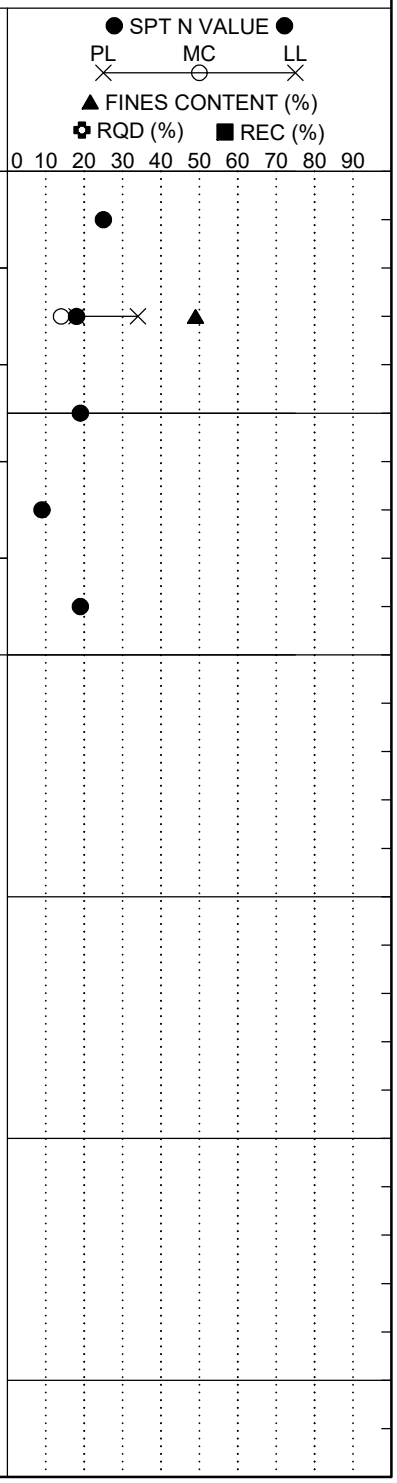
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	SB-26
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77S
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1686+60.06	**Offset:**	-81.8
Alignment:	Proposed				
Elev.:	442.0 ft	**Latitude:**	34.17936003	**Longitude:**	-80.97899563
Date Started:	9/24/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/24/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE **24HR** N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	No Recovery.		0.0	SS-1	7	14	11	10	25
	2.0	**FILL** - medium dense, dry, light olive brown, pale brown, Clayey fine to medium SAND (SC) (A-6(4)), some medium plasticity fines, trace organics, trace mica, 2.5Y5/4, 2.5Y5/6, 2.5Y8/4. LL=34, PL=18, PI=16, NMC=14%, %#200=49		2.0	SS-2	8	8	10	10	18
437.0	5.0	**COASTAL PLAIN** - medium dense, dry to moist, mottled very dark gray and pale brown, Silty fine to medium SAND (SM), some low plasticity fines, trace organics, 2.5Y3/1, 2.5Y7/3.		4.0	SS-3	6	9	10	6	19
	6.0	Stiff, dry to moist, white with yellow mottles, Sandy Lean CLAY (CL), some fine to medium sands, trace roots, trace mica, 2.5Y8/1, 2.5Y8/8.		6.0	SS-4	3	4	5	7	9
432.0	8.0	Medium dense, dry to moist, mottled gray and yellow, Clayey fine to medium SAND (SC), some medium plasticity fines, micaceous, 2.5Y6/1, 2.5Y8/6, 2.5Y7/8.		8.0	SS-5	8	9	10	10	19
427.0	10.0	Boring Terminated at 10 feet.								
422.0										
417.0										



LEGEND

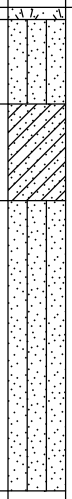
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

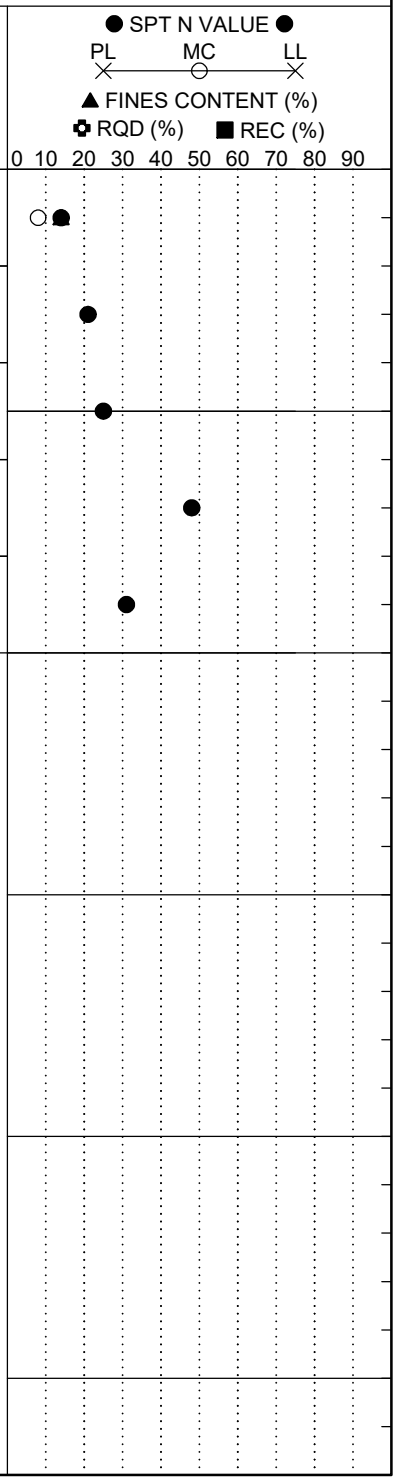
Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	SB-27
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77S
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1681+60.39	**Offset:**	-28.9
Alignment:	Proposed				
Elev.:	440.2 ft	**Latitude:**	34.17820375	**Longitude:**	-80.97806675
Date Started:	9/21/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/21/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE **24HR** N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.
	2.0	**FILL** - medium dense, dry to moist, dark brown, Silty fine to coarse SAND (SM), little low plasticity fines, few fine to coarse crushed stone, trace organics, trace mica, 10YR3/3. NMC=8%, %#200=14
	4.0	**COASTAL PLAIN** - medium dense, moist, mottled light gray, yellow and yellowish red, Clayey fine to medium SAND (SC), some medium plasticity fines, 10YR8/8, 10YR7/2, 5YR5/8.
435.2		Medium dense, dry, mottled light gray, yellowish brown and yellowish red, Silty fine to medium SAND (SM), some low plasticity fines, 10YR6/8, 10YR7/1, 5YR5/8.
	10.0	@6.5 feet - dense, dry to moist, light gray with light brownish mottles, micaceous, 2.5Y7/2, 2.5Y6/2.
430.2		@8 feet - moist, mottled white, yellowish brown and brownish yellow, 10YR8/1, 10YR6/8, 10YR5/4.
		Boring Terminated at 10 feet.
425.2		
420.2		
415.2		

Graphic Log



Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	3	7	7	9	14
2.0	SS-2	7	10	11	12	21
4.0	SS-3	11	11	14	17	25
6.0	SS-4	10	19	29	34	48
8.0	SS-5	12	15	16	20	31



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

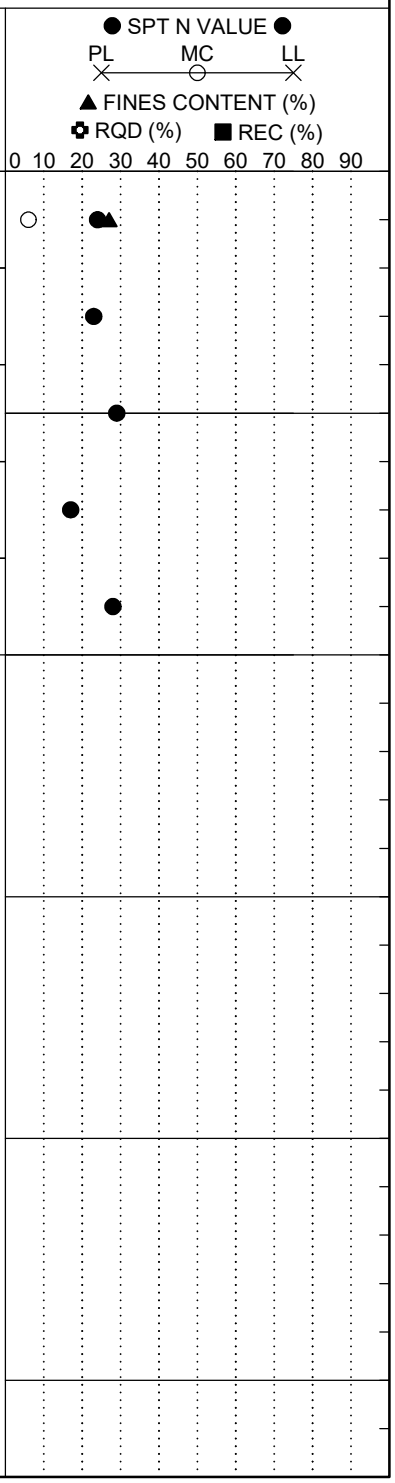
SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	SB-28		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77S		
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1676+77.57	**Offset:**	-83.1	**Alignment:**	Proposed
Elev.:	440.7 ft	**Latitude:**	34.1769857	**Longitude:**	-80.97738204	**Date Started:**	9/25/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/25/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	84.2%
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.
	2.0	**FILL** - medium dense, dry, dark grayish brown, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, few fine to coarse crushed stone, trace organics, 2.5Y4/2. NMC=6%, %#200=27
435.7	6.5	**COASTAL PLAIN** - medium dense, dry to moist, mottled reddish yellow and white, Silty fine to medium SAND (SM), some low plasticity fines, micaceous, 5YR8/1, 5YR7/8. @4 feet - mottled white, yellowish red and reddish yellow, 5YR8/1, 5YR5/8, 7.5YR7/6.
430.7	10.0	Medium dense, dry to moist, pale brown with yellow mottles, Clayey fine to medium SAND (SC), some medium plasticity fines, 2.5Y8/2, 10YR7/8. @8 feet - micaceous. Boring Terminated at 10 feet.
425.7		
420.7		
415.7		

Graphic Log

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	6	14	10	11	24
2.0	SS-2	12	12	11	12	23
4.0	SS-3	12	14	15	12	29
6.0	SS-4	7	6	11	15	17
8.0	SS-5	10	12	16	17	28



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

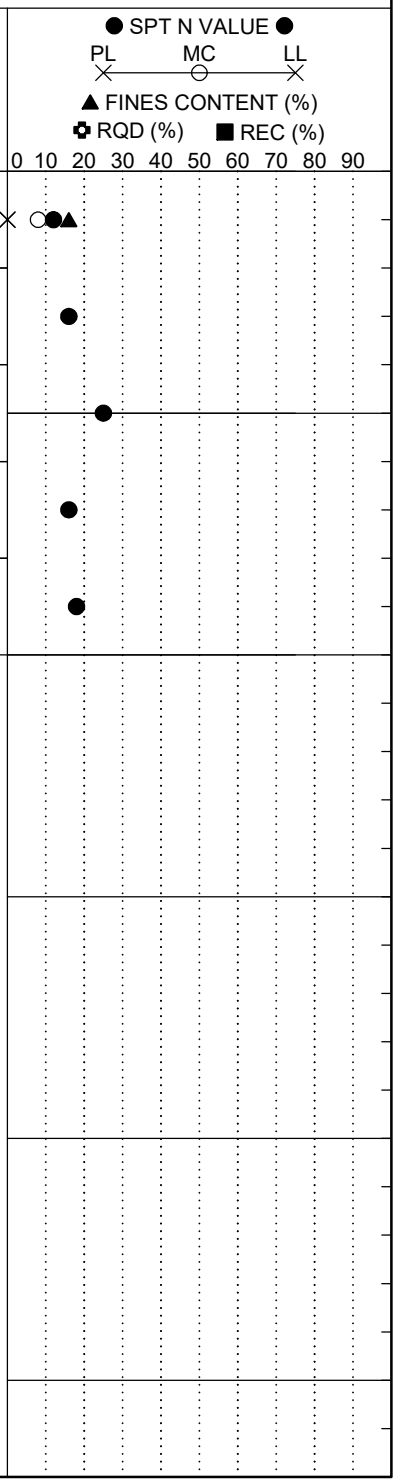
SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	SB-29
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77S
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1671+59.48	**Offset:**	-26.4
Alignment:	Proposed				
Elev.:	436.3 ft	**Latitude:**	34.17590333	**Longitude:**	-80.97623576
Date Started:	9/24/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/24/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE
24HR	N/A				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 4 inches.
	2.0	**FILL** - medium dense, dry to moist, dark olive brown, Silty fine to medium SAND (SM) (A-1-b), little low plasticity fines, trace fine to coarse crushed stone, trace organics, trace mica, 2.5Y3/3. LL=NP, PL=NP, PI=NP, NMC=8%, %#200=16
	4.0	
431.3		@1 foot - yellowish brown, absent crushed stone, absent organics, absent mica, 10YR5/6.
	6.0	**COASTAL PLAIN** - medium dense, dry to moist, very pale brown and white, Silty fine to medium SAND (SM), some low plasticity fines, micaceous, 10YR8/4, 10YR8/1.
	8.0	
426.3	10.0	Very stiff, dry, pale brown with yellow speckles, Sandy Lean CLAY (CL), some fine to medium sands, 2.5Y8/3, 2.5Y7/8.
		Medium dense, dry to moist, pale brown with yellow mottles, Clayey fine to medium SAND (SC), some medium plasticity fines, trace mica, 2.5Y8/2, 2.5Y7/8.
		Medium dense, moist, white, Silty fine to medium SAND (SM), some low plasticity fines, micaceous, 2.5Y8/1.
421.3		Boring Terminated at 10 feet.
416.3		
411.3		

Graphic Log

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	5	6	6	6	12
2.0	SS-2	5	8	8	7	16
4.0	SS-3	6	10	15	20	25
6.0	SS-4	7	8	8	10	16
8.0	SS-5	7	8	10	11	18



LEGEND

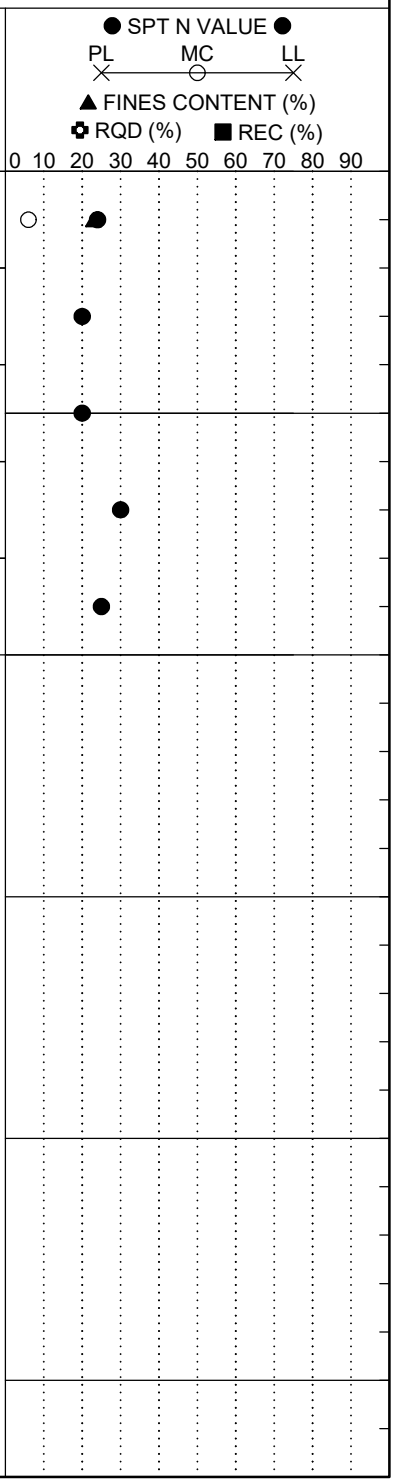
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	SB-30
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77S
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1667+04.55	**Offset:**	-101.2
Alignment:	Proposed				
Elev.:	434.8 ft	**Latitude:**	34.17479372	**Longitude:**	-80.97548037
Date Started:	9/24/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/24/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE
24HR	N/A				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.
	2.0	**FILL** - medium dense, dry, light olive brown, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, trace fine to coarse crushed stone, trace organics, trace mica, 2.5Y5/3. NMC=6%, %#200=23
429.8		**COASTAL PLAIN** - medium dense, dry to moist, mottled yellow, light gray, pale brown and very dark gray, Clayey fine to medium SAND (SC), some medium plasticity fines, 10YR8/8, 2.5Y7/1, 2.5Y8/4, 2.5Y3/1.
	6.0	@4 feet - mottled brownish yellow, light gray and yellowish red, 10YR6/8, 10YR7/1, 5YR5/8.
	8.0	Medium dense, dry to moist, mottled reddish yellow, yellow, white and light gray, Silty fine to medium SAND (SM), some low plasticity fines, trace mica, 5YR6/8, 2.5Y8/6, 2.5Y8/1, 2.5Y7/1.
424.8	10.0	Medium dense, dry to moist, white with yellow mottles, Clayey fine to coarse SAND (SC), some medium plasticity fines, micaceous, 2.5Y8/1, 2.5Y8/8.
		Boring Terminated at 10 feet.
419.8		
414.8		
409.8		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	4	9	15	20	24
2.0	SS-2	10	9	11	13	20
4.0	SS-3	12	10	10	9	20
6.0	SS-4	10	13	17	21	30
8.0	SS-5	9	12	13	18	25



LEGEND

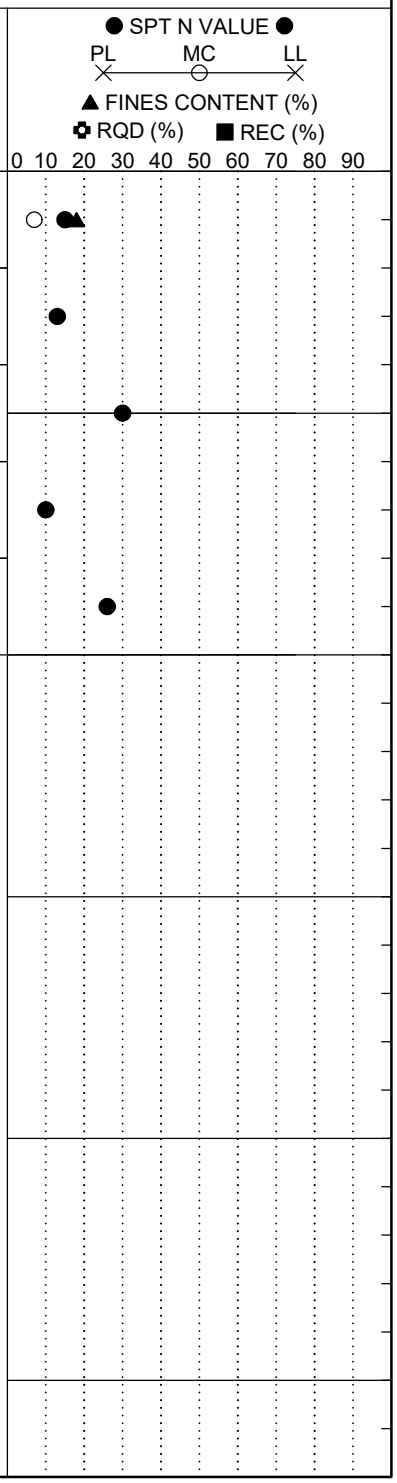
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	SB-31
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77S
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1661+74.89	**Offset:**	-28.6
Alignment:	Proposed				
Elev.:	432.7 ft	**Latitude:**	34.17380821	**Longitude:**	-80.97416973
Date Started:	9/24/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/24/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE **24HR** N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.
		FILL - medium dense, dry, dark grayish brown and yellowish brown, Silty fine to medium SAND (SM) (A-1-b), little low plasticity fines, few fine to coarse crushed stone, trace organics, trace mica, 2.5Y4/2, 10YR5/6. NMC=7%, %#200=18
	4.0	@2 feet - No Recovery.
427.7		
	6.0	Medium dense, dry to moist, mottled yellowish brown, Clayey fine to medium SAND (SC), some medium plasticity fines, trace mica, 10YR5/6, 10YR5/8.
	8.0	@5 feet - dry, olive brown, trace organics, absent mica, 2.5Y4/6.
		COASTAL PLAIN - loose, dry to moist, grayish brown, Silty fine to medium SAND (SM), some low plasticity fines, trace organics, 2.5Y5/2.
422.7	10.0	
		Medium dense, dry to moist, mottled light olive brown, dark yellowish brown and gray, Clayey fine to medium SAND (SC), some medium plasticity fines, 10YR4/6, 10YR6/1, 2.5Y5/8.
		@9 feet - mottled yellowish brown, white and yellowish red, 10YR5/8, 10YR8/1, 5YR4/6.
417.7		
		Boring Terminated at 10 feet.
412.7		
407.7		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	8	8	7	9	15
2.0	SS-2	6	6	7	10	13
4.0	SS-3	13	15	15	15	30
6.0	SS-4	9	5	5	4	10
8.0	SS-5	12	12	14	20	26



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

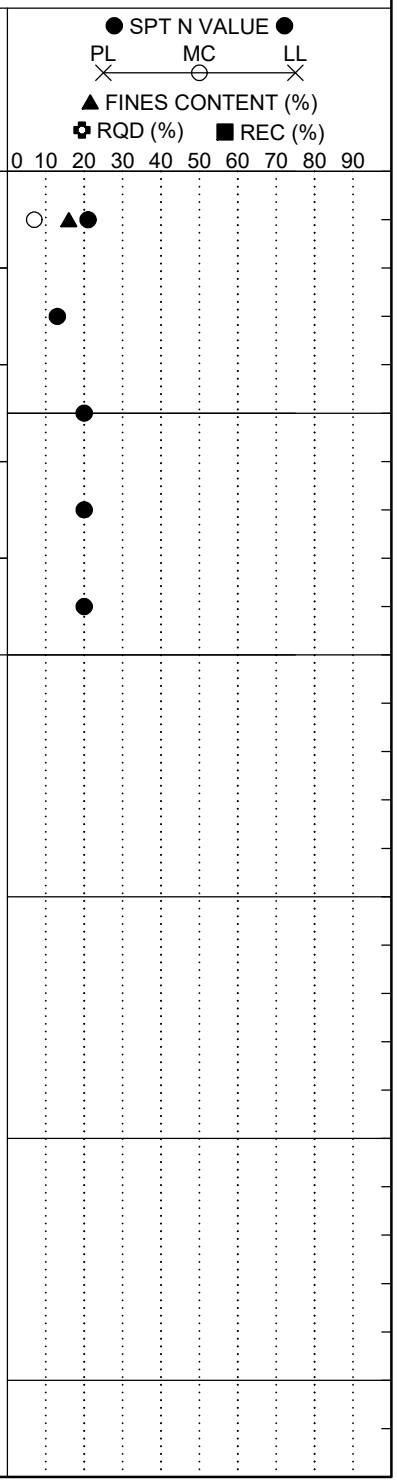
SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	SB-32
Site Description:	I-77 Exit 26 - Roadways			**Route:**	I-77S
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1656+78.14	**Offset:**	-30.7
Alignment:	Proposed				
Elev.:	431.2 ft	**Latitude:**	34.17275989	**Longitude:**	-80.973118
Date Started:	9/24/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/24/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE
24HR	N/A				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.
	3.0	**FILL** - medium dense, dry to moist, dark grayish brown, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, few fine to coarse crushed stone, trace organics, trace mica, 2.5Y4/2. NMC=7%, %#200=16
426.2		@2 feet - dark yellowish brown, absent crushed stone, absent organics, absent mica, 10YR4/4.
		COASTAL PLAIN - medium dense, dry to moist, mottled brownish yellow and yellowish brown, Silty fine to medium SAND (SM), some low plasticity fines, trace mica, 10YR6/6, 10YR5/6.
421.2	10.0	@4 feet - mottled yellowish brown, light yellowish brown and yellowish red, 10YR5/8, 10YR6/4, 5YR4/6.
		@6 feet - mottled yellow, white and yellowish red, micaceous, trace fine gravel, 10YR7/6, 10YR8/1, 5YR4/6.
		Boring Terminated at 10 feet.
416.2		
411.2		
406.2		

Graphic Log

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	8	9	12	10	21
2.0	SS-2	6	6	7	8	13
4.0	SS-3	8	9	11	10	20
6.0	SS-4	7	11	9	12	20
8.0	SS-5	8	10	10	11	20



LEGEND

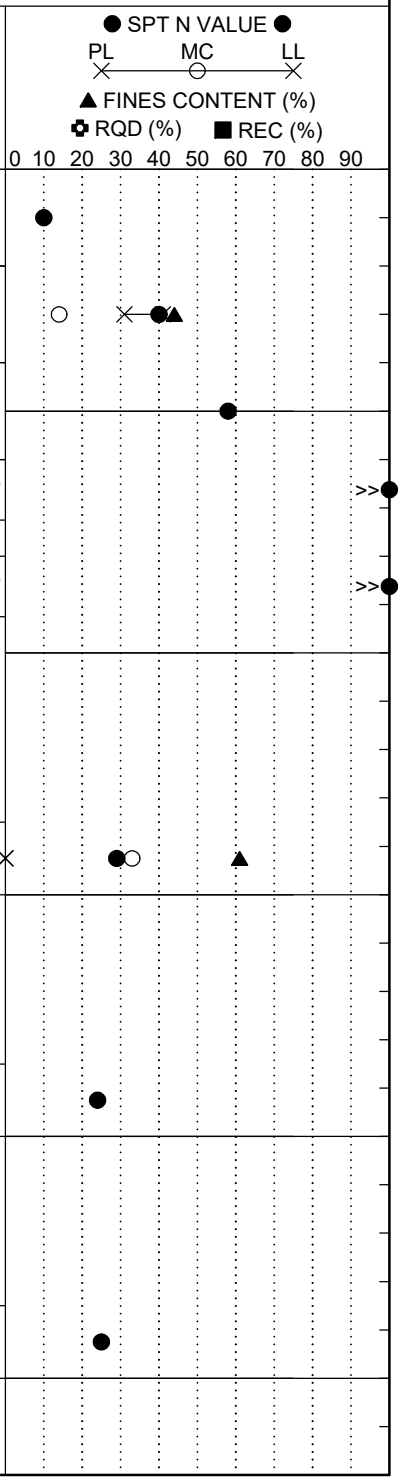
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-35
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp BA
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1746+21.01	**Offset:**	108.8
Alignment:	Proposed				
Elev.:	443.8 ft	**Latitude:**	34.195066128	**Longitude:**	-80.98541531
Date Started:	11/2/2023				
Total Depth:	30 ft	**Soil Depth:**	30 ft	**Core Depth:**	N/A ft
Date Completed:	11/2/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	91.6%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A
24HR	17.4 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.
	1.0	**FILL** - loose, dry, yellow, Silty fine to medium SAND (SM), some low plasticity fines, trace roots, 2.5Y7/6, 2.5Y8/6.
438.8		**PIEDMONT RESIDUUM** - loose, dry, laminated white, very pale yellow and brownish yellow, Silty fine to coarse SAND (SM), some low plasticity fines, 2.5Y8/1, 2.5Y9.5/2, 10YR6/8.
	6.0	@2 feet - dense, (A-5(2)). LL=41, PL=31, PI=10, NMC=14%, %#200=44
		@4 feet - very dense, laminated white and yellow, 2.5Y8/1, 10YR7/6.
433.8		**PARTIALLY WEATHERED ROCK (PWR)** - very dense, dry, laminated white, yellow and pale brown, Silty fine to medium SAND (SM), some low plasticity fines, 2.5Y8/1, 2.5Y7/6, 2.5Y8/4.
		@8 feet - laminated white and yellow, 2.5Y8/1, 2.5Y8/6.
	13.5	**PIEDMONT RESIDUUM** - very stiff, dry, laminated white and yellow, Sandy SILT (ML) (A-4(0)), some fine to medium sands, trace fine quartz weathered rock fragments, 10YR8/1, 10YR7/8. LL=NP, PL=NP, PI=NP, NMC=33%, %#200=61
428.8		
		@18.5 feet - brownish yellow, absent fine weathered rock fragments, 10YR6/8.
423.8		
		@23.5 feet - laminated white and yellow, 10YR8/1, 10YR7/8.
418.8		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	3	4	6	8	10
2.0	SS-2	10	14	26	35	40
4.0	SS-3	10	28	30	37	58
6.0	SS-4	14	38	50/3"		50/3"
8.0	SS-5	23	46	50/3"		50/3"
13.5	SS-6	10	12	17		29
18.5	SS-7	6	9	15		24
23.5	SS-8	7	12	13		25



LEGEND

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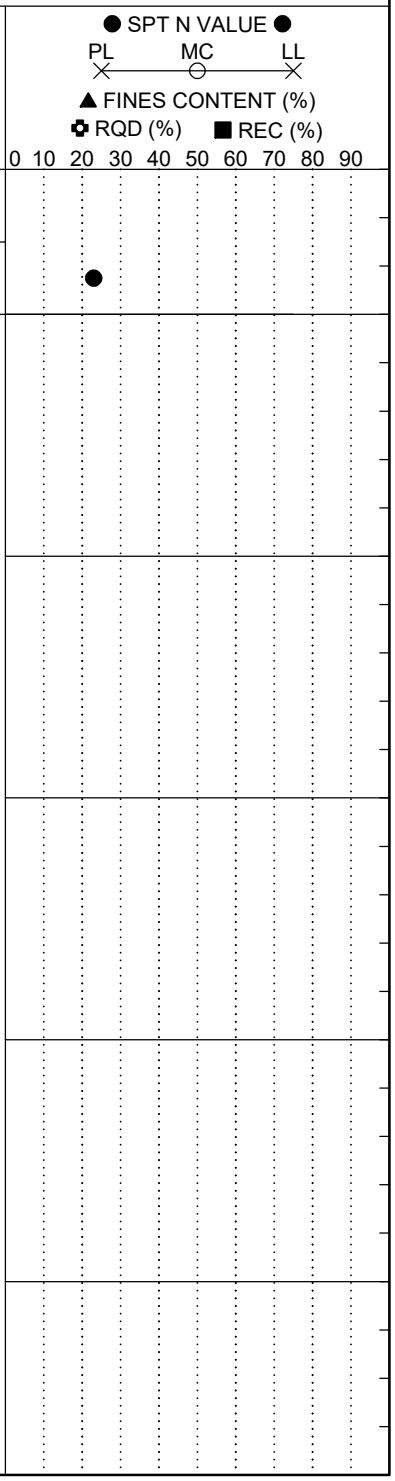
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-35
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp BA
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1746+21.01	**Offset:**	108.8
Alignment:	Proposed				
Elev.:	443.8 ft	**Latitude:**	34.195066128	**Longitude:**	-80.98541531
Date Started:	11/2/2023				
Total Depth:	30 ft	**Soil Depth:**	30 ft	**Core Depth:**	N/A ft
Date Completed:	11/2/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	91.6%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A
24HR	17.4 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
				28.5						
		@28.5 feet - white with gray and white laminations, 10YR8/1, 10YR5/1.			SS-9	8	10	13		23
413.8	30.0	Boring Terminated at 30 feet.								
408.8										
403.8										
398.8										
393.8										



LEGEND

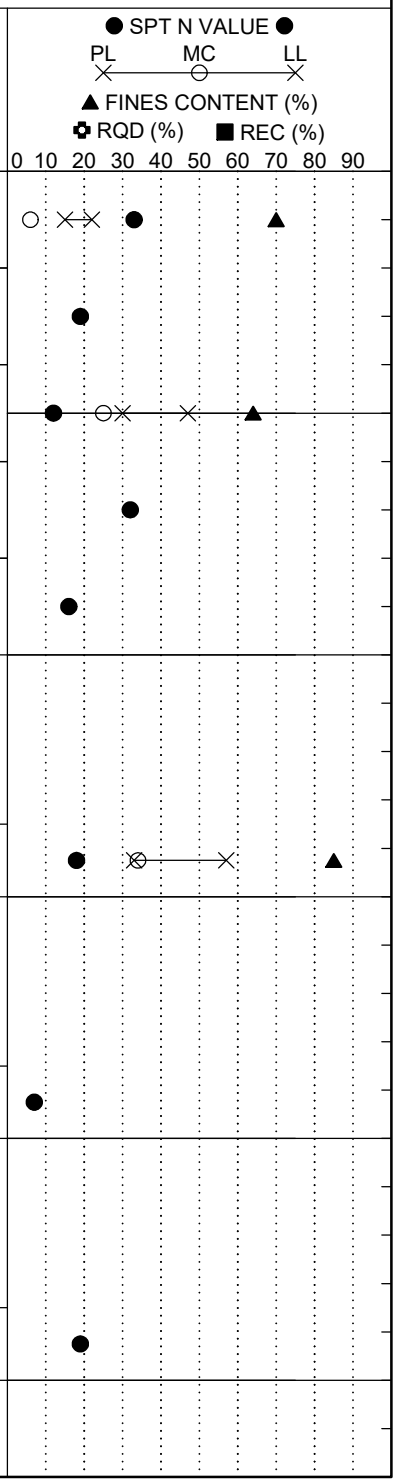
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-36		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp BA		
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1747+42.52	**Offset:**	124.8	**Alignment:**	Proposed
Elev.:	445.4 ft	**Latitude:**	34.195342664	**Longitude:**	-80.98550265	**Date Started:**	11/1/2023
Total Depth:	30 ft	**Soil Depth:**	30 ft	**Core Depth:**	N/A ft	**Date Completed:**	11/1/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	91.6%
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A	**24HR**	11.9 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.1	**SURFACE MATERIAL** - TOPSOIL - 1 inch.
		FILL - hard, dry, pale brown with brownish yellow mottles, SILTY CLAY with Sand (CL-ML) (A-4(2)), little fine sands, trace roots, 2.5Y8/3, 10YR6/8. LL=22, PL=15, PI=7, NMC=6%, %#200=70
	4.0	
440.4		@2 feet - very stiff, mottled yellow, brownish yellow and very dark grayish brown, trace fine crushed stone, 10YR6/8, 10YR8/8, 10YR3/2.
	6.0	
		COASTAL PLAIN - stiff, dry, mottled brownish yellow, white and yellowish red, Sandy SILT (ML) (A-7-5(10)), some fine to medium sands, 10YR6/8, 10YR8/1, 5YR5/8. LL=47, PL=30, PI=17, NMC=25%, %#200=64
	8.0	
435.4		Hard, moist, mottled reddish yellow, brownish yellow and white, Sandy Lean CLAY (CL), some fine to coarse sands, 5YR6/8, 10YR6/6, 10YR8/1.
		PIEDMONT RESIDUUM - very stiff, dry, laminated white and brownish yellow, Sandy SILT (ML), some fine to medium sands, 10YR8/1, 10YR6/8.
	13.5	
430.4		Very stiff, dry, laminated gray, white and yellowish brown, Elastic SILT with Sand (MH) (A-7-5(24)), little fine sands, 10YR5/1, 10YR8/1, 10YR5/8. LL=57, PL=33, PI=24, NMC=34%, %#200=85
		@18.5 feet - firm, poor recovery.
425.4		
	23.5	
420.4		Very stiff, dry, laminated gray, white, yellowish brown and black, Sandy SILT (ML), some fine to medium sands, trace fine weathered rock fragments, 10YR5/1, 10YR8/1, 10YR5/6, 10YR2/1.

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	9	15	18	14	33
2.0	SS-2	7	9	10	11	19
4.0	SS-3	5	6	6	7	12
6.0	SS-4	15	13	19	16	32
8.0	SS-5	6	8	8	11	16
13.5	SS-6	5	7	11		18
18.5	SS-7	2	2	5		7
23.5	SS-8	4	7	12		19



LEGEND

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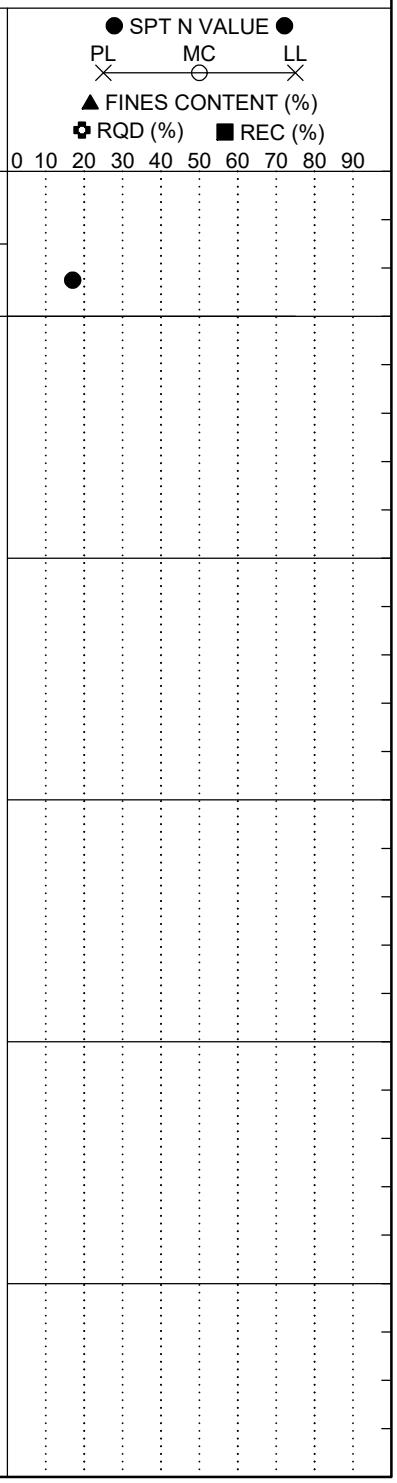
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-36
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp BA
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1747+42.52	**Offset:**	124.8
Alignment:	Proposed				
Elev.:	445.4 ft	**Latitude:**	34.195342664	**Longitude:**	-80.98550265
Date Started:	11/1/2023				
Total Depth:	30 ft	**Soil Depth:**	30 ft	**Core Depth:**	N/A ft
Date Completed:	11/1/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	91.6%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A
24HR	11.9 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
				28.5						
		@28.5 feet - laminated pale yellow and brownish yellow, 5Y8/4, 10YR6/8.			SS-9	5	8	9		17
415.4	30.0	Boring Terminated at 30 feet.								
410.4										
405.4										
400.4										
395.4										



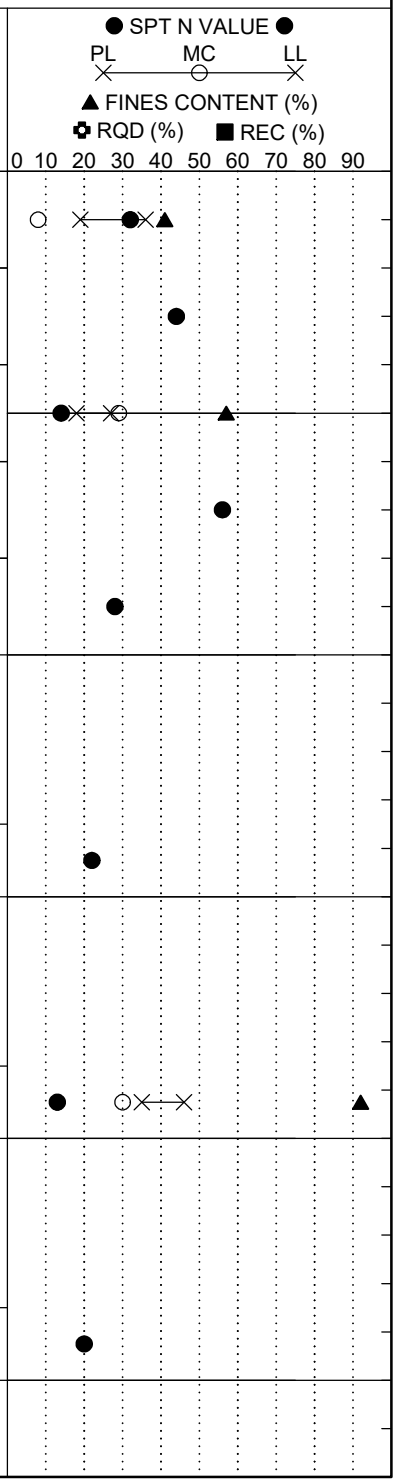
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-37		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp BA		
Eng./Geo.:	H. Skerkis	**Boring Location:**	1748+44.6	**Offset:**	107.8	**Alignment:**	Proposed
Elev.:	443.8 ft	**Latitude:**	34.195559873	**Longitude:**	-80.98563149	**Date Started:**	11/1/2023
Total Depth:	30 ft	**Soil Depth:**	30 ft	**Core Depth:**	N/A ft	**Date Completed:**	11/1/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	91.0%
Core Size:	N/A	**Driller:**	T. Shearin	**Groundwater:**	**TOB** NE	**24HR**	NE

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	10	16	16	16	32
	0.0	**SURFACE MATERIAL** - TOPSOIL - 0.5 inches.							
		FILL - dense, dry to moist, brownish yellow, yellow and very pale brown, Clayey fine to medium SAND (SC) (A-6(3)), some medium plasticity fines, trace organics, 10YR6/8, 10YR8/6, 10YR8/4. LL=36, PL=19, PI=17, NMC=8%, %#200=41	2.0	SS-2	18	22	22	23	44
	4.0		4.0						
438.8		@2 feet - brownish yellow, light yellowish brown and yellow, 10YR6/8, 10YR6/4, 10YR7/8.		SS-3	7	8	6	8	14
	6.0		6.0						
		Stiff, dry to moist, brownish yellow, very pale brown and yellow, Sandy Lean CLAY (CL) (A-4(3)), some fine to medium sands, 10YR6/6, 10YR8/4, 10YR7/8. LL=27, PL=18, PI=9, NMC=29%, %#200=57		SS-4	11	25	31	20	56
			8.0						
				SS-5	6	12	16	9	28
433.8		**COASTAL PLAIN** - very dense, light brownish gray, light yellowish brown and white, Silty fine to medium SAND (SM), some low plasticity fines, trace roots, 10YR6/2, 10YR6/4, 10YR8/1.							
		@8 feet - medium dense, trace fine to coarse gravel quartz.							
	13.5		13.5						
		PIEDMONT RESIDUUM - very stiff, moist, laminated yellow and white, SILT (ML), few fine to medium sands, 10YR8/8, 10YR7/8, 10YR8/1.		SS-6	2	6	16		22
428.8									
			18.5						
		@18.5 feet - stiff, (A-7-5(14)). LL=46, PL=35, PI=11, NMC=30%, %#200=92		SS-7	3	5	8		13
423.8									
			23.5						
		@23.5 feet - very stiff, trace fine rock fragments.		SS-8	10	9	11		20
418.8									



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-37		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp BA		
Eng./Geo.:	H. Skerkis	**Boring Location:**	1748+44.6	**Offset:**	107.8	**Alignment:**	Proposed
Elev.:	443.8 ft	**Latitude:**	34.195559873	**Longitude:**	-80.98563149	**Date Started:**	11/1/2023
Total Depth:	30 ft	**Soil Depth:**	30 ft	**Core Depth:**	N/A ft	**Date Completed:**	11/1/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	91.0%
Core Size:	N/A	**Driller:**	T. Shearin	**Groundwater:**	**TOB** NE	**24HR**	NE

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		@28.5 feet - stiff, absent rock fragments.		28.5	SS-9	5	6	7		13
413.8	30.0	Boring Terminated at 30 feet.								
408.8										
403.8										
398.8										
393.8										

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

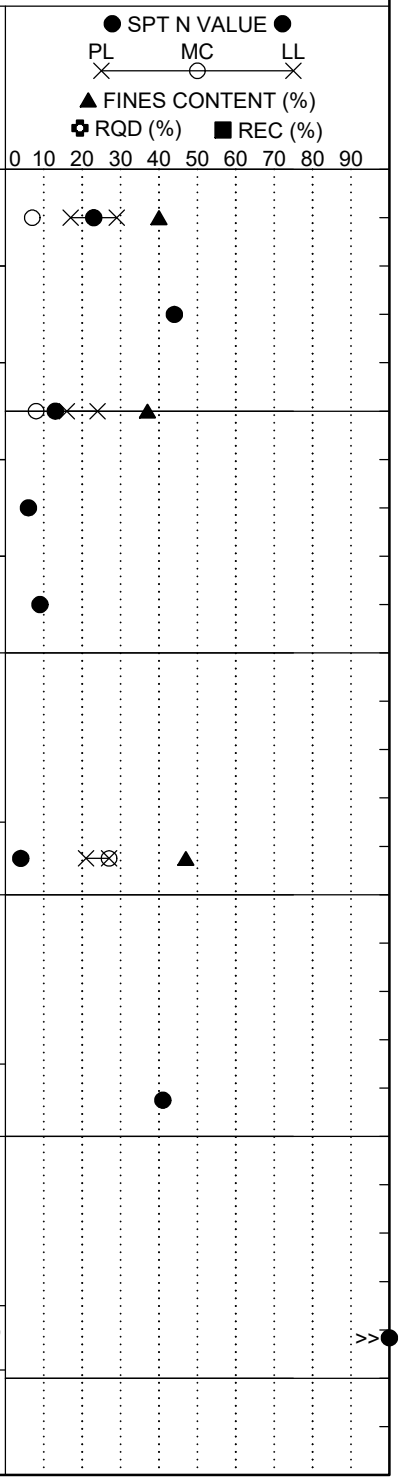
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-38		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp BA		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1749+40.73	**Offset:**	90.7	**Alignment:**	Proposed
Elev.:	442.4 ft	**Latitude:**	34.195781204	**Longitude:**	-80.98572449	**Date Started:**	10/30/2023
Total Depth:	28.8 ft	**Soil Depth:**	28.8 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/30/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	23.3 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	9	10	13	14	23
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.							
	2.0	**FILL** - medium dense, dry, reddish yellow and light yellowish brown, Clayey fine to coarse SAND (SC) (A-6(1)), some medium plasticity fines, trace roots, 7.5YR6/6, 7.5YR6/4. LL=29, PL=17, PI=12, NMC=7%, %#200=40	2.0	SS-2	18	22	22	17	44
	4.0		4.0						
437.4		Dense, dry, very pale brown, Silty fine to medium SAND (SM), some low plasticity fines, 10YR7/3.		SS-3	7	7	6	6	13
			6.0						
		Medium dense, dry to moist, reddish yellow with white mottles, Clayey fine to coarse SAND (SC) (A-4(0)), some medium plasticity fines, 2.5YR6/6, 7.5YR8/1. LL=24, PL=16, PI=8, NMC=8%, %#200=37		SS-4	1	3	3	5	6
			8.0						
		@6 feet - loose, moist, yellowish brown with reddish yellow mottles, some medium plasticity fines, little roots, 10YR5/4, 7.5YR6/6.		SS-5	2	4	5	7	9
432.4		@8 feet - brown with brownish yellow and white mottles, few roots, 10YR4/3, 10YR6/6, 10YR8/1.							
	13.5		13.5						
		COASTAL PLAIN - very loose, moist, gray to dark gray to black, Silty, Clayey fine to medium SAND (SC-SM) (A-4(0)), some low to medium plasticity fines, few coarse wood fragments, 10YR5/1 to 10YR4/1 to 10YR2/1. LL=27, PL=21, PI=6, NMC=27%, %#200=47		SS-6	2	2	2		4
427.4									
	18.5		18.5						
		PIEDMONT RESIDUUM - hard, dry, laminated white, yellowish brown and gray, SILT (ML), few fine to medium sands, relict rock structure, 10YR8/1, 10YR5/8, 10YR6/1.		SS-7	8	13	28		41
422.4									
	23.5		23.5						
		PARTIALLY WEATHERED ROCK (PWR) - very hard, dry, laminated gray and white with yellow mottles, SILT (ML), few fine sands, relict rock structure, 10YR5/1, 10YR8/1, 2.5Y7/6.		SS-8	24	46	50/4"		50/4"
417.4									



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-38		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp BA		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1749+40.73	**Offset:**	90.7	**Alignment:**	Proposed
Elev.:	442.4 ft	**Latitude:**	34.195781204	**Longitude:**	-80.98572449	**Date Started:**	10/30/2023
Total Depth:	28.8 ft	**Soil Depth:**	28.8 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/30/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	23.3 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	28.8	Boring Terminated at 28.8 feet.		28.5	SS-9	50/3"				50/3"

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

412.4
407.4
402.4
397.4
392.4

LEGEND

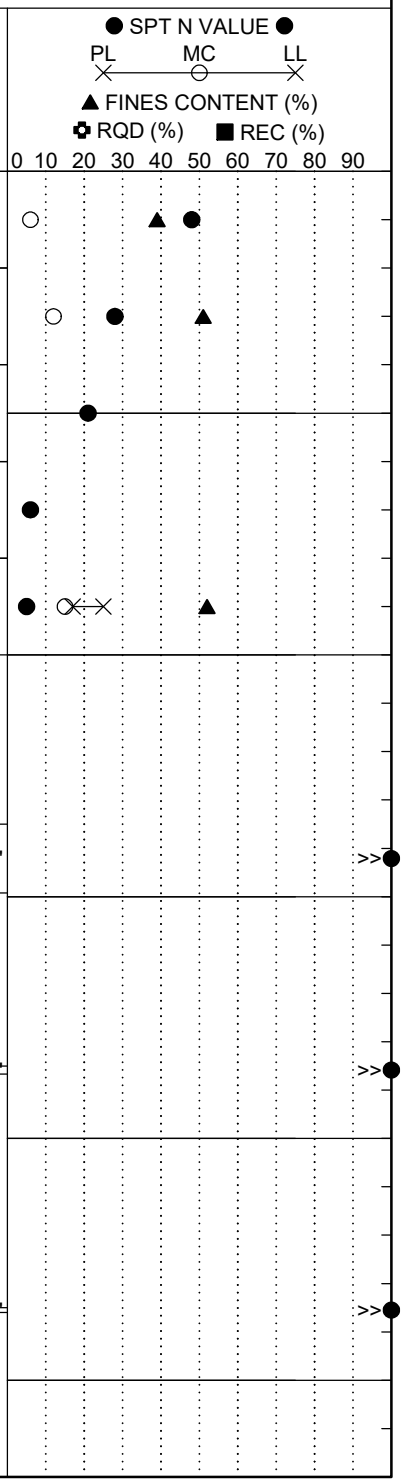
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-39		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp BA		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1750+54.8	**Offset:**	74.3	**Alignment:**	Proposed
Elev.:	440.6 ft	**Latitude:**	34.196080383	**Longitude:**	-80.98578848	**Date Started:**	10/30/2023
Total Depth:	28.8 ft	**Soil Depth:**	28.8 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/30/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	21.3 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.1	**SURFACE MATERIAL** - TOPSOIL - 1 inch.
	2.0	**FILL** - dense, dry, reddish yellow with white mottles, Clayey fine to coarse SAND (SC), some medium plasticity fines, trace roots, 7.5YR6/6, 7.5YR8/1. NMC=6%, %#200=39
	4.0	
	4.5	Very stiff, dry, yellowish red and white with brownish yellow mottles, Sandy SILT (ML), some fine to medium sands, 5YR5/8, 7.5YR8/1, 10YR6/8. NMC=12%, %#200=51
435.6	6.0	
		Medium dense, moist, grayish brown and reddish yellow, Clayey fine to coarse SAND (SC), some medium plasticity fines, 10YR5/3, 5YR6/6, poor recovery.
		Very stiff, dry to moist, white to light gray with yellow mottles, SILT (ML), trace fine sands, 10YR8/1 to 10YR7/1, 10YR7/6, poor recovery.
430.6		
		Firm, moist, gray to dark gray with grayish brown mottles, Sandy Lean CLAY (CL), some fine to coarse sands, trace roots, 10YR5/1 to 10YR4/1, 10YR5/2.
	13.5	@8 feet - light gray to gray with yellowish brown mottles, (A-4(1)), absent roots, trace fine to coarse quartz gravel, 10YR7/1 to 10YR6/1, 10YR5/8. LL=25, PL=17, PI=8, NMC=15%, %#200=52
425.6		
		PARTIALLY WEATHERED ROCK (PWR) - very hard, dry, laminated light gray to white and yellowish brown, SILT with Sand (ML), little fine to medium sands, trace coarse quartz rock fragments, relict rock structure, 10YR7/1 to 10YR8/1, 10YR5/8.
420.6		@18.5 feet - laminated white and yellow, 10YR8/1, 10YR7/8.
		@23.5 feet - trace fine rock fragments, trace coarse quartz rock fragments.
415.6		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	11	19	29	33	48
2.0	SS-2	17	18	10	14	28
4.0	SS-3	6	10	11	20	21
6.0	SS-4	6	4	2	2	6
8.0	SS-5	WOH	2	3	3	5
13.5	SS-6	22	30	50/5"		50/5"
18.5	SS-7	50/2"				50/2"
23.5	SS-8	50/1"				50/1"



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-39
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp BA
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1750+54.8	**Offset:**	74.3
Alignment:	Proposed				
Elev.:	440.6 ft	**Latitude:**	34.196080383	**Longitude:**	-80.98578848
Date Started:	10/30/2023				
Total Depth:	28.8 ft	**Soil Depth:**	28.8 ft	**Core Depth:**	N/A ft
Date Completed:	10/30/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	87.6%				
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A
24HR	21.3 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	28.8	@28.5 feet - laminated white and light gray, absent quartz, 10YR8/1 to 10YR7/1.		28.5	SS-9	50/3"				50/3"
410.6		Boring Terminated at 28.8 feet.								
405.6										
400.6										
395.6										
390.6										

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

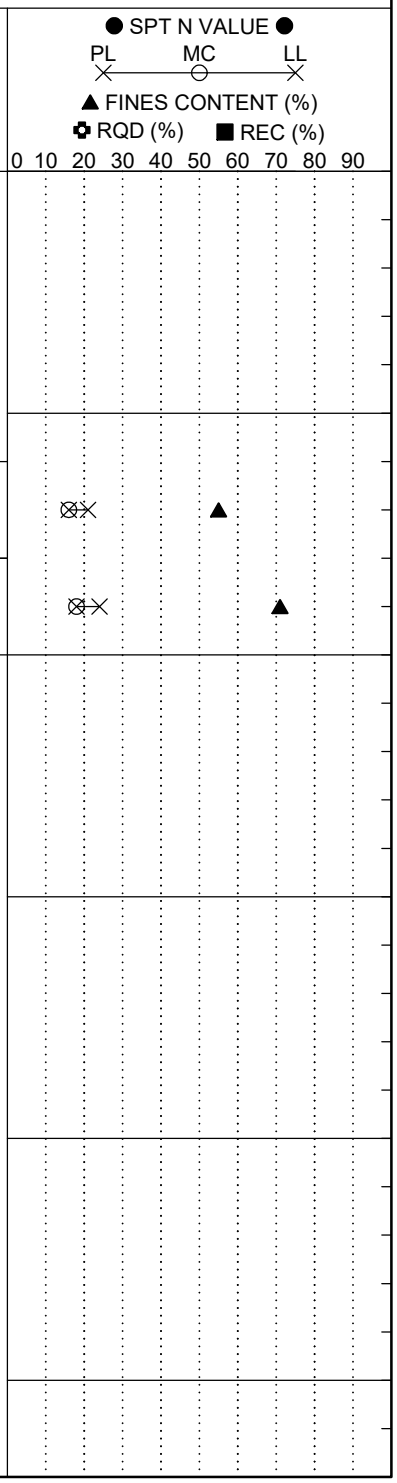
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-39UD
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp BA
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1750+54.8	**Offset:**	74.3
Alignment:	Proposed				
Elev.:	440.6 ft	**Latitude:**	34.196080383	**Longitude:**	-80.98578848
Date Started:	10/31/2023				
Total Depth:	2 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	10/31/2023				
Bore Hole Diameter (in):	6	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	87.6%				
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A
24HR	N/A				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	Auger Probe without sampling to 6 feet for undisturbed sampling								
435.6	6.0	Moist, very pale brown and grayish brown, Sandy Silty CLAY (CL-ML) (A-4(0)), some fine to medium sands, 10YR7/3, 10YR5/2. LL=21, PL=16, PI=5, NMC=16%, %#200=55		6.0	UD-3					
	8.0	Moist, grayish brown and light yellowish brown, Silty CLAY with Sand (CL-ML) (A-4(2)), little fine to medium sands, 10YR5/2, 10YR6/4. LL=24, PL=18, PI=6, NMC=18%, %#200=71		8.0	UD-4					
430.6	10.0	Boring Terminated at 10 feet.								
425.6										
420.6										
415.6										



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

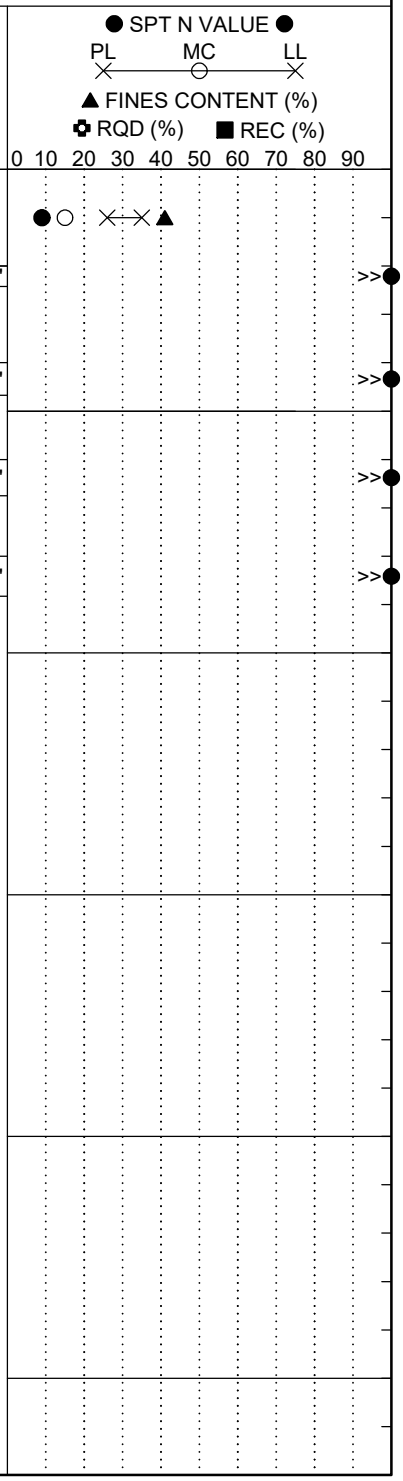
SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-40
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp BA
Eng./Geo.:	H. Skerkis	**Boring Location:**	1747+53.03	**Offset:**	-45.6
Alignment:	Proposed				
Elev.:	436.6 ft	**Latitude:**	34.195219579	**Longitude:**	-80.98604721
Date Started:	10/31/2023				
Total Depth:	8.8 ft	**Soil Depth:**	8.8 ft	**Core Depth:**	N/A ft
Date Completed:	10/31/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	91.0%				
Core Size:	N/A	**Driller:**	T. Shearin	**Groundwater:**	**TOB** NE
24HR	NE				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.
		COASTAL PLAIN - loose, dry, yellow and pale brown, Silty fine to medium SAND (SM) (A-4(1)), some low plasticity fines, few organics, 10YR7/8, 10YR6/3. LL=35, PL=26, PI=9, NMC=15%, %#200=41
	4.0	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, yellow and pale brown, Sandy SILT (ML), some fine to coarse sands, 10YYR8/6, 10YR6/3.
431.6		@6 feet - trace organics, 2.5Y8/8, 2.5Y8/3.
	8.8	Boring Terminated at 8.8 feet.
426.6		
421.6		
416.6		
411.6		

Graphic Log

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	3	4	5	6	9
2.0	SS-2	50/5"				50/5"
4.0	SS-3	28	50/2"			50/2"
6.0	SS-4	29	50/3"			50/3"
8.0	SS-5	39	50/4"			50/4"



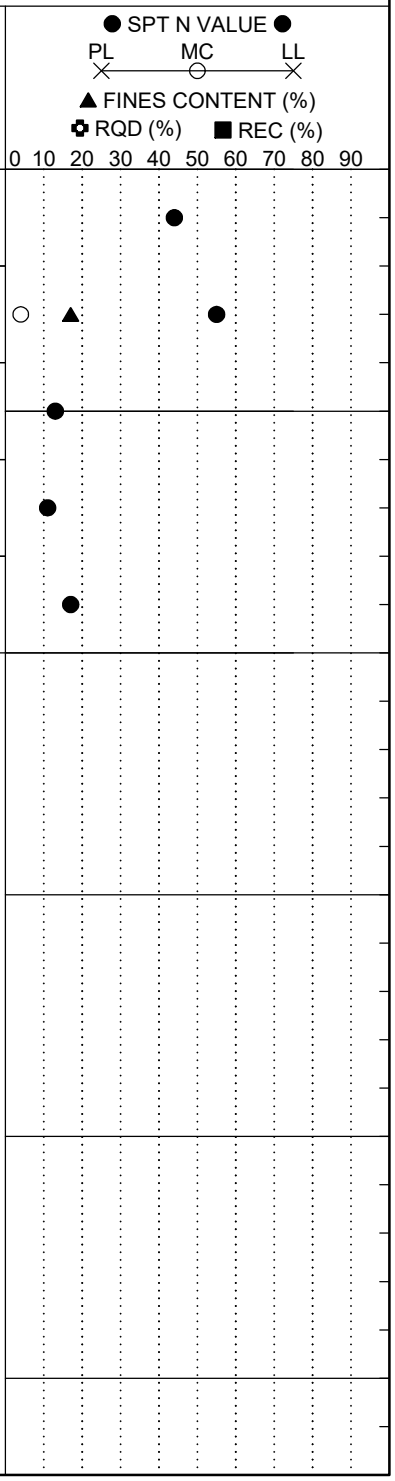
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-41		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp BA		
Eng./Geo.:	H. Skerkis	**Boring Location:**	1748+06.37	**Offset:**	25.6	**Alignment:**	Proposed
Elev.:	441.5 ft	**Latitude:**	34.195416602	**Longitude:**	-80.98587107	**Date Started:**	11/17/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	11/17/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	D-50 Turbo	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	96.8%
Core Size:	N/A	**Driller:**	F. Crane	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	Roadway	0.0						
	0.4	**SURFACE MATERIALS** - ASPHALT - 5 inches.							
	0.8	AGGREGATE BASE COURSE - 5 inches.							
	2.0	**FILL** - dense, moist, yellow, brownish yellow and brown, Clayey fine to coarse SAND (SC), some medium plasticity fines, 10YR7/8, 10YR8/6, 10YR6/8, 10YR5/3.	2.0	SS-1	5	15	29	46	44
			4.0	SS-2	34	32	23	19	55
436.5		**COASTAL PLAIN** - very dense, moist, very pale brown, Silty fine to medium SAND (SM) (A-2-4), little nonplastic fines, 10YR7/3, 10YR8/3, 10YR8/4, 10YR7/4. NMC=4%, %#200=17		SS-3	4	6	7	6	13
	6.0	@4 feet - medium dense, very pale brown and brown, 10YR7/3, 10YR5/3.	6.0	SS-4	7	5	6	8	11
		Stiff, moist, yellow, Sandy SILT (ML), some fine to medium sands, 10YR7/8, 10YR8/6.	8.0	SS-5	7	9	8	9	17
431.5	10.0	@8 feet - very stiff.							
		Boring Terminated at 10 feet.							
426.5									
421.5									
416.5									



LEGEND

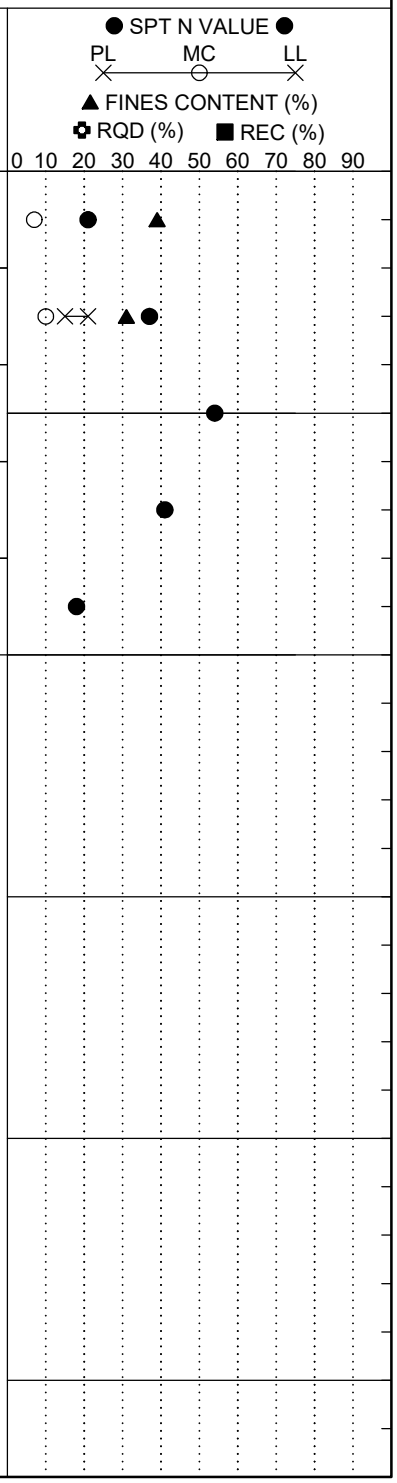
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-42		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp BA		
Eng./Geo.:	H. Skerkis	**Boring Location:**	1749+36.95	**Offset:**	36.0	**Alignment:**	Proposed
Elev.:	434.6 ft	**Latitude:**	34.195760603	**Longitude:**	-80.98590397	**Date Started:**	11/17/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	11/17/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	D-50 Turbo	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	96.8%
Core Size:	N/A	**Driller:**	F. Crane	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.2	**SURFACE MATERIALS** - TOPSOIL - 2 inches.
	2.0	**FILL** - medium dense, moist, pale brownish yellow and very pale brown, Silty fine to coarse SAND (SM), some low plasticity fines, trace fine crushed stone, 10YR6/8, 10YR7/4. NMC=7%, %#200=39
	4.0	**COASTAL PLAIN** - dense, dry to moist, reddish yellow and very pale brown, Silty, Clayey fine to coarse SAND (SC-SM) (A-2-4), some low to medium plasticity fines, 7.5YR6/6, 10YR7/4. LL=21, PL=15, PI=6, NMC=10%, %#200=31
429.6		
		Very dense, dry to moist, very pale brown and yellow, Poorly Graded fine to medium SAND with Silt (SP-SM), few low plasticity fines, 10YR7/4, 10YR7/6.
	10.0	@6 feet - dense, moist.
424.6		@8 feet - medium dense, yellow, 10YR7/6.
		Boring Terminated at 10 feet.
419.6		
414.6		
409.6		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	4	11	10	12	21
2.0	SS-2	14	18	19	30	37
4.0	SS-3	8	25	29	27	54
6.0	SS-4	13	19	22	18	41
8.0	SS-5	11	10	8	6	18



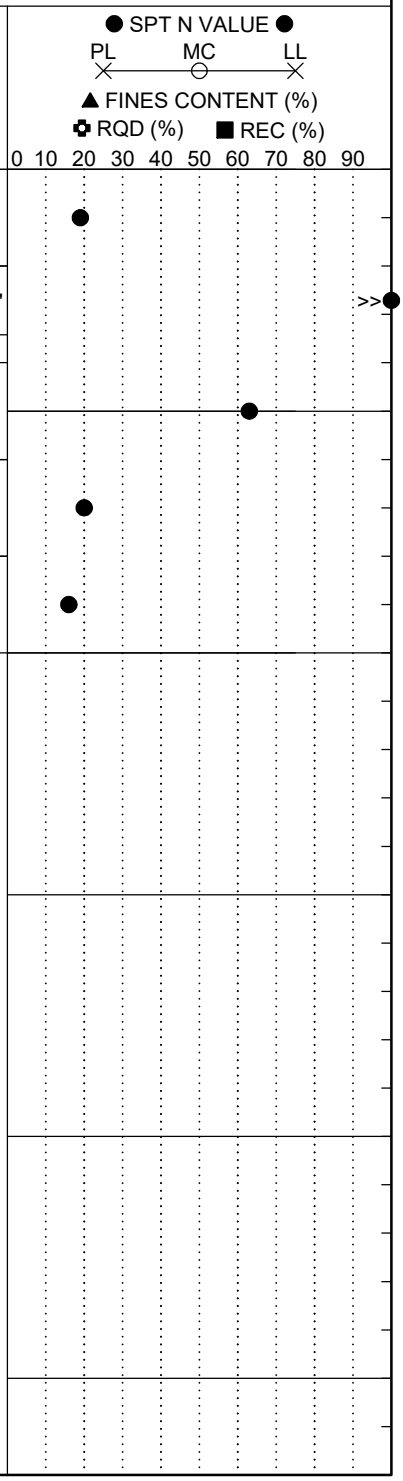
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-43
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp BA
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1750+25.31	**Offset:**	42.1
Alignment:	Proposed				
Elev.:	444.8 ft	**Latitude:**	34.195997752	**Longitude:**	-80.985893012
Date Started:	10/30/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	10/30/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	87.6%				
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A **24HR** NE

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0									
	0.1	**SURFACE MATERIAL** - TOPSOIL - 1 inch.		0.0	SS-1	5	7	12	20	19
	3.0	**FILL** - medium dense, dry, reddish yellow to light brown, Clayey fine to coarse SAND (SC) (A-2-4), some medium plasticity fines, trace roots, 7.5YR6/6 to 7.5YR6/4. LL=27, PL=17, PI=10, NMC=7%, %#200=33		2.0	SS-2	22	38	50/5"		50/5"
	4.0	@2 feet - very dense, yellowish red to strong brown, fine to medium, little medium plasticity fines, 5YR5/8, 7.5YR5/8.		4.0						
439.8					SS-3	11	28	35	36	63
	6.0	Very hard, dry, white and yellow, SILT (ML), trace fine sands, 10YR8/1, 10YR7/6.		6.0						
	8.0	Very dense, dry, light gray to gray and reddish yellow, Silty fine to medium SAND (SM), some low plasticity fines, 5YR7/1 to 5YR6/1, 5YR6/8.		8.0	SS-4	9	10	10	11	20
					SS-5	4	6	10	14	16
434.8	10.0	Very stiff, moist, grayish brown with brownish yellow mottles, Sandy Lean CLAY (CL) (A-6(3)), some fine to medium sands, trace fine to coarse charcoal fragments, 10YR5/2, 10YR6/6. LL=28, PL=16, PI=12, NMC=13%, %#200=53								
429.8		**COASTAL PLAIN** - medium dense, moist, mottled light gray and brownish yellow, Clayey fine to medium SAND (SC), some medium plasticity fines, trace fine gravel, 10YR7/1, 10YR6/6.								
		Boring Terminated at 10 feet.								
424.8										
419.8										



LEGEND

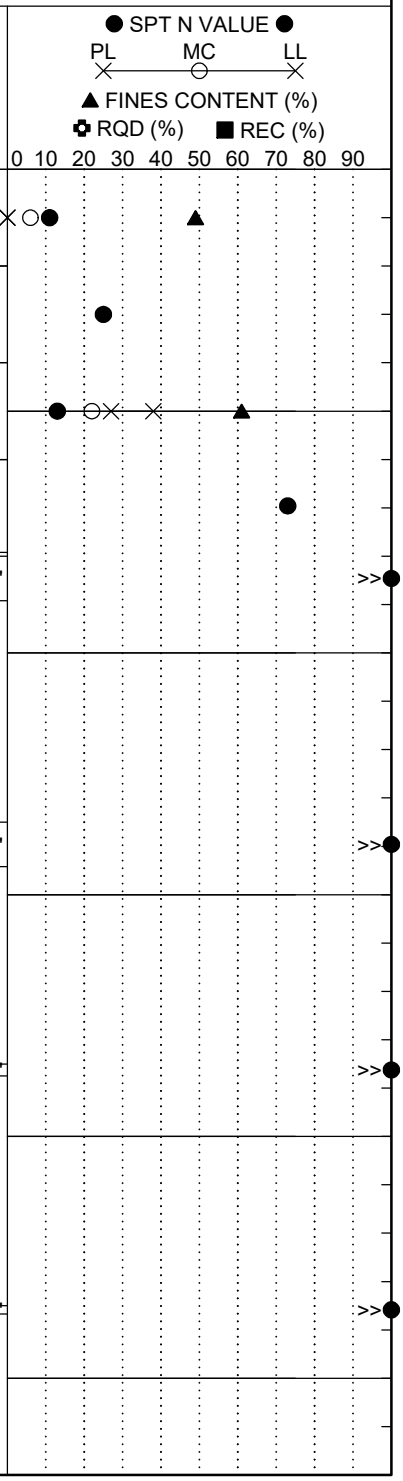
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-44		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp BA		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1751+28.93	**Offset:**	13.1	**Alignment:**	Proposed
Elev.:	432.6 ft	**Latitude:**	34.196280981	**Longitude:**	-80.985995197	**Date Started:**	10/27/2023
Total Depth:	38.9 ft	**Soil Depth:**	38.9 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/27/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	17.3 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.
		COASTAL PLAIN - medium dense, dry, light gray to very pale brown and grayish brown, Silty fine to coarse SAND (SM) (A-4(0)), some low plasticity fines, trace fine gravel, trace fine roots, 10YR7/2 to 10YR7/3, 10YR5/2. LL=NP, PL=NP, PI=NP, NMC=6%, %#200=49
	4.0	
	4.5	
427.6		@2 feet - very pale brown, 10YR7/3 to 10YR7/4, poor recovery.
	6.0	
		Stiff, moist, brownish yellow and gray, Sandy Lean CLAY (CL), some fine to coarse sands, 10YR6/8, 10YR6/1.
	8.0	
		PIEDMONT RESIDUUM - stiff, dry, laminated white with brownish yellow mottles, Sandy SILT (ML) (A-6(5)), some fine to medium sands, relict rock structure, 10YR8/1, 10YR6/6 to 10YR6/8. LL=38, PL=27, PI=11, NMC=22%, %#200=61
422.6		
		Very hard, dry, laminated white to light gray with yellow mottles, SILT with Sand (ML), little fine to medium sands, relict rock structure, 10YR8/1 to 10YR7/1, 10YR7/8.
	13.5	
		PARTIALLY WEATHERED ROCK (PWR) - very hard, dry, laminated white, SILT with Sand (ML), little fine to medium sands, relict rock structure, 10YR8/1 to 2.5Y8/1 to 8/N.
417.6		
		Very hard, dry, laminated white, Sandy SILT (ML), some fine to coarse sands, relict rock structure, 2.5Y8/1 to 8/N.
412.6		
407.6		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	2	4	7	9	11
2.0	SS-2	10	12	13	16	25
4.0	SS-3	5	5	8	18	13
6.0	SS-4	20	29	44	50/5"	73
8.0	SS-5	33	50/5"			50/5"
13.5	SS-6	23	50/5"			50/5"
18.5	SS-7	50/3"				50/3"
23.5	SS-8	50/2"				50/2"



LEGEND

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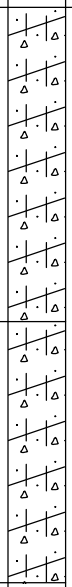
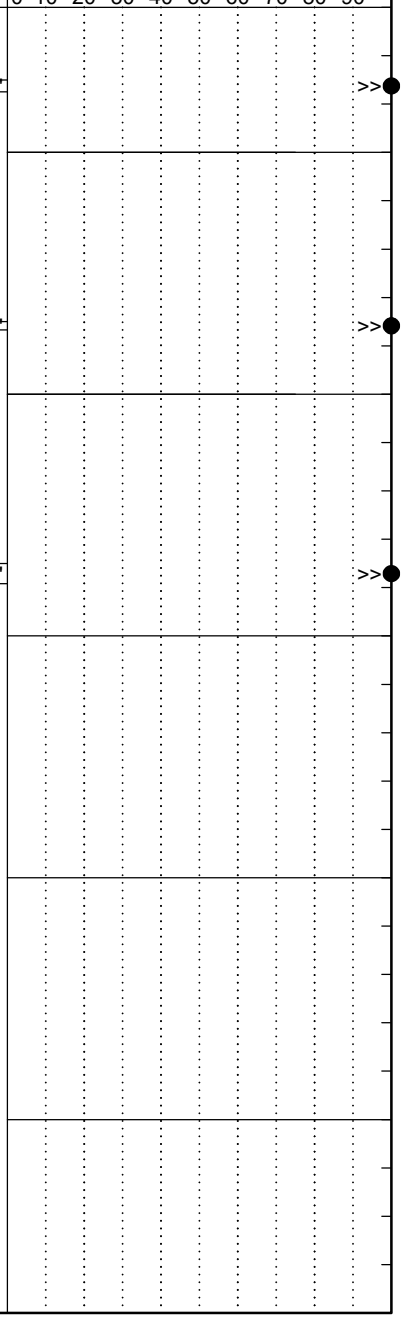
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-44		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp BA		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1751+28.93	**Offset:**	13.1	**Alignment:**	Proposed
Elev.:	432.6 ft	**Latitude:**	34.196280981	**Longitude:**	-80.985995197	**Date Started:**	10/27/2023
Total Depth:	38.9 ft	**Soil Depth:**	38.9 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/27/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	17.3 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6" / 2nd 6" / 3rd 6" / 4th 6"	N Value	● SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%) 0 10 20 30 40 50 60 70 80 90
		@28.5 feet - laminated white with yellow mottles, 8/N, 2.5Y7/6.		28.5	SS-9	50/3"	50/3"	>>
402.6								
	33.5	Very hard, dry, laminated white to light gray, SILT with Sand (ML), little fine to medium sands, relict rock structure, 2.5Y8/1 to 2.5Y7/1.		33.5	SS-10	50/2"	50/2"	>>
397.6								
	38.9	@38.5 feet - laminated light gray to white with yellow mottles, 2.5Y7/1 to 2.5Y8/1, 2.5Y8/6.		38.5	SS-11	50/5"	50/5"	>>
392.6		Boring Terminated at 38.9 feet.						
387.6								
382.6								





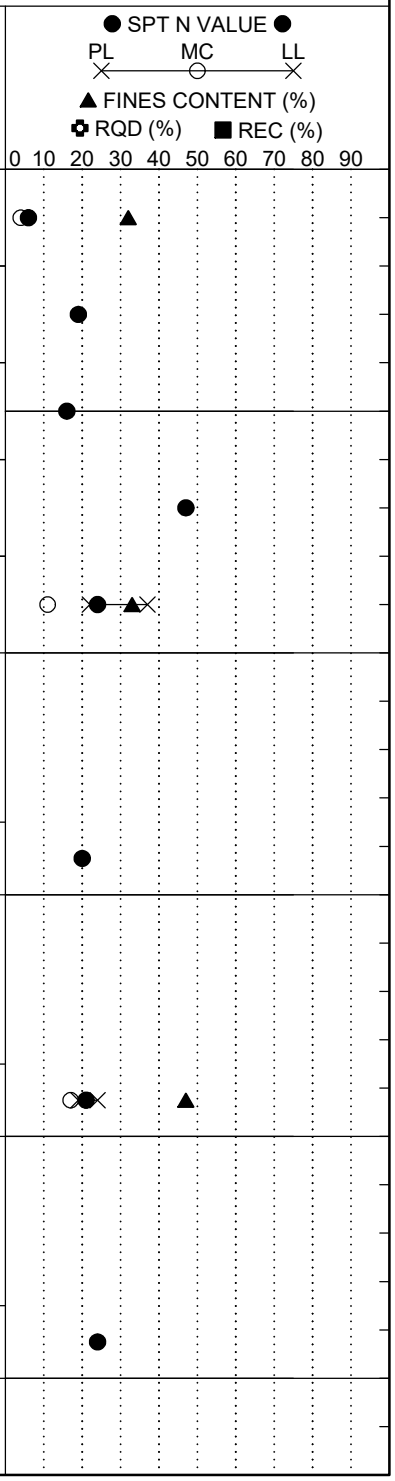
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-45		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C		
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1729+82.05	**Offset:**	-28.6	**Alignment:**	Proposed
Elev.:	466.3 ft	**Latitude:**	34.190564311	**Longitude:**	-80.98382564	**Date Started:**	10/26/2023
Total Depth:	40 ft	**Soil Depth:**	40 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/26/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	91.6%
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A	**24HR**	27.1 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	4	3	3	10	6
	0.1	**SURFACE MATERIAL** - TOPSOIL - 1 inch.							
		FILL - loose, dry, light olive brown and gray, Silty fine to medium SAND (SM) (A-2-4), some low plasticity fines, trace roots, trace charcoal fragments, 2.5Y5/3, 2.5Y6/1. NMC=4%, %#200=32	2.0	SS-2	7	7	12	11	19
		@2 feet - medium dense, grayish brown, absent roots, 2.5Y5/2.	4.0	SS-3	9	8	8	36	16
461.3		@4 feet - light yellowish brown and black, 2.5Y6/3, 2.5Y2.5/1.	6.0						
	6.0	**COASTAL PLAIN** - dense, moist, olive yellow with brownish yellow mottles, Silty fine to medium SAND (SM), some low plasticity fines, 2.5Y6/6, 10YR6/8.		SS-4	38	28	19	21	47
	8.0		8.0	SS-5	17	12	12	14	24
456.3		Medium dense, dry to moist, mottled brownish yellow, strong brown and light gray, Clayey fine to medium SAND (SC) (A-2-6(1)), some medium plasticity fines, 10YR6/8, 7.5YR5/8, 7.5YR7/1. LL=37, PL=22, PI=15, NMC=11%, %#200=33							
	13.5		13.5	SS-6	6	8	12		20
451.3		Very stiff, dry to moist, mottled red, white and brownish yellow, SILT with Sand (ML), little fine to medium sands, 2.5YR5/6, 10YR8/1, 10YR6/8.							
	18.5		18.5	SS-7	10	9	12		21
446.3		Medium dense, moist, mottled pale brown, yellow and red, Silty, Clayey fine SAND (SC-SM) (A-4(0)), some low to medium plasticity fines, trace mica, 2.5Y8/4, 10YR7/8, 2.5YR5/8. LL=24, PL=19, PI=5, NMC=17%, %#200=47							
		@23.5 feet - pale brown, fine to medium, micaceous, 2.5Y8/2.	23.5	SS-8	11	11	13		24
441.3									



LEGEND

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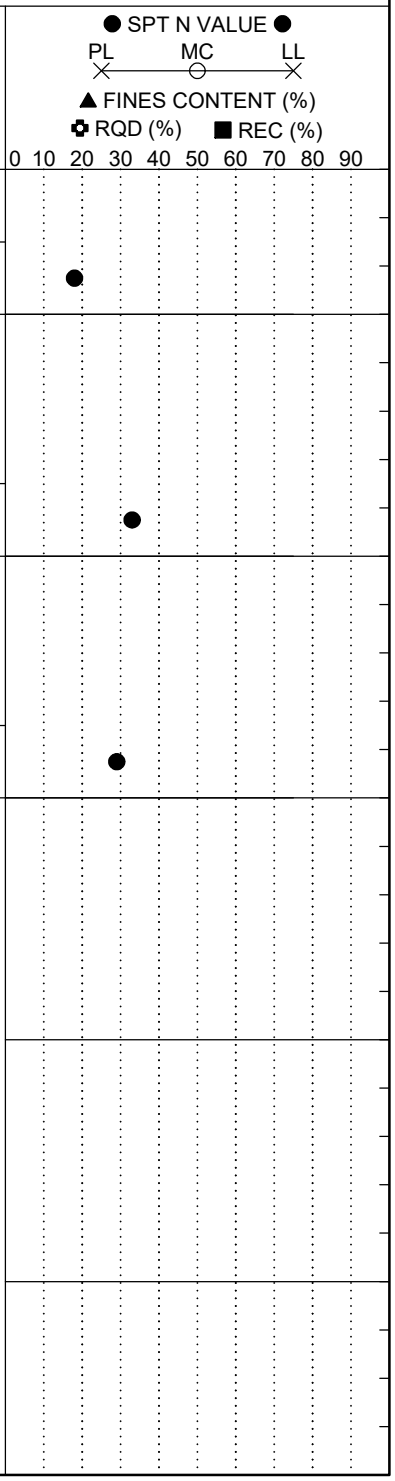
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-45
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1729+82.05	**Offset:**	-28.6
Alignment:	Proposed				
Elev.:	466.3 ft	**Latitude:**	34.190564311	**Longitude:**	-80.98382564
Date Started:	10/26/2023				
Total Depth:	40 ft	**Soil Depth:**	40 ft	**Core Depth:**	N/A ft
Date Completed:	10/26/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	91.6%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A
24HR	27.1 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	29.3	@28.5 feet - moist to wet, laminated white and reddish yellow, trace fine gravel, absent mica, 7.5YR7/8, 7.5YR8/1.		28.5	SS-9	11	8	10		18
436.3		**PIEDMONT RESIDUUM** - very stiff, dry, mottled pale brown and reddish yellow, SILT with Sand (ML), little fine to medium sands, trace fine to rock fragments (gravel from basal coastal plain), 2.5Y8/2, 7.5YR7/8.		33.5	SS-10	8	12	21		33
		@33.5 feet - hard, laminated pale brown and reddish yellow, 2.5Y8/3, 5YR7/8.								
431.3				38.5	SS-11	7	11	18		29
		@38.5 feet - very stiff, laminated pink, 5YR7/4.								
426.3	40.0	@39 feet - laminated gray, pale brown and yellow, 5Y5/1, 10YR8/8, 2.5Y8/3.								
		Boring Terminated at 40 feet.								
421.3										
416.3										



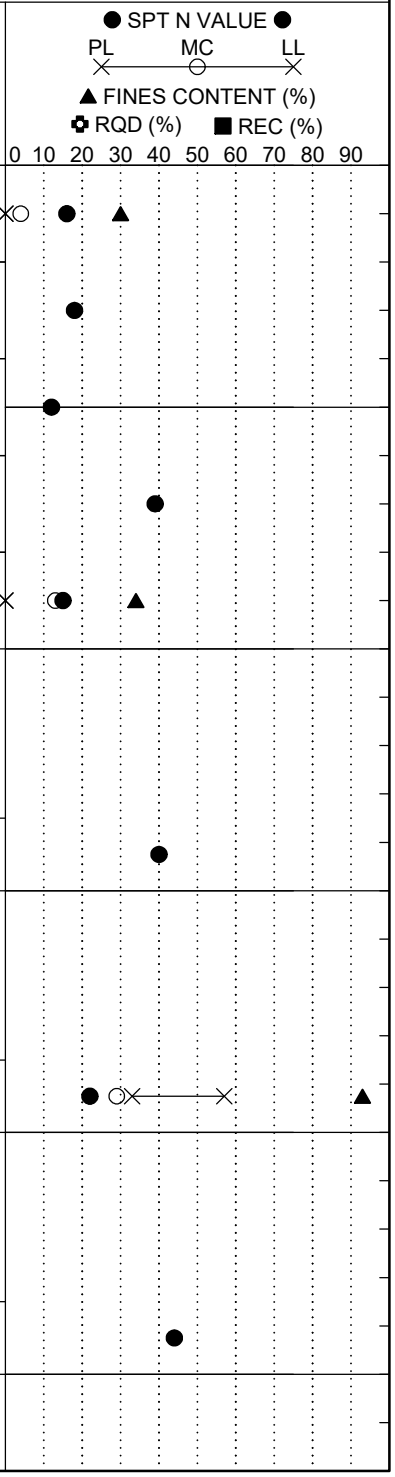
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-46		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C		
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1729+19.69	**Offset:**	-29.3	**Alignment:**	Proposed
Elev.:	465.9 ft	**Latitude:**	34.190400648	**Longitude:**	-80.98376458	**Date Started:**	10/27/2023
Total Depth:	40 ft	**Soil Depth:**	40 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/27/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	91.6%
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A	**24HR**	NE

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	**FILL** - medium dense, dry, light olive brown, Silty fine to medium SAND (SM) (A-2-4), some low plasticity fines, trace roots, trace charcoal fragments, 2.5Y5/3. LL=NP, PL=NP, PI=NP, NMC=4%, %#200=30	0.0	SS-1	2	8	8	5	16
		@2 feet - grayish brown, no roots, 2.5Y5/2.	2.0	SS-2	9	9	9	11	18
		@4 feet - pale brown and olive brown, 2.5Y7/4, 2.5Y4/3.	4.0	SS-3	8	5	7	22	12
460.9	6.0	**COASTAL PLAIN** - dense, moist to wet, light yellowish brown, Silty fine to medium SAND (SM), little low plasticity fines, 2.5Y6/4.	6.0	SS-4	19	23	16	13	39
		@8 feet - medium dense, dry to moist, mottled strong brown, brownish yellow and light yellowish brown, (A-2-4), some nonplastic fines, 7.5YR5/8, 2.5Y6/4, 10YR6/8. LL=NP, PL=NP, PI=NP, NMC=13%, %#200=34	8.0	SS-5	7	8	7	12	15
455.9	13.5		13.5	SS-6	19	17	23		40
	14.0	Dense, moist, yellowish red, Silty fine to medium SAND (SM), little low plasticity fines, 5YR5/8.							
450.9		Dense, dry to moist, mottled white, red and yellow, Clayey fine to coarse SAND (SC), some medium plasticity fines, trace fine gravel, 10YR7/8, 10YR8/1, 2.5YR4/8.							
	18.5	Very stiff, dry to moist, mottled brownish yellow and white, Elastic SILT (MH) (A-7-5(27)), few fine sands, trace mica, 10YR6/8, 10YR8/1. LL=57, PL=33, PI=24, NMC=29%, %#200=93	18.5	SS-7	5	9	13		22
445.9	23.5	Hard, dry to moist, mottled white and brownish yellow, SILT with Sand (ML), little fine sands, trace mica, 2.5Y8/1, 10YR6/8.	23.5	SS-8	10	22	22		44
440.9									



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-46
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1729+19.69	**Offset:**	-29.3
Alignment:	Proposed				
Elev.:	465.9 ft	**Latitude:**	34.190400648	**Longitude:**	-80.98376458
Date Started:	10/27/2023				
Total Depth:	40 ft	**Soil Depth:**	40 ft	**Core Depth:**	N/A ft
Date Completed:	10/27/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	91.6%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A
24HR	NE				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	28.5			28.5						
435.9		**PIEDMONT RESIDUUM** - very stiff, dry, laminated white and reddish yellow, Sandy SILT (ML), some fine to medium sands, 2.5Y8/1, 7.5YR8/6.			SS-9	11	10	15		25
				33.5						
430.9		@33.5 feet - laminated white, pale brown and reddish yellow, trace mica, 2.5Y8/1, 2.5Y8/3, 7.5YR8/6.			SS-10	6	10	14		24
				38.5						
425.9	40.0				SS-11	7	11	14		25
		Boring Terminated at 40 feet.								
420.9										
415.9										

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

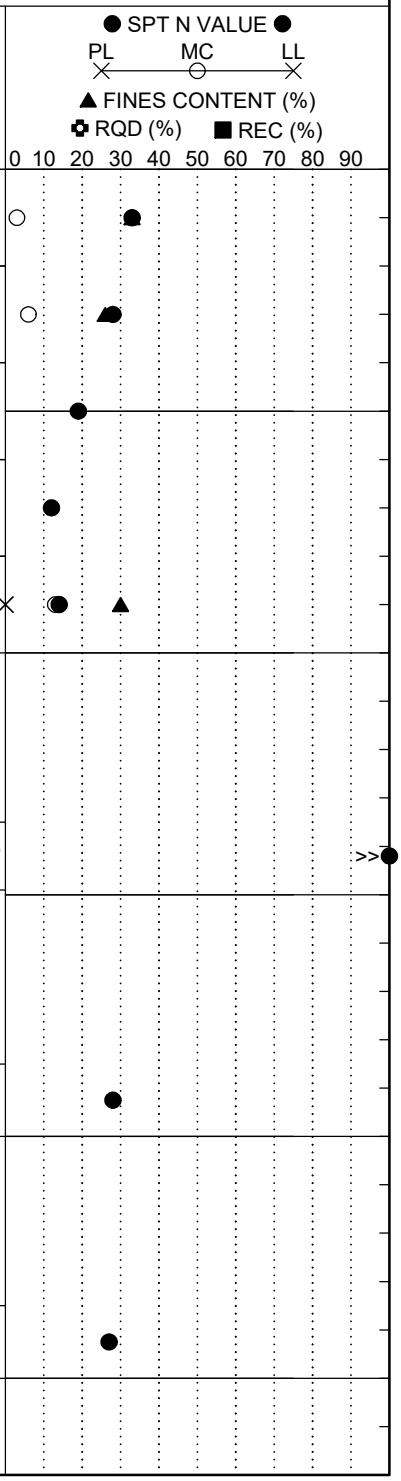
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-47		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C		
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1728+14.72	**Offset:**	-24.9	**Alignment:**	Proposed
Elev.:	464.7 ft	**Latitude:**	34.190129914	**Longitude:**	-80.98364398	**Date Started:**	11/1/2023
Total Depth:	30 ft	**Soil Depth:**	30 ft	**Core Depth:**	N/A ft	**Date Completed:**	11/1/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	91.6%
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A	**24HR**	17.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	5	15	18	11	33
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.	2.0	SS-2	9	11	17	17	28
		FILL - dense, dry, light olive brown and light yellowish brown, Silty fine to medium SAND (SM) (A-2-4), some low plasticity fines, trace roots, trace organics, trace charcoal fragments, 2.5Y6/4, 2.5Y5/3. NMC=3%, %#200=33	4.0	SS-3	9	9	10	15	19
459.7	6.0	@2 feet - medium dense, light yellowish brown and dark grayish brown, (A-2-4), little low plasticity fines, 2.5Y6/4, 2.5Y4/2. NMC=6%, %#200=26	6.0	SS-4	13	7	5	5	12
		@4 feet - absent roots, absent organics.	8.0	SS-5	4	6	7	7	14
		COASTAL PLAIN - medium dense, moist, yellowish brown, Silty fine to medium SAND (SM), some nonplastic fines, micaceous, 10YR5/8.							
454.7		@8 feet - mottled brownish yellow, strong brown and light yellowish brown, (A-2-4), 7.5YR5/8, 10YR6/4, 10YR6/8. LL=NP, PL=NP, PI=NP, NMC=13%, %#200=30							
			13.5	SS-6	11	29	50/5"		50/5"
449.7		@13.5 feet - very dense, dry to moist, mottled red and white, some low plasticity fines, 2.5YR4/8, 2.5YR8/1.							
		@14.2 feet - moist, mottled yellowish red and yellow, fine, little low to medium plasticity fines, 5YR5/8, 10YR7/6.							
		▼	18.5	SS-7	13	14	14		28
444.7		@18.5 feet - medium dense, moist to wet, reddish yellow, fine to medium, 7.5YR7/6, 5YR6/8.							
	23.5		23.5	SS-8	6	9	16		27
439.7		Very stiff, dry to moist, mottled pale brown, yellow and white, Elastic SILT (MH), trace fine sands, trace mica, 10YR7/8, 2.5Y7/4.							



LEGEND

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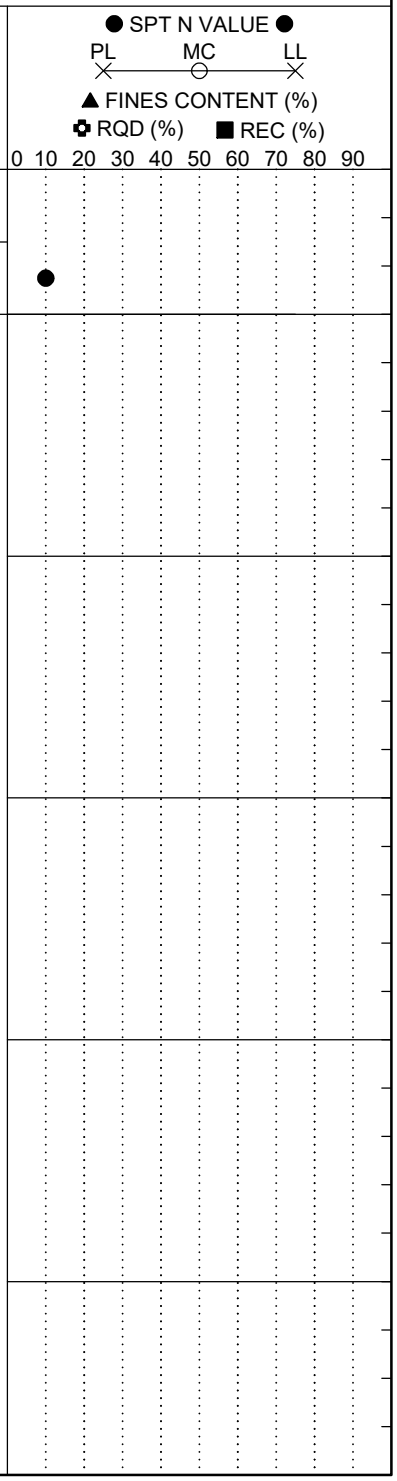
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-47		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C		
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1728+14.72	**Offset:**	-24.9	**Alignment:**	Proposed
Elev.:	464.7 ft	**Latitude:**	34.190129914	**Longitude:**	-80.98364398	**Date Started:**	11/1/2023
Total Depth:	30 ft	**Soil Depth:**	30 ft	**Core Depth:**	N/A ft	**Date Completed:**	11/1/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	91.6%
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A	**24HR**	17.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	28.5			28.5						
434.7	30.0	Loose, moist, pale brown, Silty fine SAND (SM), some low to medium plasticity fines, micaceous, 2.5Y8/2.			SS-9	5	6	4		10
		Boring Terminated at 30 feet.								
429.7										
424.7										
419.7										
414.7										



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

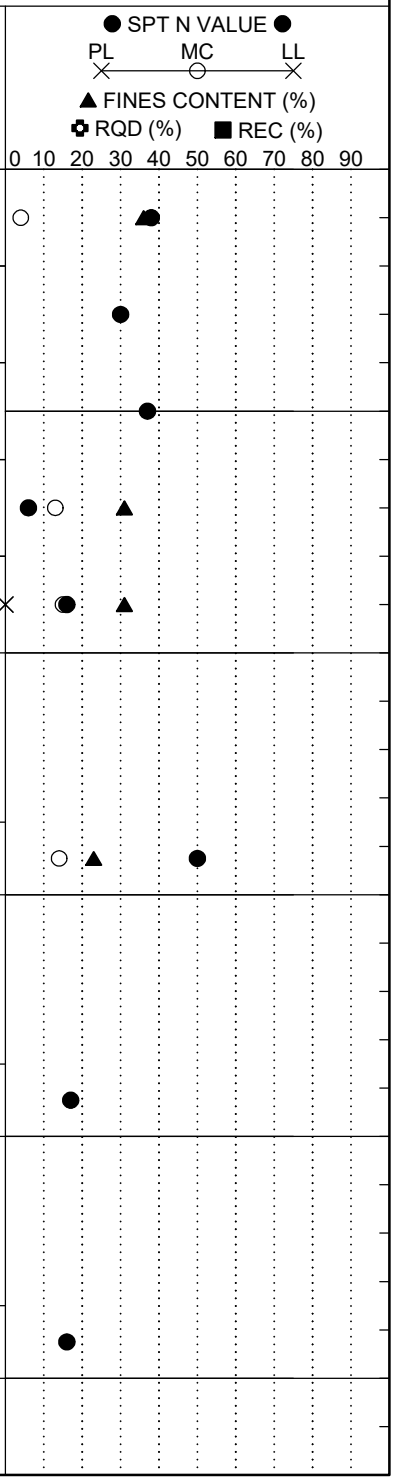
SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-48
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1727+30.75	**Offset:**	-29.1
Alignment:	Proposed				
Elev.:	463.0 ft	**Latitude:**	34.189906793	**Longitude:**	-80.9835719
Date Started:	10/31/2023				
Total Depth:	30 ft	**Soil Depth:**	30 ft	**Core Depth:**	N/A ft
Date Completed:	10/31/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	91.6%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A
24HR	17 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.1	**SURFACE MATERIAL** - TOPSOIL - 1 inch.
		FILL - dense, dry, light olive brown and light yellowish brown, Silty fine to medium SAND (SM) (A-4), some low plasticity fines, trace roots, trace charcoal fragments, 2.5Y5/3, 2.5Y6/4. NMC=4%, %#200=36
		@2 feet - medium dense, dark olive brown, few roots, few charcoal, 2.5Y3/3.
458.0		
	6.0	@4 feet - dense, very dark grayish brown and pale olive, few organics, 2.5Y3/2, 5Y6/3.
		COASTAL PLAIN - loose, moist to wet, light olive brown, Silty fine to medium SAND (SM) (A-2-4), some low plasticity fines, 2.5Y5/3. NMC=13%, %#200=31
453.0		@7 feet - dry to moist, mottled strong brown, brownish yellow and yellowish red, 5YR5/8, 7.5YR5/8, 10YR6/6.
		@8 feet - medium dense, moist, (A-2-4). LL=NP, PL=NP, PI=NP, NMC=15%, %#200=31
		@13.5 feet - dense, mottled red, reddish yellow and white, 2.5YR4/6, 7.5YR6/8, 10YR8/1.
448.0		@14.2 feet - mottled red and reddish yellow, 2.5YR5/8, 5YR6/8.
		▼
		@18.5 feet - medium dense, reddish yellow, yellow and white, (A-2-4), little low plasticity fines, 5YR7/6, 10YR7/6, 10YR8/1. NMC=14%, %#200=23
443.0		
		@23.5 feet - laminated white, yellow and reddish yellow, fine, micaceous, 10YR8/1, 10YR8/6, 7.5YR7/8.
438.0		

Graphic Log

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	6	14	24	20	38
2.0	SS-2	14	15	15	16	30
4.0	SS-3	10	14	23	12	37
6.0	SS-4	4	2	4	5	6
8.0	SS-5	5	7	9	13	16
13.5	SS-6	9	20	30		50
18.5	SS-7	6	9	8		17
23.5	SS-8	6	8	8		16



LEGEND

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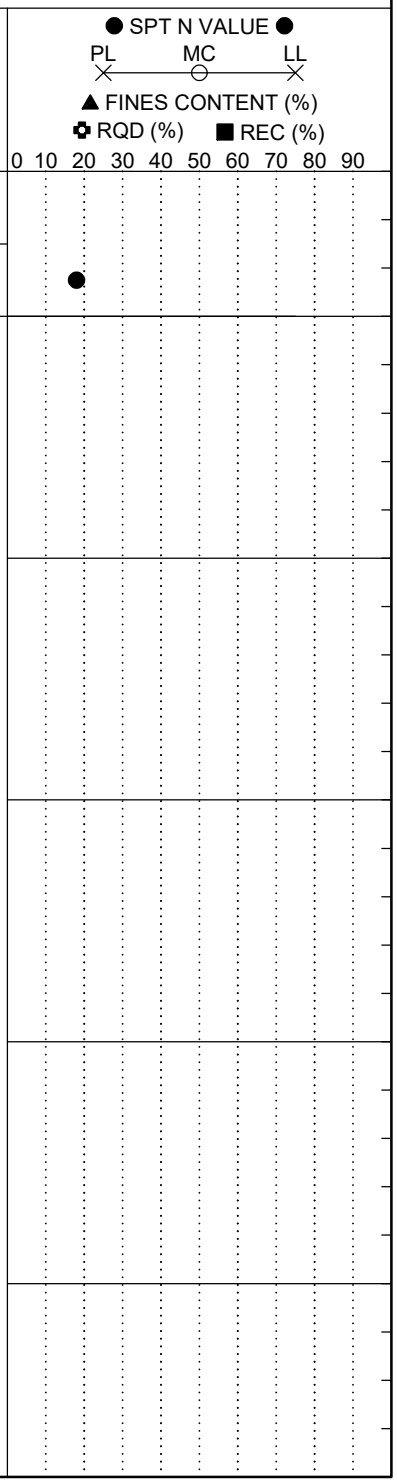
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-48
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1727+30.75	**Offset:**	-29.1
Alignment:	Proposed				
Elev.:	463.0 ft	**Latitude:**	34.189906793	**Longitude:**	-80.9835719
Date Started:	10/31/2023				
Total Depth:	30 ft	**Soil Depth:**	30 ft	**Core Depth:**	N/A ft
Date Completed:	10/31/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	91.6%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A
24HR	17 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
				28.5						
		@28.5 feet - wet, laminated white, pale red, light red and reddish yellow, 10YR7/3, 10YR7/6, 5YR6/6, 2.5Y8/1.			SS-9	5	9	9		18
433.0	30.0	Boring Terminated at 30 feet.								
428.0										
423.0										
418.0										
413.0										



LEGEND

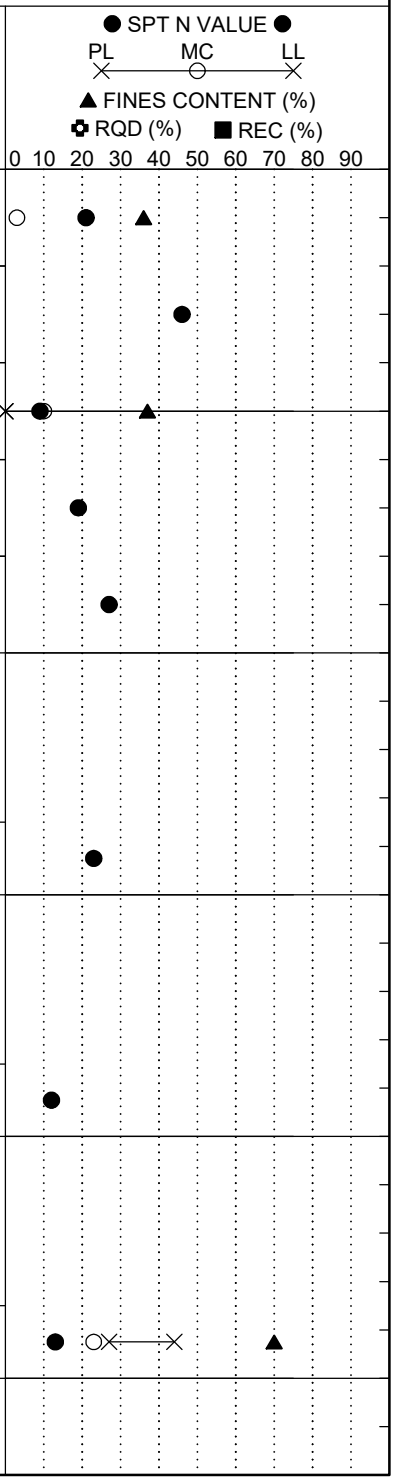
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-49		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C		
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1726+30.14	**Offset:**	-27.1	**Alignment:**	Proposed
Elev.:	459.2 ft	**Latitude:**	34.189645414	**Longitude:**	-80.98346334	**Date Started:**	10/31/2023
Total Depth:	34.4 ft	**Soil Depth:**	34.4 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/31/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	91.6%
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A	**24HR**	16 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.
		FILL - medium dense, dry, light olive brown and light yellowish brown, Silty fine SAND (SM) (A-4), some low plasticity fines, trace roots, trace charcoal fragments, 2.5Y5/3, 2.5Y6/3. NMC=3%, %#200=36
	3.5	@2 feet - dense, grayish brown, yellow and light yellowish brown, absent roots, 2.5Y5/2, 2.5Y7/6, 2.5Y6/4.
454.2		**COASTAL PLAIN** - dense, dry, brownish yellow, Silty fine to medium SAND (SM), little low plasticity fines, 10YR6/8.
	8.0	@4 feet - loose, brownish yellow with yellowish red mottles, (A-4(0)), some low plasticity fines, trace roots, 10YR6/8, 5YR5/8. LL=NP, PL=NP, PI=NP, NMC=10%, %#200=37
449.2		@6 feet - medium dense, moist, mottled yellowish red, strong brown and light gray, 5YR5/8, 7.5YR5/8, 7.5YR7/1.
	13.5	Medium dense, dry to moist, mottled red, strong brown, yellow and light gray, Clayey fine to medium SAND (SC), some medium plasticity fines, 10YR4/6, 7.5YR5/8, 10YR7/6, 10YR7/1.
444.2		Medium dense, moist to wet, mottled light red, brownish yellow and very pale brown, Silty fine to medium SAND (SM), little low to medium plasticity fines, 2.5YR7/6, 2.5YR7/8, 10YR6/6, 10YR7/4.
		@18.5 feet - pale brown and yellow, fine to coarse, trace mica, 10YR6/6, 2.5Y8/4.
439.2		
	23.5	Stiff, dry to moist, mottled pale brown and yellow, Sandy SILT (ML) (A-7-6(12)), some fine sands, 2.5Y8/2, 10YR7/6. LL=44, PL=27, PI=17, NMC=23%, %#200=70
434.2		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	5	8	13	17	21
2.0	SS-2	19	26	20	17	46
4.0	SS-3	8	5	4	4	9
6.0	SS-4	7	9	10	14	19
8.0	SS-5	7	10	17	27	27
13.5	SS-6	10	12	11		23
18.5	SS-7	9	6	6		12
23.5	SS-8	5	6	7		13



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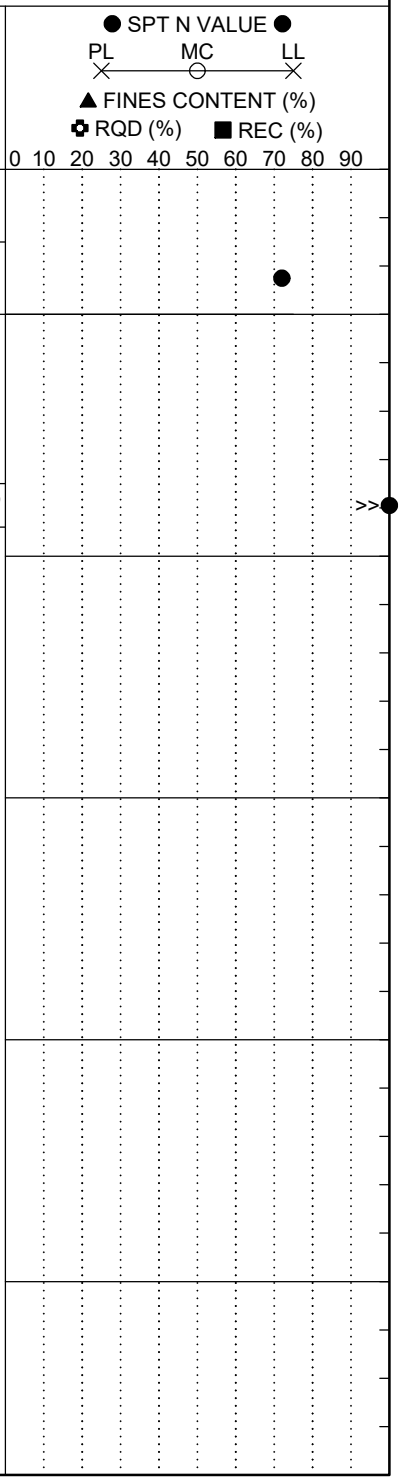
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-49		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C		
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	1726+30.14	**Offset:**	-27.1	**Alignment:**	Proposed
Elev.:	459.2 ft	**Latitude:**	34.189645414	**Longitude:**	-80.98346334	**Date Started:**	10/31/2023
Total Depth:	34.4 ft	**Soil Depth:**	34.4 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/31/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	91.6%
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A	**24HR**	16 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	28.5			28.5						
429.2		**PIEDMONT RESIDUUM** - very hard, dry, laminated white and reddish yellow, Sandy SILT (ML), some fine to medium sands, 7.5YR8/1, 7.5YR7/8.			SS-9	19	27	45		72
	33.5			33.5						
	34.4	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, laminated white and reddish yellow, Sandy SILT (ML), some fine to medium sands, 7.5YR8/1, 7.5YR7/8.			SS-10	27	50/5"			50/5"
424.2		Boring Terminated at 34.4 feet.								
419.2										
414.2										
409.2										



LEGEND

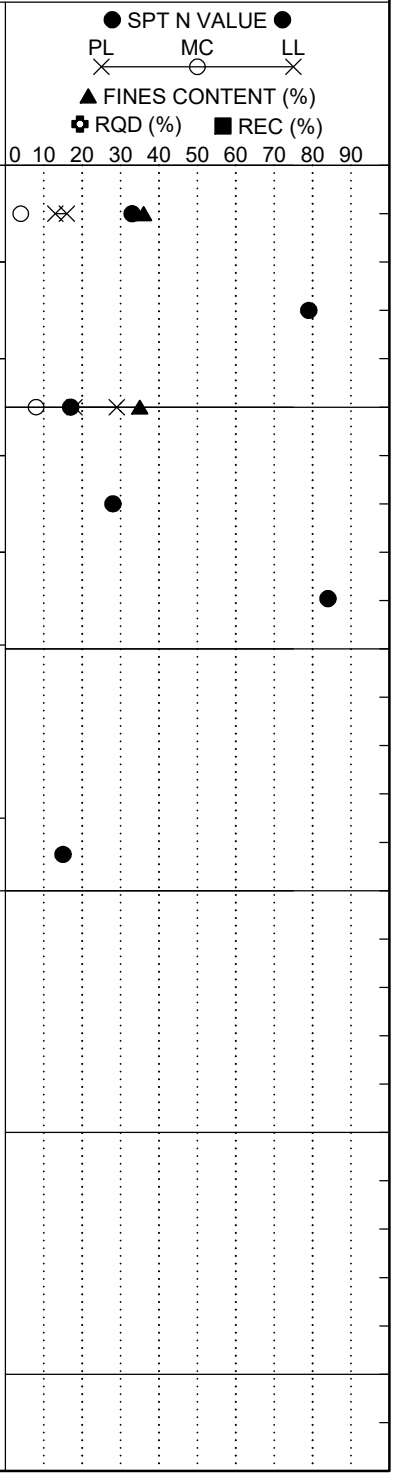
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-50
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C
Eng./Geo.:	H. Skerkis	**Boring Location:**	1725+24.01	**Offset:**	-32.4
Alignment:	Proposed				
Elev.:	457.5 ft	**Latitude:**	34.189363415	**Longitude:**	-80.98337226
Date Started:	10/26/2023				
Total Depth:	15 ft	**Soil Depth:**	15 ft	**Core Depth:**	N/A ft
Date Completed:	10/26/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	91.0%				
Core Size:	N/A	**Driller:**	T. Shearin	**Groundwater:**	**TOB** NE
24HR	NE				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.2	**SURFACE MATERIALS** - TOPSOIL - 2 inches.
	2.0	**FILL** - dense, dry, light brownish gray and light gray, Silty fine to medium SAND (SM) (A-4(0)), some low plasticity fines, trace organics, 10YR6/2, 10YR7/2. LL=16, PL=13, PI=3, NMC=4%, %#200=36
	4.0	**COASTAL PLAIN** - very dense, dry, light gray and very pale brown, Silty fine to medium SAND, some low plasticity fines, 10YR7/2, 10YR8/4.
452.5		
		Medium dense, dry to moist, mottled brownish yellow, yellowish red and light yellowish brown, Clayey fine to medium SAND (SC) (A-2-6(0)), some medium plasticity fines, 10YR6/8, 5YR5/8, 10YR6/4. LL=29, PL=18, PI=11, NMC=8%, %#200=35
447.5		
		@8 feet - very dense, mottled very pale brown, yellow and reddish yellow, 10YR8/3, 10YR7/6, 7.5YR7/8.
	13.5	
		Stiff, moist, mottled light gray, brownish yellow and yellow, SILT (ML), trace fine to medium sands, trace mica, 10YR7/1, 10YR6/8, 10YR8/8.
442.5	15.0	
		Boring Terminated at 15 feet.
437.5		
432.5		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	4	16	17	14	33
2.0	SS-2	18	46	33	32	79
4.0	SS-3	9	8	9	13	17
6.0	SS-4	11	12	16	25	28
8.0	SS-5	16	35	49	50/5"	84
13.5	SS-6	3	6	9		15



LEGEND

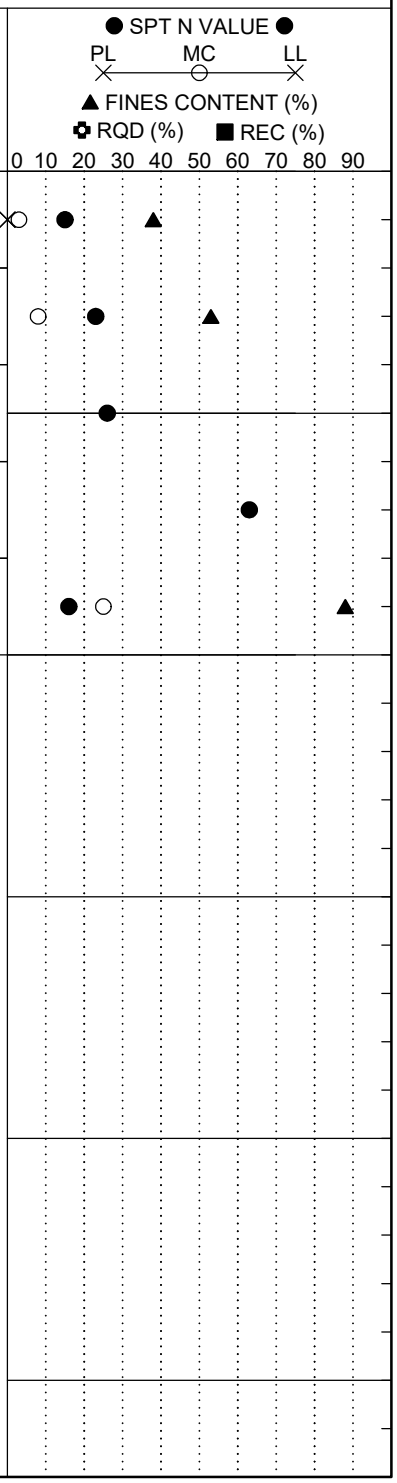
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-51		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C		
Eng./Geo.:	H. Skerkis	**Boring Location:**	1724+20.18	**Offset:**	-34.6	**Alignment:**	Proposed
Elev.:	454.4 ft	**Latitude:**	34.189090098	**Longitude:**	-80.98327361	**Date Started:**	10/25/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/25/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	91.0%
Core Size:	N/A	**Driller:**	T. Shearin	**Groundwater:**	**TOB** NE	**24HR**	NE

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.2	**SURFACE MATERIALS** - TOPSOIL - 2 inches.
	2.0	**FILL** - medium dense, dry, light brownish gray and grayish brown, Silty fine to medium SAND (SM) (A-4(0)), some nonplastic fines, trace organics, 10YR6/2, 10YR5/2. LL=NP, PL=NP, PI=NP, NMC=3%, %#200=38
449.4		**COASTAL PLAIN** - very stiff, dry to moist, brownish yellow and yellowish brown, Sandy Lean CLAY (CL), some fine to medium sands, trace organics, 10YR6/8, 10YR5/8. NMC=8%, %#200=53
	6.0	@4 feet - mottled brownish yellow and yellowish brown, some fine to coarse sands, 10YR6/8, 10YR5/8, 10YR5/6.
	9.0	Very dense, dry, mottled very pale brown, yellow and yellowish red, Silty fine to coarse SAND (SM), some low plasticity fines, 10YR7/3, 10YR7/8, 5YR4/6.
444.4	10.0	@8 feet - light gray and grayish brown, little low plasticity fines, trace fine to coarse gravel (quartz).
		Very stiff, dry to moist, white and yellow, SILT (ML), few fine to medium sands, 10YR8/1, 10YR8/6. NMC=25%, %#200=88
439.4		Boring Terminated at 10 feet.
434.4		
429.4		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	3	5	10	10	15
2.0	SS-2	10	10	13	16	23
4.0	SS-3	10	12	14	22	26
6.0	SS-4	21	33	30	36	63
8.0	SS-5	14	10	6	7	16



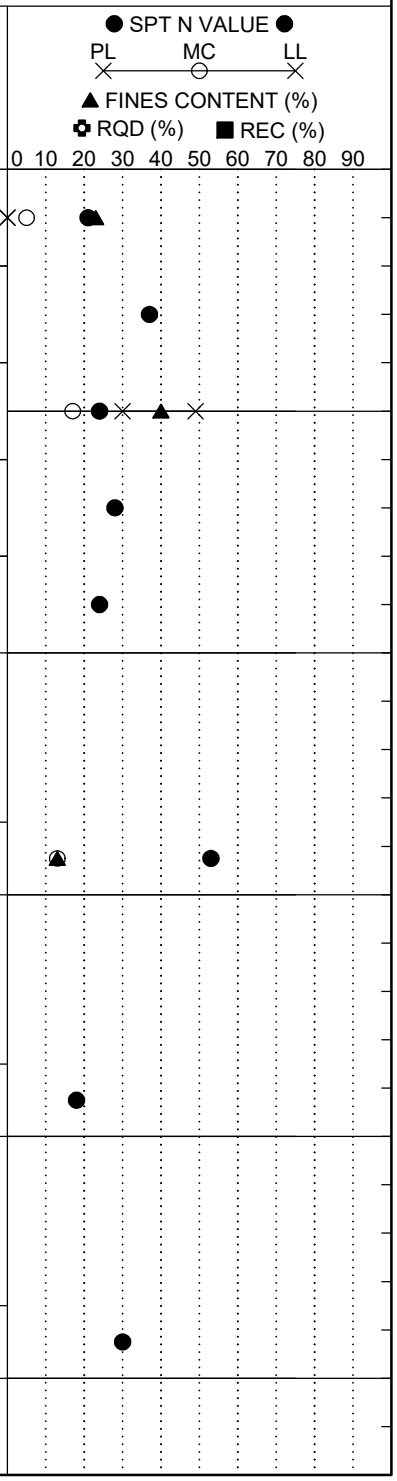
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-52		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1729+74.31	**Offset:**	13.8	**Alignment:**	Propsed
Elev.:	456.0 ft	**Latitude:**	34.190579811	**Longitude:**	-80.9836846	**Date Started:**	11/8/2023
Total Depth:	99.4 ft	**Soil Depth:**	99.4 ft	**Core Depth:**	N/A ft	**Date Completed:**	11/8/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** NE	**24HR**	18.8 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	**FILL** - medium dense, dry, very dark grayish brown, grayish brown and very pale brown, Silty fine to medium SAND (SM) (A-2-4), little nonplastic fines, few fine to coarse crushed stone, 10YR4/2, 10YR5/2, 10YR7/3. LL=NP, PL=NP, PI=NP, NMC=5%, %#200=23	0.0	SS-1	8	12	9	8	21
	2.0		2.0	SS-2	6	14	23	34	37
451.0	6.0	**COASTAL PLAIN** - dense, dry, mottled yellowish brown, light gray and red, Silty fine to coarse SAND (SM), some medium plasticity fines, 10YR5/6, 10YR7/1, 10R4/6.	4.0	SS-3	12	15	9	11	24
		@4 feet - medium dense, mottled yellowish brown, red and white, (A-7-5(3)), 10YR5/6 to 10YR5/8, 2.5YR4/6 to 2.5YR4/8, 10YR8/1. LL=49, PL=30, PI=19, NMC=17%, %#200=40	6.0	SS-4	6	12	16	22	28
		Very stiff, dry to moist, white, SILT (ML), trace fine sands, 10YR8/1.	8.0	SS-5	2	10	14	20	24
446.0		@8 feet - white with yellow mottles, 10YR8/1, 10YR7/6 to 10YR8/6.							
	13.5	Very dense, moist, white and very pale brown, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, 10YR8/1, 10YR8/2 to 10YR8/3. NMC=13%, %#200=13	13.5	SS-6	15	26	27		53
441.0									
	18.5	Very stiff, dry, white to very pale brown, SILT (ML), trace fine sands, 10YR8/1 to 10YR8/2 to 10YR8/3.	18.5	SS-7	9	7	11		18
436.0									
	23.5	**PIEDMONT RESIDUUM** - very stiff, dry, very pale brown with yellow mottles, SILT (ML), few fine to coarse sands, relict rock structure, 10YR8/2 to 10YR8/3, 10YR8/8.	23.5	SS-8	8	13	17		30
431.0									



LEGEND

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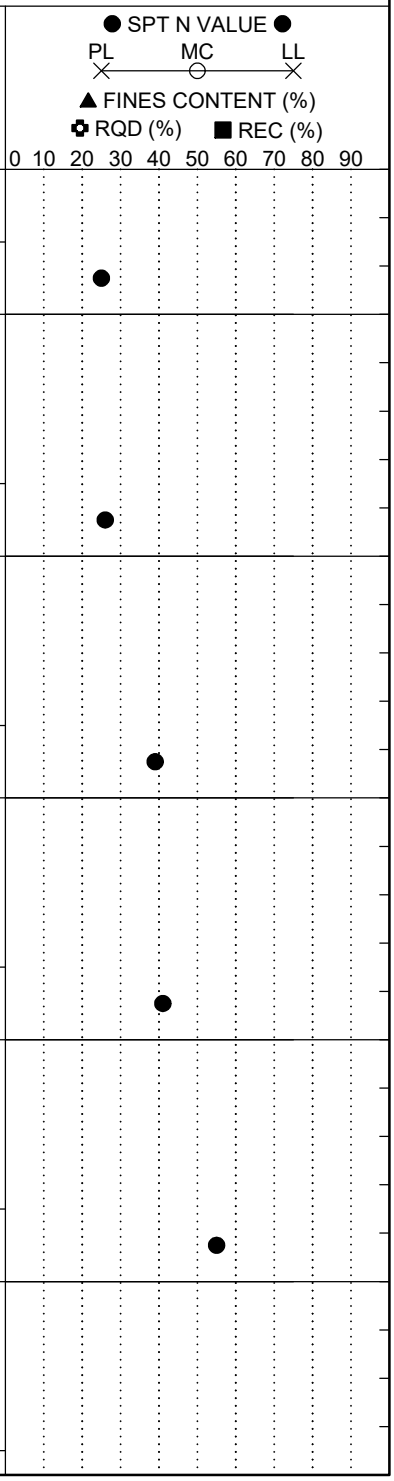
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-52		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1729+74.31	**Offset:**	13.8	**Alignment:**	Propsed
Elev.:	456.0 ft	**Latitude:**	34.190579811	**Longitude:**	-80.9836846	**Date Started:**	11/8/2023
Total Depth:	99.4 ft	**Soil Depth:**	99.4 ft	**Core Depth:**	N/A ft	**Date Completed:**	11/8/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** NE	**24HR**	18.8 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		@28.5 feet - slightly laminated very pale brown and white, 10YR7/3, 10YR8/1.	28.5	SS-9	7	10	15		25
426.0									
		@33.5 feet - laminated very pale brown and white, 10YR7/3, 10YR8/1.	33.5	SS-10	8	10	16		26
421.0									
		@38.5 feet - hard, laminated white and yellow, 10YR8/1, 10YR8/6 to 10YR8/8.	38.5	SS-11	9	16	23		39
416.0									
	43.5	Hard, dry, laminated gray, yellowish red and brownish yellow, SILT with Sand (ML), little fine to coarse sands, relict rock structure, 10YR6/1, 5YR5/6, 10YR6/6.	43.5	SS-12	12	18	23		41
411.0									
	48.5	Very hard, dry, laminated red and strong brown, SILT (ML), trace fine to medium sands, relict rock structure, 7.5R4/8 to 10R4/8, 7.5YR5/8.	48.5	SS-13	12	23	32		55
406.0									
	53.5	Very hard, dry, laminated red to dusky red	53.5						



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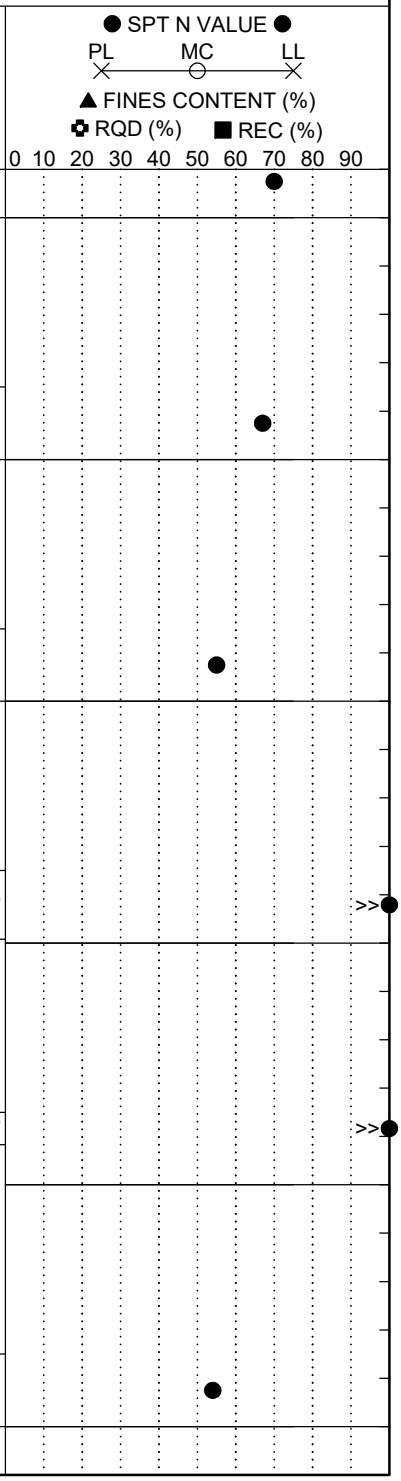
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-52
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1729+74.31	**Offset:**	13.8
Alignment:	Propsed				
Elev.:	456.0 ft	**Latitude:**	34.190579811	**Longitude:**	-80.9836846
Date Started:	11/8/2023				
Total Depth:	99.4 ft	**Soil Depth:**	99.4 ft	**Core Depth:**	N/A ft
Date Completed:	11/8/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	87.6%				
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** NE
24HR	18.8 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
401.0		and brownish yellow, SILT with Sand (ML), little fine to coarse sands, relict rock structure, 7.5R4/8 to 10R4/8, 7.5R3/3, 10YR6/8.		SS-14	11	22	48		70
	58.5	Very hard, dry, laminated red to dusky red and white, SILT (ML), trace fine to medium sands, relict rock structure, 7.5R4/8 to 10R4/8, 7.5R3/3, 7.5R8/1.	58.5	SS-15	12	24	43		67
396.0									
		@63.5 feet - laminated red and dark yellowish brown, 7.5R4/6, 10YR3/6.	63.5	SS-16	10	24	31		55
391.0									
	68.5	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, laminated dark reddish gray and brownish yellow, SILT (ML), few fine sands, relict rock structure, 2.5YR3/1, 10YR6/6.	68.5	SS-17	17	37	50/5"		50/5"
386.0									
		@73.5 feet - laminated brownish yellow and dark reddish gray to weak red, 10YR6/6, 5R4/1 to 5R5/2.	73.5	SS-18	45	50/2"			50/2"
381.0									
	78.5	**PIEDMONT RESIDUUM** - very hard, dry, laminated dark reddish gray to weak red and white, SILT (ML), few fine to medium sands, relict rock structure, 5R4/1 to 5R5/2, 5R8/1.	78.5	SS-19	10	19	35		54
376.0									



LEGEND

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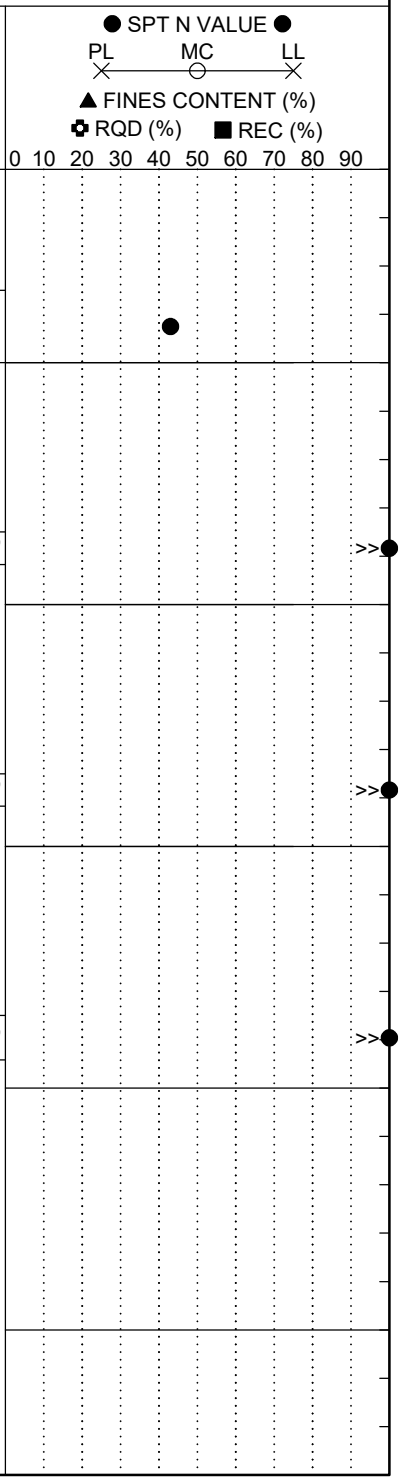
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-52
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1729+74.31	**Offset:**	13.8
Alignment:	Propsed				
Elev.:	456.0 ft	**Latitude:**	34.190579811	**Longitude:**	-80.9836846
Date Started:	11/8/2023				
Total Depth:	99.4 ft	**Soil Depth:**	99.4 ft	**Core Depth:**	N/A ft
Date Completed:	11/8/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	87.6%				
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** NE
24HR	18.8 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		@83.5 feet - hard.	83.5	SS-20	10	17	26		43
371.0	88.5	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, laminated dark reddish gray and brownish yellow, SILT (ML), few fine to medium sands, relict rock structure, 2.5YR4/1, 10YR6/8.	88.5	SS-21	49	50/2"			50/2"
366.0	93.5	Very hard, dry, laminated yellowish brown, dark brown and light gray, SILT with Sand (ML), little fine to coarse sands, trace fine rock fragments, relict rock structure, 10YR6/6, 10YR3/3, 10YR7/1.	93.5	SS-22	48	50/2"			50/2"
361.0	99.4	@98.5 feet - laminated dark gray and brownish yellow, little fine to medium sands, 10YR4/1, 10YR6/6.	98.5	SS-23	28	50/5"			50/5"
356.0		Boring Terminated at 99.4 feet.							
351.0									



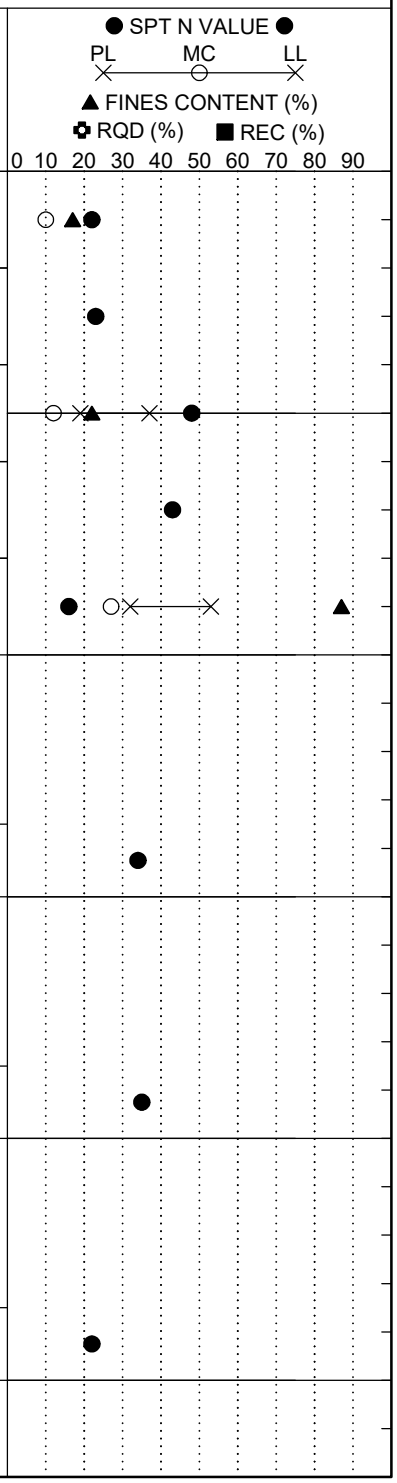
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-53		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1729+22.68	**Offset:**	16.3	**Alignment:**	Proposed
Elev.:	454.5 ft	**Latitude:**	34.190446967	**Longitude:**	-80.98362416	**Date Started:**	11/15/23
Total Depth:	40 ft	**Soil Depth:**	40 ft	**Core Depth:**	N/A ft	**Date Completed:**	11/15/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	8.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0						
	0.1	**SURFACE MATERIALS** - TOPSOIL - 1 inch.		SS-1	6	11	11	7	22
	2.0	**FILL** - medium dense, dry to moist, dark gray to dark grayish brown, Silty fine to coarse SAND (SM), little low plasticity fines, few fine to coarse crushed stone, trace roots, 10YR4/1 to 10YR4/2. NMC=10%, %#200=17	2.0	SS-2	6	10	13	19	23
			4.0						
449.5		**COASTAL PLAIN** - medium dense, moist, mottled strong brown, red and light gray, Clayey fine to coarse SAND (SC), some medium plasticity fines, 7.5YR5/6 to 7.5YR5/8, 2.5YR4/8, 10YR7/1.		SS-3	16	19	29	40	48
			6.0						
				SS-4	25	21	22	19	43
	8.0	@4 feet - dense, moist, mottled reddish yellow with light gray and red, fine to medium (A-2-6(1)), little medium plasticity fines, 5YR6/6, 10YR7/1, 2.5YR4/8. LL=37, PL=19, PI=18, NMC=12%, %#200=22	8.0	SS-5	3	6	10	14	16
444.5		@6 feet - yellowish red to strong brown with light gray mottles, fine to coarse, 5YR4/6 to 7.5YR5/8, 10YR7/1.							
		Very stiff, dry, white with yellow and pink mottles, Elastic SILT with Sand (MH) (A-7-5(22)), little fine sands, 10YR8/1, 10YR8/6, 10YR7/8, 10YR7/4. LL=53, PL=32, PI=21, NMC=27%, %#200=87	13.5	SS-6	10	14	20		34
439.5		@13.5 feet - hard, white, white with brownish yellow to yellow mottles, 10YR8/1, 10YR6/8, 10YR7/8, 10YR8/6.							
	18.5		18.5						
		Dense, moist, white with yellow mottles, Silty fine to coarse SAND (SM), some low plasticity fines, trace fine gravel, 2.5Y8/1, 10YR7/8.		SS-7	14	22	13		35
434.5									
	23.5		23.5						
		PIEDMONT RESIDUUM - very stiff, dry, laminated white and very pale brown, SILT (ML), trace fine sands, relict rock structure, 2.5Y8/1, 10YR7/3.		SS-8	6	9	13		22
429.5									



LEGEND

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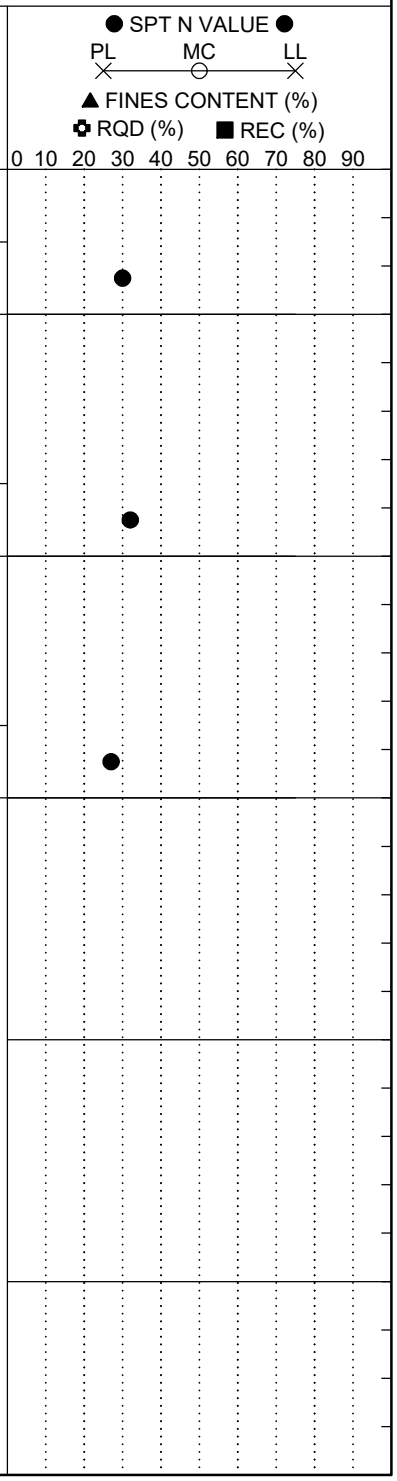
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-53
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1729+22.68	**Offset:**	16.3
Alignment:	Proposed				
Elev.:	454.5 ft	**Latitude:**	34.190446967	**Longitude:**	-80.98362416
Date Started:	11/15/23				
Total Depth:	40 ft	**Soil Depth:**	40 ft	**Core Depth:**	N/A ft
Date Completed:	11/15/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	87.6%				
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A
24HR	8.5 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
				28.5						
		@28.5 feet - laminated very pale brown and white, 10YR7/3, 10YR8/1.			SS-9	8	12	18		30
424.5										
				33.5						
		@33.5 feet - hard, laminated gray, yellow and white, 10YR5/1, 10YR8/6, 10YR8/1.			SS-10	8	12	20		32
419.5										
				38.5						
		@38.5 feet - very stiff, trace fine to coarse quartz rock fragments.			SS-11	6	11	16		27
414.5	40.0	Boring Terminated at 40 feet.								
409.5										
404.5										



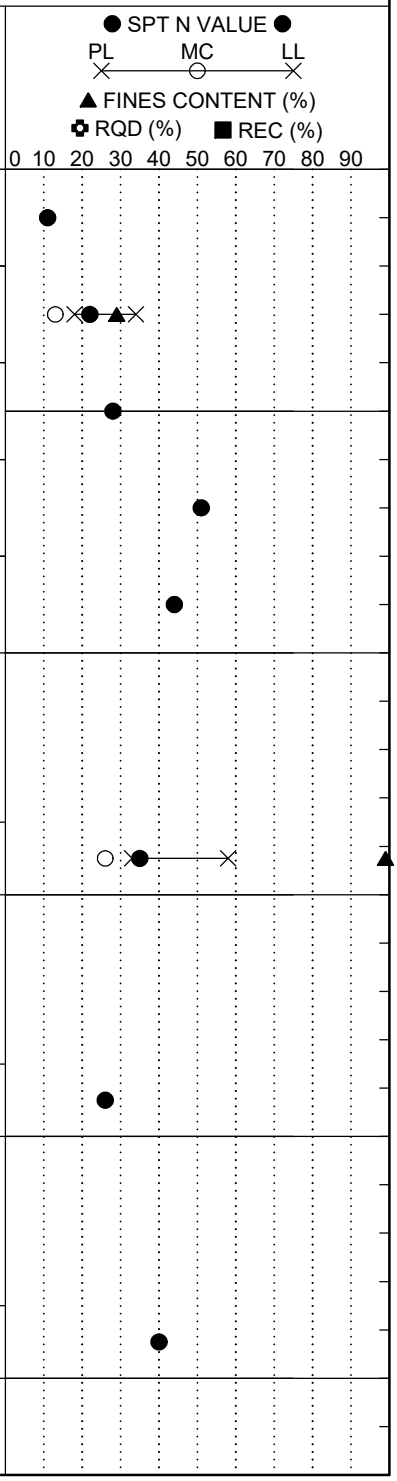
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-54
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1728+23.05	**Offset:**	16.3
Alignment:	Proposed				
Elev.:	453.4 ft	**Latitude:**	34.190186453	**Longitude:**	-80.98352292
Date Started:	11/15/23				
Total Depth:	29.4 ft	**Soil Depth:**	29.4 ft	**Core Depth:**	N/A ft
Date Completed:	11/15/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	87.6%				
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A **24HR** NE

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	2	7	4	5	11
	0.1	**SURFACE MATERIALS** - TOPSOIL - 1 inch.							
	1.0	**FILL** - medium dense, moist, dark grayish brown to grayish brown, Silty fine to coarse SAND with Gravel (SM), some low plasticity fines, little fine to coarse crushed stone, trace roots, 10YR4/2, 10YR5/2.	2.0	SS-2	6	10	12	12	22
448.4		**COASTAL PLAIN** - medium dense, moist, strong brown and light gray, Clayey fine to medium SAND (SC), little medium plasticity fines, 7.5YR5/8, 10YR7/1.	4.0	SS-3	13	11	17	25	28
		@2 feet - mottled strong brown, red and light gray, fine to coarse (A-2-6(1)), 7.5YR5/8, 2.5YR4/8, 10YR7/1. LL=34, PL=18, PI=16, NMC=13%, %#200=29	6.0	SS-4	15	24	27	30	51
		@4 feet - mottled light gray, red and brownish yellow, fine to medium, 10YR7/1, 2.5YR4/8, 10YR6/6.	8.0	SS-5	19	25	19	16	44
443.4		@6 feet - very dense, mottled yellowish red, fine to coarse, little medium plasticity fines, 5YR4/6 to 5YR5/6.							
		@8 feet - dense, yellowish red and brownish yellow, fine to medium, 5YR4/6 to 5YR5/6, 10YR6/8.							
	13.5	Hard, dry, white with yellow mottles, Elastic SILT (MH) (A-7-5(31)), trace fine sands, 2.5Y8/1, 2.5Y7/6 to 2.5Y7/8. LL=58, PL=33, PI=25, NMC=26%, %#200=99	13.5	SS-6	9	15	20		35
438.4									
	18.5	Medium dense, moist, white with very pale brown and yellow mottles, Silty fine SAND (SM), some low plasticity fines, 2.5Y8/1, 10YR7/3, 10YR7/6.	18.5	SS-7	10	13	13		26
433.4									
	24.0	@23.5 feet - dense, brownish yellow with light gray mottles, fine to medium, 10YR6/8, 10YR7/1.	23.5	SS-8	10	17	23		40
428.4		**PIEDMONT RESIDUUM** - hard, dry, laminated brownish yellow to yellow with light gray mottles, SILT (ML), trace fine							



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-54
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1728+23.05	**Offset:**	16.3
Alignment:	Proposed				
Elev.:	453.4 ft	**Latitude:**	34.190186453	**Longitude:**	-80.98352292
Date Started:	11/15/23				
Total Depth:	29.4 ft	**Soil Depth:**	29.4 ft	**Core Depth:**	N/A ft
Date Completed:	11/15/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	87.6%				
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A
24HR	NE				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		sands, relict rock structure, 10YR6/8 to 10YR7/8, 10YR7/1.								
	28.5			28.5						
	29.4	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, laminated brownish yellow to yellow with light gray mottles, SILT (ML), few fine to medium sands, relict rock structure, 10YR6/8 to 10YR7/8, 10YR7/1.			SS-9	21	50/5"			50/5"
423.4										
418.4										
413.4										
408.4										
403.4										

Boring Terminated at 29.4 feet.

● SPT N VALUE ●
PL MC LL
▲ FINES CONTENT (%)
✿ RQD (%) ■ REC (%)
0 10 20 30 40 50 60 70 80 90

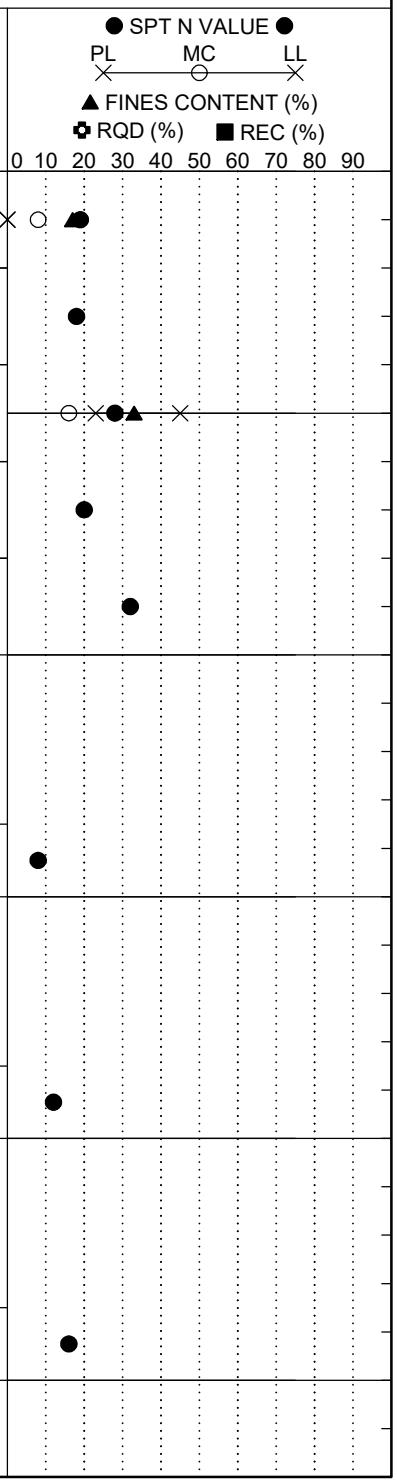
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-55		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1727+30.78	**Offset:**	13.5	**Alignment:**	Proposed
Elev.:	453.2 ft	**Latitude:**	34.189942853	**Longitude:**	-80.98343785	**Date Started:**	11/15/23
Total Depth:	30 ft	**Soil Depth:**	30 ft	**Core Depth:**	N/A ft	**Date Completed:**	11/15/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	12.8 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	5	11	8	7	19
	0.1	**SURFACE MATERIALS** - TOPSOIL - 1 inch.							
	2.0	**FILL** - medium dense, dry to moist, dark gray to dark grayish brown, Silty fine to coarse SAND (SM), little low plasticity fines, few fine to coarse crushed stone, 10YR4/1 to 10YR4/2. LL=NP, PL=NP, PI=NP, NMC=8%, %#200=17	2.0	SS-2	6	9	9	14	18
			4.0	SS-3	11	12	16	19	28
448.2		**COASTAL PLAIN** - medium dense, moist, mottled brownish yellow, red and light gray, Clayey fine to medium SAND (SC), some medium plasticity fines, 10YR6/8, 10YR5/8, 10YR7/1.	6.0	SS-4	12	10	10	17	20
	7.0								
	8.0	@4 feet - mottled red, light gray and brownish yellow, (A-2-7(2)), 2.5YR4/8, 10YR7/1, 10YR6/6 to 10YR6/8. LL=45, PL=23, PI=22, NMC=16%, %#200=33	8.0	SS-5	6	16	16	14	32
443.2		Very stiff, dry, white with red mottles, SILT (ML), trace fine sands, 5YR8/1, 2.5YR4/8.							
		Dense, moist, mottled white, yellow and red, Silty fine SAND (SM), some low plasticity fines, 5YR8/1, 10YR7/8, 2.5YR4/8.							
	13.5		13.5	SS-6	2	3	5		8
438.2		Firm, dry to moist, white with yellow mottles, Sandy SILT (ML), some fine sands, 2.5Y8/1, 10YR7/8.							
	18.5		18.5	SS-7	4	4	8		12
433.2		Medium dense, moist, white with yellow mottles, Silty fine SAND (SM), some low plasticity fines, 2.5Y8/1, 10YR7/8.							
	23.5		23.5	SS-8	4	6	10		16
428.2		**PIEDMONT RESIDUUM** - very stiff, dry, laminated white and yellow, SILT (ML), trace fine sands, relict rock structure, 10YR8/1, 10YR8/6, 10YR7/8.							



LEGEND

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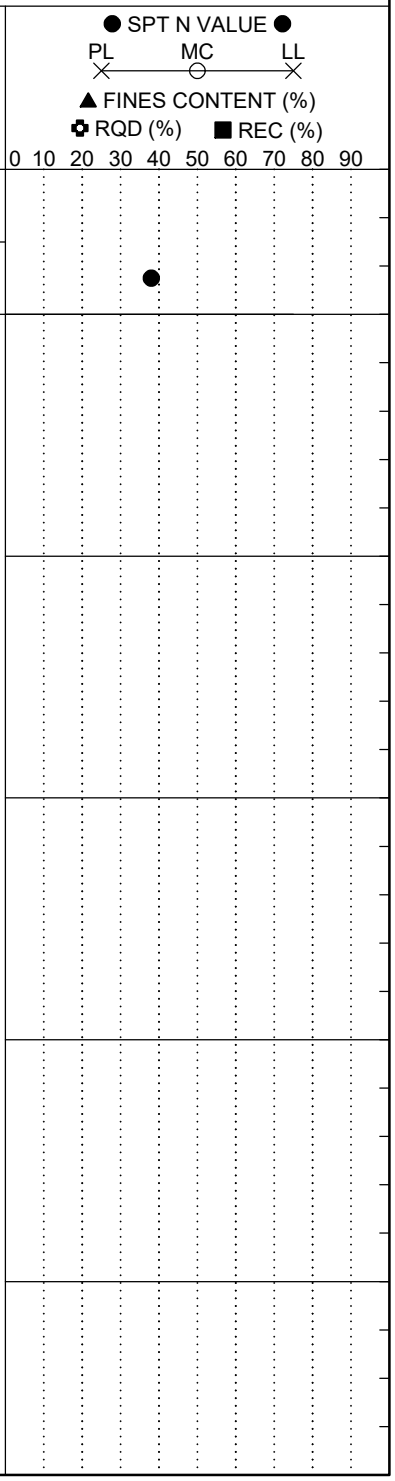
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-55
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1727+30.78	**Offset:**	13.5
Alignment:	Proposed				
Elev.:	453.2 ft	**Latitude:**	34.189942853	**Longitude:**	-80.98343785
Date Started:	11/15/23				
Total Depth:	30 ft	**Soil Depth:**	30 ft	**Core Depth:**	N/A ft
Date Completed:	11/15/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	87.6%				
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A
24HR	12.8 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	28.5			28.5						
423.2	30.0	Hard, dry, laminated white and yellow, SILT with Sand (ML), little fine to coarse sands, trace fine gravel, relict rock structure, 2.5Y8/1, 10YR7/8, 2.5Y7/8.			SS-9	8	13	25		38
		Boring Terminated at 30 feet.								
418.2										
413.2										
408.2										
403.2										



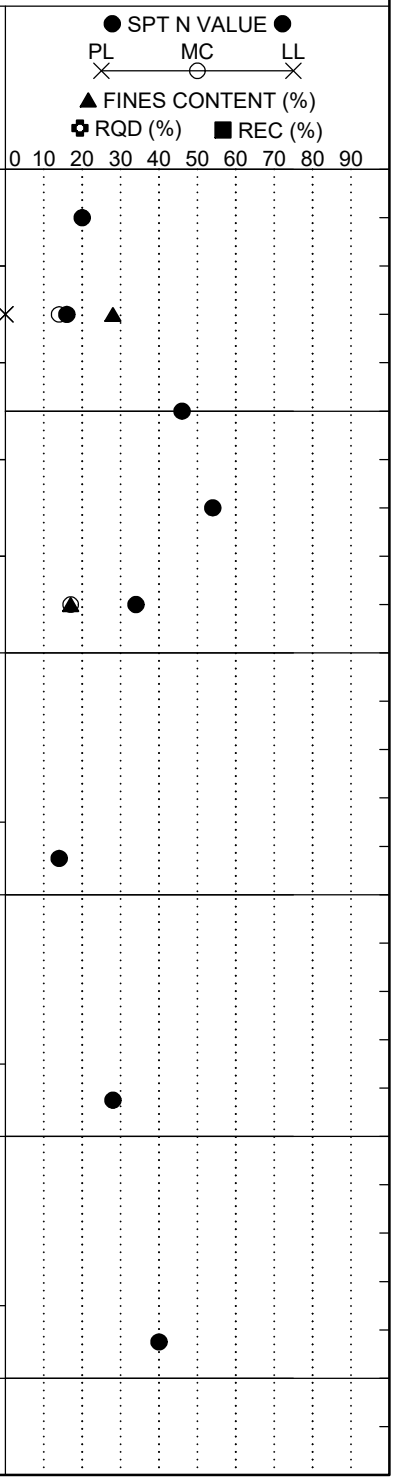
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-56		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1726+31.21	**Offset:**	12.8	**Alignment:**	Proposed
Elev.:	451.7 ft	**Latitude:**	34.189681922	**Longitude:**	-80.98333883	**Date Started:**	11/15/23
Total Depth:	34.9 ft	**Soil Depth:**	34.9 ft	**Core Depth:**	N/A ft	**Date Completed:**	11/15/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	10 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	**SURFACE MATERIALS** - TOPSOIL - 0.5 inches.	0.0	SS-1	4	8	12	7	20
	2.0	**FILL** - medium dense, moist, dark grayish brown, Silty fine to coarse SAND with Gravel (SM), some low plasticity fines, little fine to coarse crushed stone, trace roots, 10YR4/2.	2.0	SS-2	7	7	9	12	16
446.7		**COASTAL PLAIN** - medium dense, moist, yellowish brown, light gray and red, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, 10YR5/8, 10YR7/1, 2.5YR4/8. LL=NP, PL=NP, PI=NP, NMC=14%, %#200=28	4.0	SS-3	22	23	23	27	46
		@4 feet - dense, mottled yellowish red, brownish yellow and light gray, 5YR5/8, 10YR6/6, 10YR7/1.	6.0	SS-4	21	27	27	37	54
441.7		@6 feet - very dense, yellowish red with white mottles, 5YR5/6 to 5YR5/8, 5YR8/1.	8.0	SS-5	19	14	20	21	34
		@8 feet - dense, moist to wet, mottled white, pale red and yellow, (A-2-4), 10R8/1, 10R6/4, 10YR7/6. NMC=17%, %#200=17							
	13.5	Stiff, dry, mottled white and yellow, SILT (ML), trace fine sands, 2.5Y8/1, 2.5Y7/8.	13.5	SS-6	2	6	8		14
436.7									
			18.5	SS-7	7	14	14		28
431.7									
	23.5	Dense, moist, very pale brown to yellow, Silty fine to coarse SAND with Gravel (SM), some low plasticity fines, little fine to coarse quartz gravel, 10YR7/4 to 10YR7/6.	23.5	SS-8	19	20	20		40
426.7									



LEGEND

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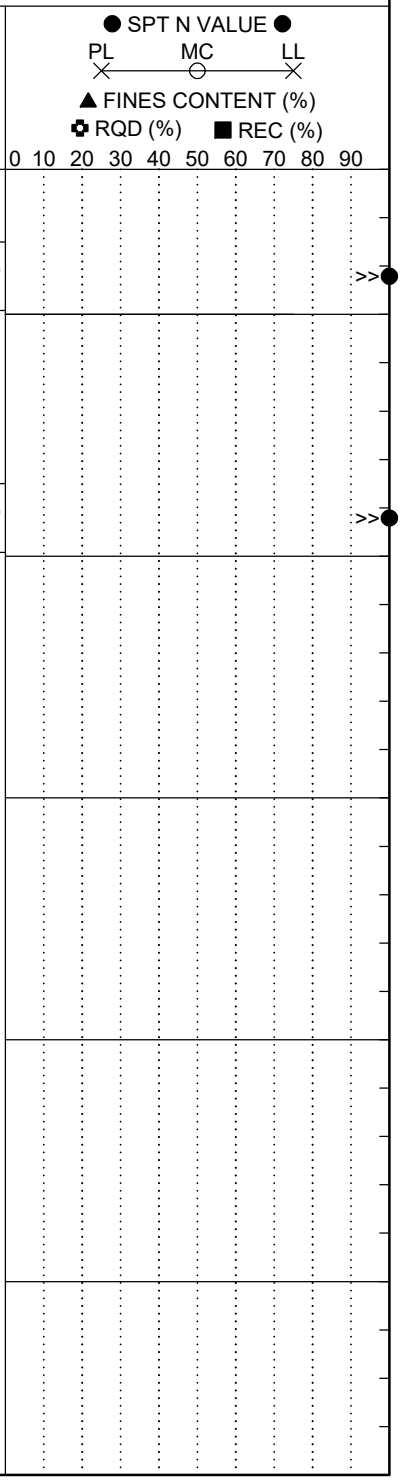
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-56		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1726+31.21	**Offset:**	12.8	**Alignment:**	Proposed
Elev.:	451.7 ft	**Latitude:**	34.189681922	**Longitude:**	-80.98333883	**Date Started:**	11/15/23
Total Depth:	34.9 ft	**Soil Depth:**	34.9 ft	**Core Depth:**	N/A ft	**Date Completed:**	11/15/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	10 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	28.5		28.5						
421.7		**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, laminated yellow and very pale brown, SILT (ML), few fine to medium sands, relict rock structure, 10YR7/6, 10YR7/4.		SS-9	17	32	50/5"		50/5"
	33.5		33.5						
416.7	34.9	Very hard, dry, laminated gray, light gray and yellow, SILT with Sand (ML), little fine to medium sands, relict rock structure, 2.5Y5/1, 2.5Y7/1, 2.5Y7/6.		SS-10	20	35	50/5"		50/5"
411.7		Boring Terminated at 34.9 feet.							
406.7									
401.7									



LEGEND

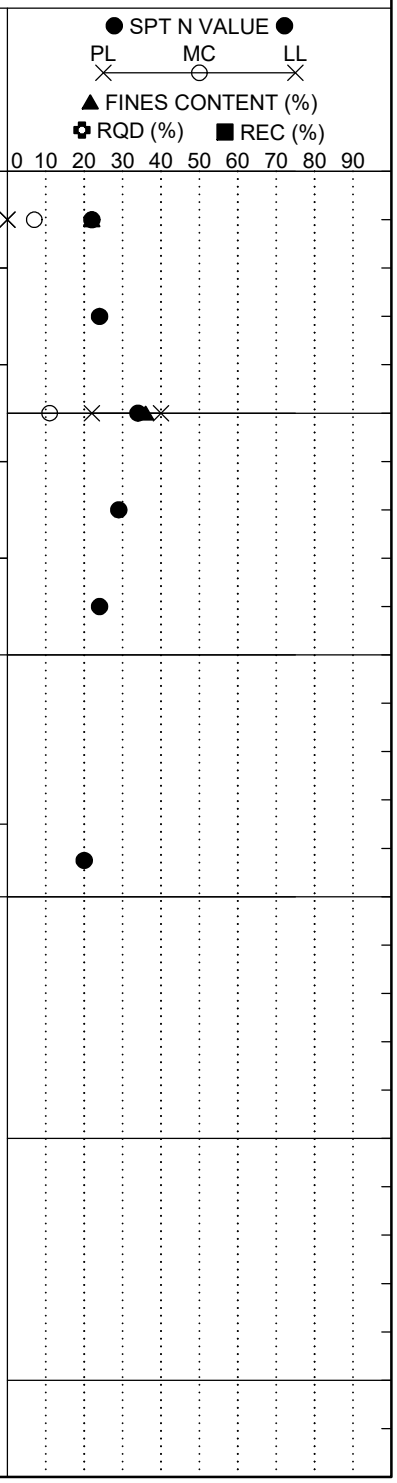
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-57		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	1725+28.92	**Offset:**	32.2	**Alignment:**	Proposed
Elev.:	451.8 ft	**Latitude:**	34.1894308	**Longitude:**	-80.98317402	**Date Started:**	11/15/23
Total Depth:	15 ft	**Soil Depth:**	15 ft	**Core Depth:**	N/A ft	**Date Completed:**	11/15/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	87.6%
Core Size:	N/A	**Driller:**	S. Eubanks	**Groundwater:**	**TOB** N/A	**24HR**	NE

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.1	**SURFACE MATERIALS** - TOPSOIL - 1 inch.
	2.0	**FILL** - medium dense, moist, dark gray to dark grayish brown, Silty fine to coarse SAND (SM), little low plasticity fines, few fine to coarse crushed stone, 10YR4/1 to 10YR4/2. LL=NP, PL=NP, PI=NP, NMC=7%, %#200=22
446.8		**COASTAL PLAIN** - medium dense, dry to moist, mottled light gray and brownish yellow, Clayey fine to medium SAND (SC), some low plasticity fines, 10YR7/1, 10YR6/8.
	8.0	@4 feet - dense, dry, fine to coarse (A-6(2)). LL=40, PL=22, PI=18, NMC=11%, %#200=36
441.8		@6 feet - medium dense, moist, mottled very pale brown, pink and yellow, fine to medium, little medium plasticity fines, 10YR7/3, 7.5YR7/4, 10YR7/8.
		Very stiff, dry, mottled brownish yellow, white and red, SILT (ML), trace fine sands, 10YR6/6, 10YR8/1, 2.5YR4/8.
		@13.5 feet - yellow with white mottles, 2.5Y7/8, 2.5Y8/1.
436.8	15.0	Boring Terminated at 15 feet.
431.8		
426.8		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	5	15	7	6	22
2.0	SS-2	9	14	10	12	24
4.0	SS-3	15	17	17	21	34
6.0	SS-4	17	18	11	9	29
8.0	SS-5	5	11	13	14	24
13.5	SS-6	6	8	12		20



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

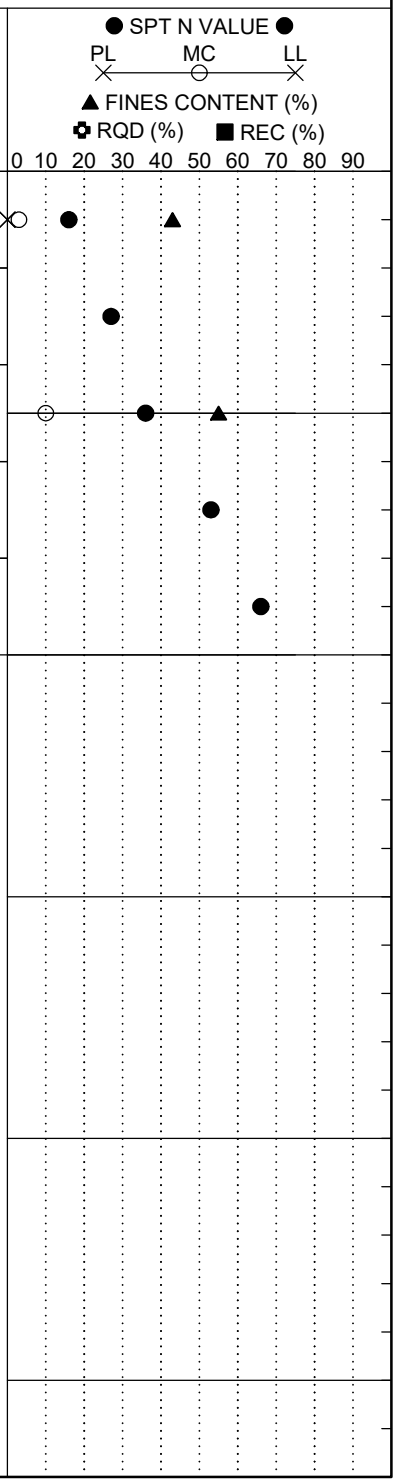
SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-58
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C
Eng./Geo.:	H. Skerkis	**Boring Location:**	1724+26.03	**Offset:**	-8.2
Alignment:	Proposed				
Elev.:	453.7 ft	**Latitude:**	34.189127694	**Longitude:**	-80.98319637
Date Started:	10/26/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	10/26/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	91.0%				
Core Size:	N/A	**Driller:**	T. Shearin	**Groundwater:**	**TOB** NE
24HR	NE				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.2	**SURFACE MATERIALS** - TOPSOIL - 2 inches.
	2.0	**FILL** - medium dense, dry, very pale brown and brown, Silty fine to medium SAND (SM) (A-4(0)), some nonplastic fines, trace organics, 10YR8/3, 10YR5/3. LL=NP, PL=NP, PI=NP, NMC=3%, %#200=43
448.7	6.0	**COASTAL PLAIN** - very stiff, dry to moist, brownish yellow with light yellowish brown mottles, Sandy Lean CLAY (CL), some fine to medium sands, trace organics, 10YR6/8, 10YR6/4. @4 feet - hard, very pale brown with yellowish brown and brownish yellow mottles, absent organics, 10YR8/4, 10YR6/8, 10YR5/8. NMC=10%, %#200=55
443.7	10.0	Very dense, dry to moist, mottled yellowish brown and brownish yellow, Silty fine to medium SAND (SM), some low plasticity fines, 10YR5/8, 10YR5/6, 10YR6/8. @8 feet - yellow, very pale brown and reddish yellow, 10YR8/6, 10YR8/4, 7.5YR6/8.
		Boring Terminated at 10 feet.
438.7		
433.7		
428.7		

Graphic Log

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	4	6	10	13	16
2.0	SS-2	10	11	16	24	27
4.0	SS-3	13	16	20	23	36
6.0	SS-4	8	18	35	42	53
8.0	SS-5	22	31	35	37	66



LEGEND

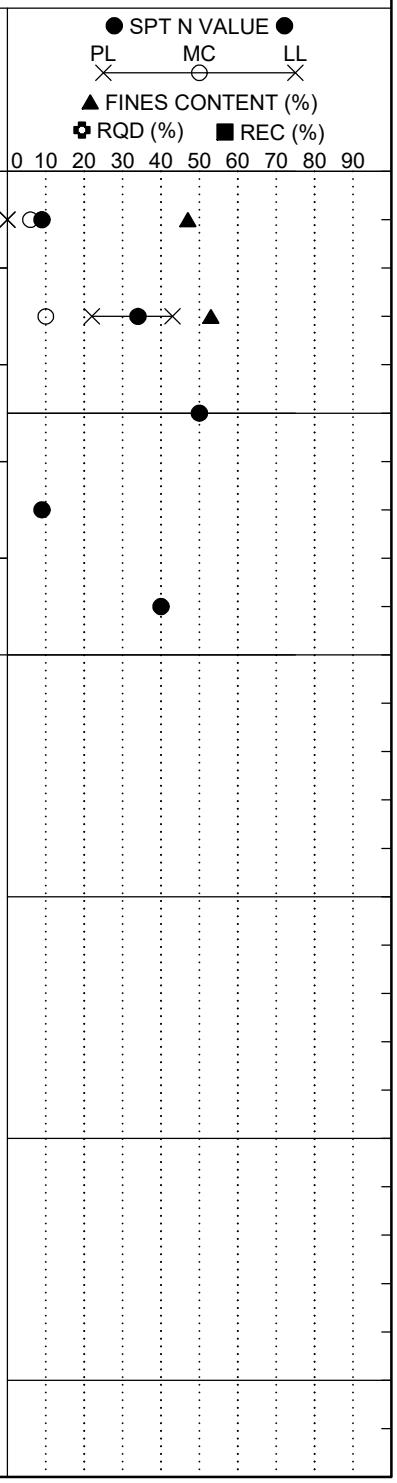
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland			**Boring No.:**	W-59
Site Description:	I-77 Exit 26 - Roadways					**Route:**	Ramp C
Eng./Geo.:	H. Skerkis	**Boring Location:**	1723+38.55	**Offset:**	-2.6	**Alignment:**	Proposed
Elev.:	450.8 ft	**Latitude:**	34.188903681	**Longitude:**	-80.98308991	**Date Started:**	10/25/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/25/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	91.0%
Core Size:	N/A	**Driller:**	T. Shearin	**Groundwater:**	**TOB** NE	**24HR**	NE

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.2	**SURFACE MATERIALS** - TOPSOIL - 2 inches.
	2.0	**FILL** - loose, dry, very pale brown and yellowish brown, Silty fine to medium SAND (SM) (A-4(0)), some nonplastic fines, 10YR7/3, 10YR5/8. LL=NP, PL=NP, PI=NP, NMC=6%, %#200=47
	4.0	**COASTAL PLAIN** - hard, dry to moist, yellow and brownish yellow, Sandy Lean CLAY (CL) (A-7-6(8)), some fine to coarse sands, 10YR7/8, 10YR8/6, 10YR6/8. LL=43, PL=22, PI=21, NMC=10%, %#200=53
445.8		
	7.0	Dense, dry to moist, mottled yellow and brownish yellow, Clayey fine to coarse SAND (SC), some medium plasticity fines, 10YR7/6, 10YR6/6, 10YR6/8.
	10.0	@6 feet - loose, few fine to coarse gravel (quartz).
440.8		**PIEDMONT RESIDUUM** - stiff, dry to moist, laminated white and yellow, SILT with Sand (ML), little fine to medium sands, 10YR8/1, 10YR8/6, 10YR8/8.
		@8 feet - laminated white, yellow and brownish yellow, trace fine rock fragments, 10YR8/1, 10YR8/8, 10YR6/8.
435.8		Boring Terminated at 10 feet.
430.8		
425.8		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	2	4	5	7	9
2.0	SS-2	9	13	21	32	34
4.0	SS-3	18	29	21	27	50
6.0	SS-4	6	4	5	7	9
8.0	SS-5	8	16	24	30	40



LEGEND

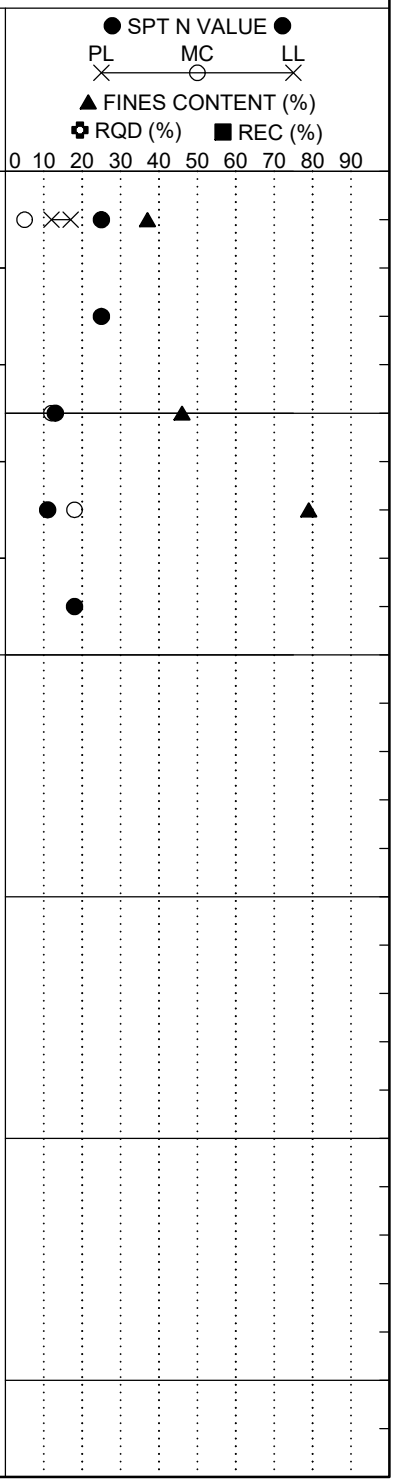
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-60		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C		
Eng./Geo.:	H. Skerkis	**Boring Location:**	1722+35.30	**Offset:**	-5.6	**Alignment:**	Proposed
Elev.:	440.5 ft	**Latitude:**	34.188631198	**Longitude:**	-80.98299383	**Date Started:**	10/25/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/25/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	91.0%
Core Size:	N/A	**Driller:**	T. Shearin	**Groundwater:**	**TOB** NE	**24HR**	NE

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIALS** - TOPSOIL - 3 inches.
		COASTAL PLAIN - medium dense, dry, very pale brown, brownish yellow, light yellowish brown and grayish brown, Silty, Clayey fine to medium SAND (SC-SM) (A-4(0)), some low plasticity fines, 10YR7/4, 10YR6/6, 10YR6/4, 10YR4/2. LL=17, PL=12, PI=5, NMC=5%, %#200=37
	4.0	
435.5		@2 feet - mottled very pale brown and yellow, fine to coarse, 10YR8/4, 10YR7/8, 10YR8/8.
	6.0	
		Medium dense, dry, mottled yellow, pale brown and white, Silty fine to coarse SAND (SM), some low plasticity fines, clay pockets, 10YR7/8, 10YR6/3, 10YR8/1. NMC=12%, %#200=46
430.5	10.0	**PIEDMONT RESIDUUM** - stiff, dry to moist, light gray and yellow, SILT with Sand (ML), little fine to medium sands, 10YR7/1, 10YR8/6, 10YR7/6. NMC=18%, %#200=79
		@8 feet - very stiff, laminated white, light gray and yellowish brown, 10YR8/1, 10YR7/1, 10YR5/8.
		Boring Terminated at 10 feet.
425.5		
420.5		
415.5		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	4	12	13	19	25
2.0	SS-2	11	11	14	20	25
4.0	SS-3	7	7	6	8	13
6.0	SS-4	4	4	7	7	11
8.0	SS-5	4	7	11	12	18



LEGEND

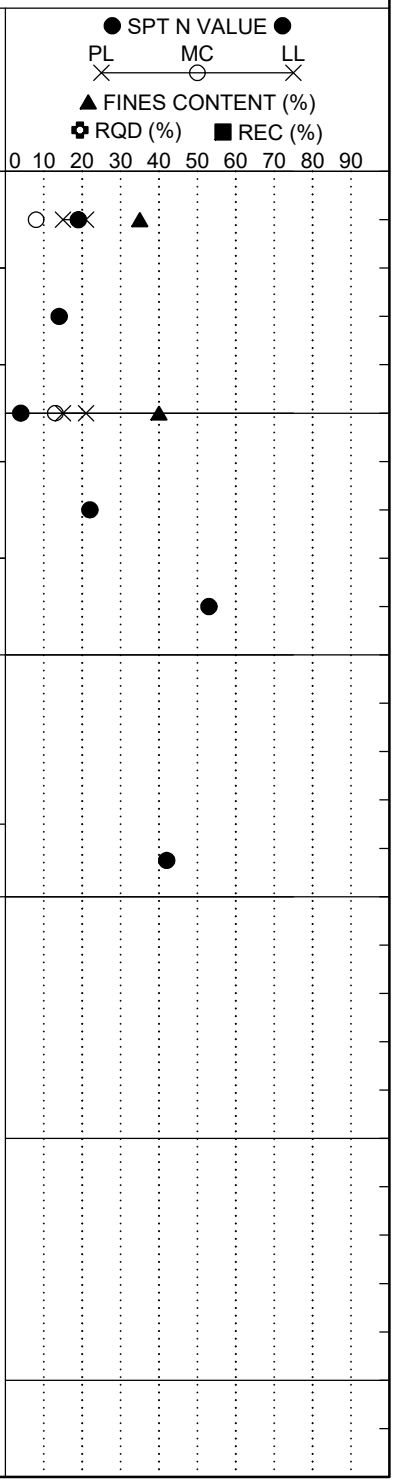
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	W-61		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	Ramp C		
Eng./Geo.:	H. Skerkis	**Boring Location:**	1721+17.78	**Offset:**	-14.2	**Alignment:**	Proposed
Elev.:	434.5 ft	**Latitude:**	34.18831752	**Longitude:**	-80.98289558	**Date Started:**	10/25/2023
Total Depth:	15 ft	**Soil Depth:**	15 ft	**Core Depth:**	N/A ft	**Date Completed:**	10/25/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-550X	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	91.0%
Core Size:	N/A	**Driller:**	T. Shearin	**Groundwater:**	**TOB** NE	**24HR**	3.9 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.2	**SURFACE MATERIALS** - TOPSOIL - 2 inches.
	2.0	**FILL** - medium dense, dry to moist, mottled brownish yellow, yellowish brown and very pale brown, Silty, Clayey fine to medium SAND (SC-SM) (A-2-4), some low plasticity fines, trace organics, 10YR6/6, 10YR5/6, 10YR8/4. LL=21, PL=15, PI=6, NMC=8%, %#200=35
	3.0	
	4.0	
429.5		
	6.0	Stiff, moist, mottled brownish yellow, gray and yellowish brown, Sandy Lean CLAY (CL), some fine to medium sands, trace organics, 10YR6/8, 10YR5/1, 10YR5/8.
	6.5	
	7.5	Stiff, moist, very dark gray to grayish brown, Sandy SILT (ML), some fine to medium sands, few organics, 10YR3/1 to 10YR5/2.
424.5		Very loose, moist, gray, Silty, Clayey fine to coarse SAND (SC-SM) (A-4(0)), some low plasticity fines, trace roots, 10YR5/1. LL=21, PL=15, PI=6, NMC=13%, %#200=40
		Very stiff, moist, dark gray, Sandy Lean CLAY (CL), some fine to medium sands, trace organics, 10YR3/1.
	15.0	**COASTAL PLAIN** - medium dense, moist, gray, Silty fine to coarse SAND (SM), some low plasticity fines, 10YR5/1.
419.5		**PIEDMONT RESIDUUM** - very stiff, moist, laminated yellowish brown, brownish yellow and very pale brown, Sandy SILT (ML), some fine to coarse sands, 10YR5/8, 10YR6/8, 10YR8/3.
		@8 feet - very hard, laminated yellowish brown, brownish yellow, very pale brown and dark yellowish brown, trace fine rock fragments, 10YR5/8, 10YR6/8, 10YR8/3, 10YR4/4.
414.5		@13.5 feet - hard, dry to moist, laminated yellow, white and gray, few fine to coarse cemented silt, 10YR7/8, 10YR8/6, 10YR8/1, 10YR6/1.
		Boring Terminated at 15 feet.
409.5		

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	5	9	10	9	19
2.0	SS-2	4	7	7	10	14
4.0	SS-3	1	2	2	4	4
6.0	SS-4	7	8	14	22	22
8.0	SS-5	14	25	28	38	53
13.5	SS-6	12	17	25		42



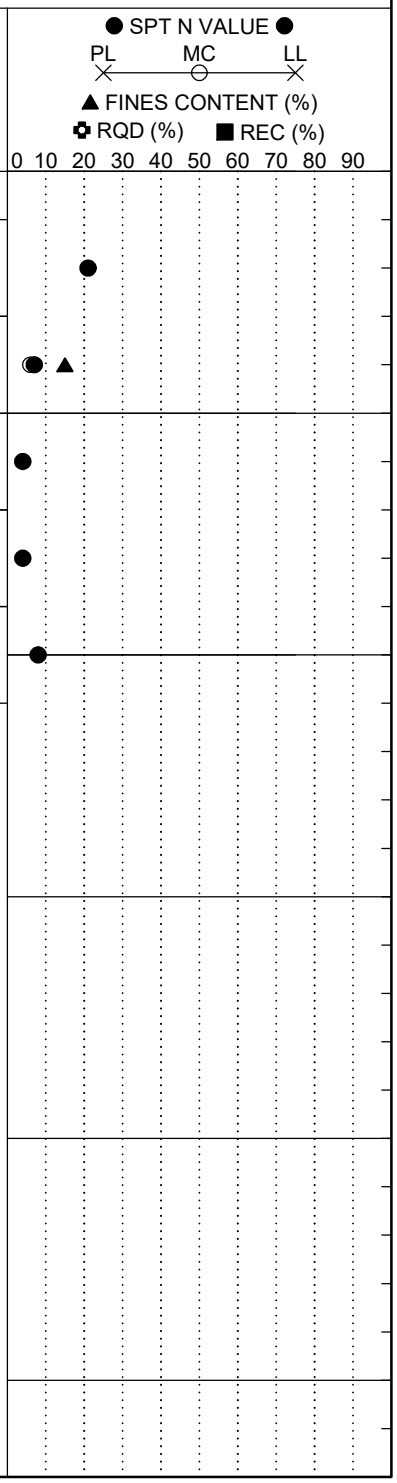
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	WR- 2		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	US-21		
Eng./Geo.:	H. Skerkis	**Boring Location:**	731+94.21	**Offset:**	17.1	**Alignment:**	Proposed
Elev.:	479.2 ft	**Latitude:**	34.199425413	**Longitude:**	-80.970817096	**Date Started:**	11/16/2023
Total Depth:	11 ft	**Soil Depth:**	11 ft	**Core Depth:**	N/A ft	**Date Completed:**	11/16/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	D-50 Turbo	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	96.8%
Core Size:	N/A	**Driller:**	F. Crane	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	Roadway							
	1.1	**SURFACE MATERIAL** - ASPHALT - 13 inches.	1.0						
	3.0	**FILL** - medium dense, moist, reddish yellow and brown, Silty fine to medium SAND (SM), little nonplastic fines, 7.5YR6/8, 7.5YR5/4.	3.0	SS-1	11	13	8	5	21
474.2		**COASTAL PLAIN** - loose, moist, reddish yellow, Silty fine to medium SAND (SM) (A-2-4), little nonplastic fines, 7.5YR6/8. NMC=6%, %#200=15	5.0	SS-2	3	4	3	2	7
		@5 feet - very loose, reddish yellow, 7.5YR7/8, 7.5YR8/6.	7.0	SS-3	2	2	2	4	4
			9.0	SS-4	1	2	2	3	4
469.2		@9 feet - loose, very pale brown and yellow, 10YR8/4, 10YR8/6.		SS-5	3	4	4	5	8
	11.0	Boring Terminated at 11 feet.							
464.2									
459.2									
454.2									



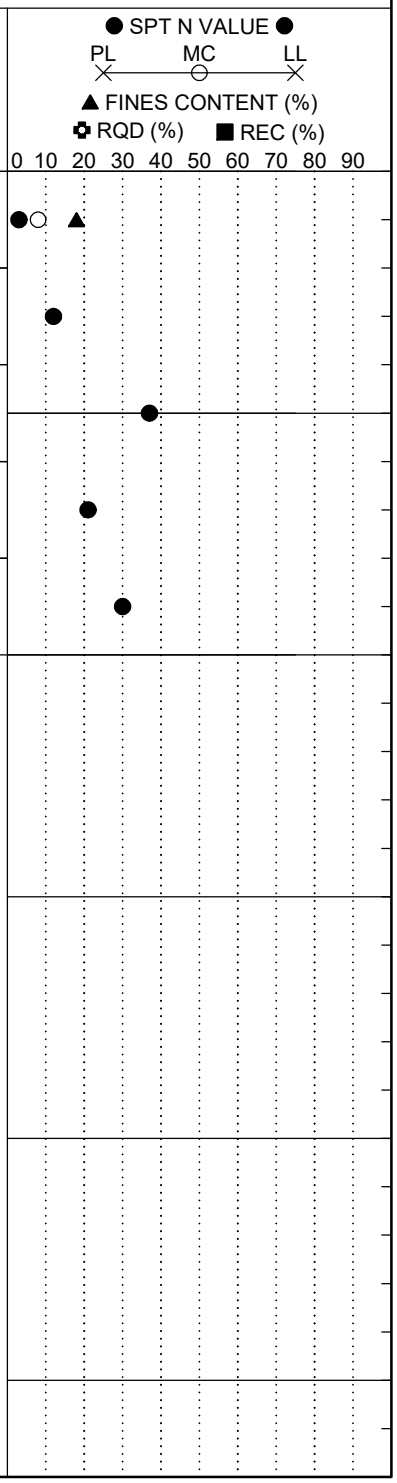
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	WR- 6
Site Description:	I-77 Exit 26 - Roadways			**Route:**	US-21
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	713+96.74	**Offset:**	27.2
Alignment:	Proposed				
Elev.:	451.9 ft	**Latitude:**	34.193218598	**Longitude:**	-80.97129574
Date Started:	9/18/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/18/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE **24HR** N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0			0.0	SS-1	1	1	2	4	3
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.		2.0	SS-2	3	6	6	8	12
	1.5	**COASTAL PLAIN** - very loose, moist, light brownish yellow, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, little roots, 10YR6/4. NMC=8%, %#200=18		4.0	SS-3	11	17	20	24	37
446.9	4.0	Very loose, moist, brownish yellow, Clayey fine to medium SAND (SC), some medium plasticity fines, 10YR6/8.		6.0	SS-4	12	12	9	21	21
	6.0	@2 feet - medium dense, mottled brownish yellow, yellowish red and gray, 10YR6/8, 5YR5/8, 5YR6/1.		8.0	SS-5	11	13	17	20	30
		Dense, moist, yellowish red, brownish yellow and gray, Poorly Graded fine to medium SAND with Clay (SP-SC), few medium plasticity fines, 5YR5/8, 10YR6/8, 5YR6/1.								
441.9	10.0	Medium dense, moist, gray, yellowish red and brownish yellow, Clayey fine to medium SAND (SC), some medium plasticity fines, 5YR6/1, 5YR5/8, 10YR6/8.								
		@8 feet - yellowish brown and light gray, little medium plasticity fines, 10YR5/8, 10YR7/1.								
		Boring Terminated at 10 feet.								
436.9										
431.9										
426.9										



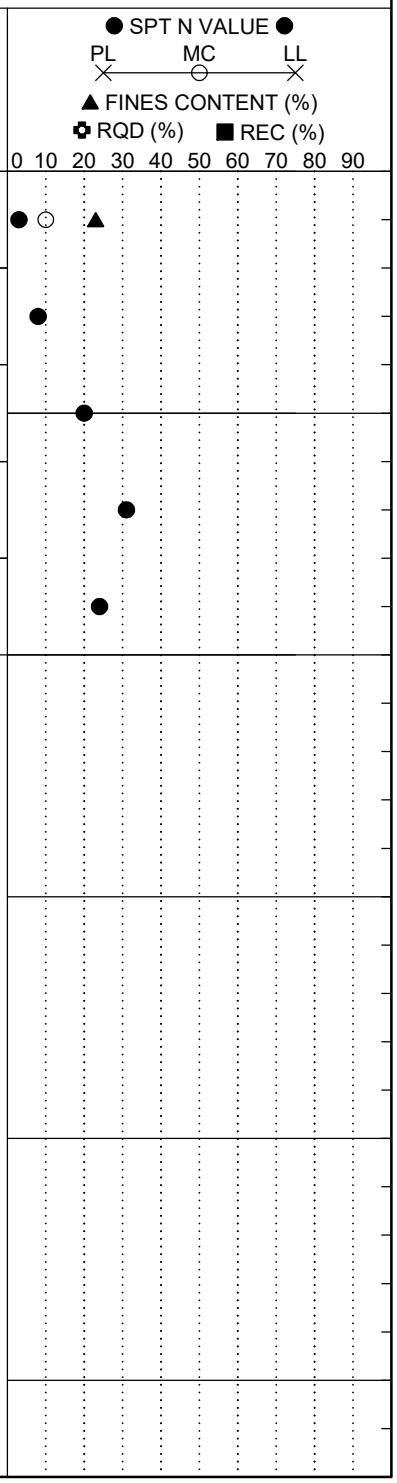
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	WR- 7
Site Description:	I-77 Exit 26 - Roadways			**Route:**	US-21
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	718+52.97	**Offset:**	23.3
Alignment:	Proposed				
Elev.:	456.3 ft	**Latitude:**	34.194159455	**Longitude:**	-80.97029867
Date Started:	9/18/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/18/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE **24HR** N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0									
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.		0.0	SS-1	1	2	1	2	3
	2.0	**COASTAL PLAIN** - very loose, moist, very dark grayish brown to grayish brown, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, trace roots, 10YR3/2, 10YR5/2. NMC=10%, %#200=23		2.0	SS-2	2	3	5	5	8
	4.0	Loose, moist, gray with brownish yellow mottles, Clayey fine to medium SAND (SC), little medium plasticity fines, 10YR6/1, 10YR6/8.		4.0	SS-3	4	9	11	11	20
451.3	6.0	Medium dense, moist, mottled pale brown, brownish yellow and light gray, Poorly Graded fine to coarse SAND with Silt (SP-SM), few low plasticity fines, 10YR6/3, 10YR6/6, 10YR7/1.		6.0	SS-4	15	14	17	20	31
				8.0	SS-5	12	14	10	8	24
446.3	10.0	Dense, moist, light gray to gray, Clayey fine to medium SAND (SC), some medium plasticity fines, 10YR7/1 to 10YR6/1. @8 feet - medium dense, light gray with light yellowish brown mottles, 10YR7/1, 10YR6/4.								
		Boring Terminated at 10 feet.								
441.3										
436.3										
431.3										



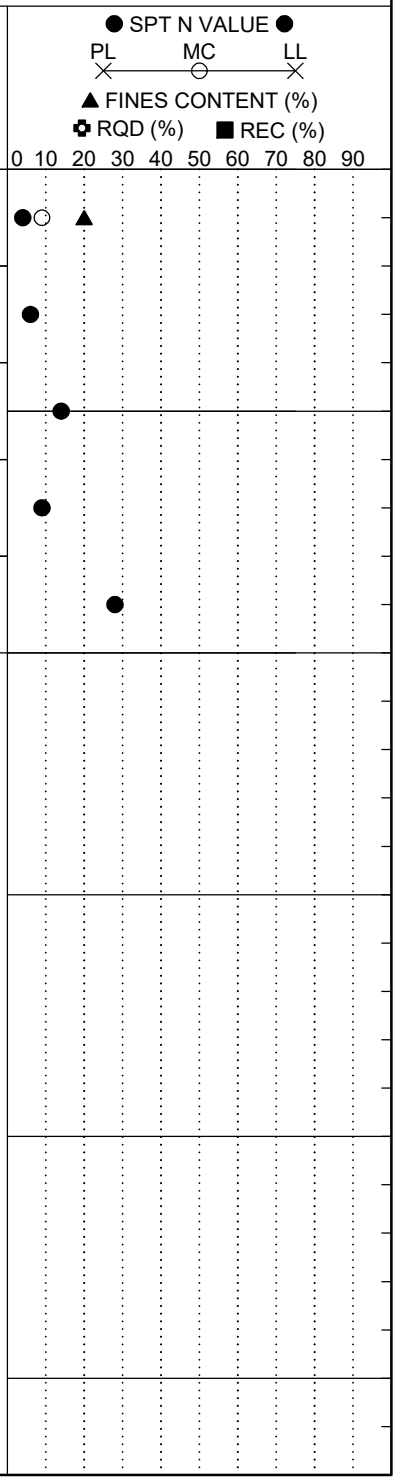
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	WR- 8
Site Description:	I-77 Exit 26 - Roadways			**Route:**	US-21
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	724+03.39	**Offset:**	-26.6
Alignment:	Proposed				
Elev.:	464.5 ft	**Latitude:**	34.195505435	**Longitude:**	-80.9695625
Date Started:	9/18/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/18/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** NE
24HR	N/A				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0									
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.		0.0	SS-1	1	2	2	2	4
	2.0	**COASTAL PLAIN** - very loose, moist, dark brown to brown, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, trace roots, 10YR3/3 to 10YR5/3. NMC=9%, %#200=20		2.0	SS-2	2	3	3	4	6
459.5		Loose, moist, brown with yellowish red mottles, Clayey fine to medium SAND (SC), little medium plasticity fines, 10YR5/3, 7.5YR5/8.		4.0	SS-3	4	6	8	8	14
		@4 feet - medium dense, mottled gray, yellowish brown and yellowish red, some medium plasticity fines, 10YR6/1, 10YR5/6, 7.5YR5/8.		6.0	SS-4	3	4	5	8	9
		@6 feet - loose.		8.0	SS-5	4	13	15	23	28
454.5	10.0	@8 feet - medium dense, mottled brownish yellow, yellowish red and gray, little medium plasticity fines, 10YR6/6, 7.5YR5/8, 10YR6/1.								
		Boring Terminated at 10 feet.								
449.5										
444.5										
439.5										



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

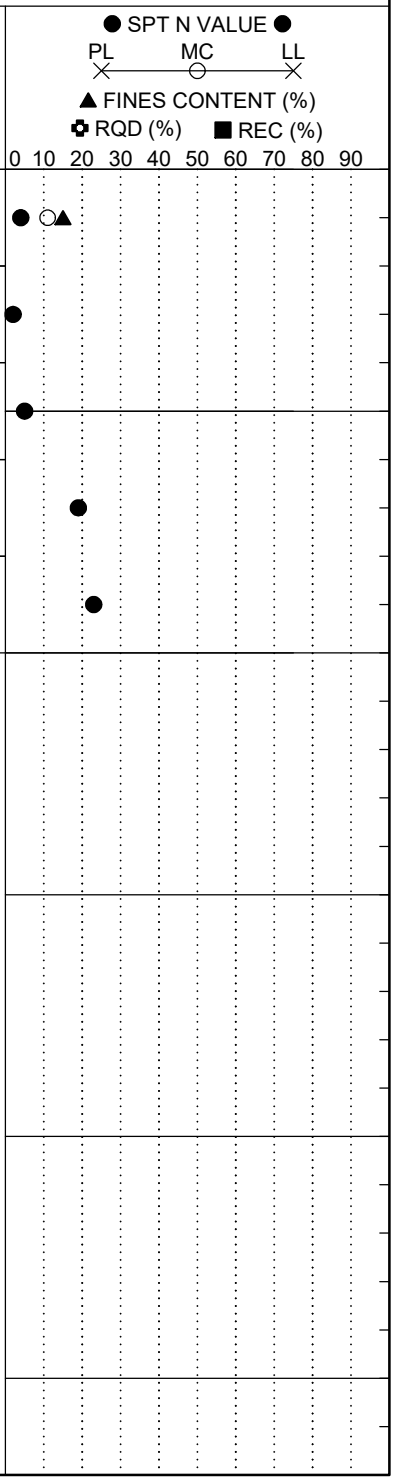
SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	WR- 9
Site Description:	I-77 Exit 26 - Roadways			**Route:**	US-21
Eng./Geo.:	E. Eastabrooks	**Boring Location:**	709+04.47	**Offset:**	2.2
Alignment:	Proposed				
Elev.:	446.5 ft	**Latitude:**	34.192112155	**Longitude:**	-80.97215247
Date Started:	9/18/2023				
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft
Date Completed:	9/18/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-45B	**Drill Method:**	HSA	**Hammer Type:**	Automatic
Energy Ratio:	84.2%				
Core Size:	N/A	**Driller:**	L. Shrader	**Groundwater:**	**TOB** N/A
24HR	6 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION
	0.0	
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.
		COASTAL PLAIN - very loose, moist, dark gray to brown, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, trace roots, 10YR4/1, 10YR5/3. NMC=11%, %#200=15
	4.0	@2 feet - brown to gray, absent roots, 10YR5/3, 7.5YR6/1.
441.5		Loose, moist, gray with brownish yellow mottles, Clayey fine to coarse SAND (SC), little medium plasticity fines, 10YR6/1, 10YR6/6.
	8.0	@6 feet - medium dense, light gray and yellowish red, 10YR7/1, 7.5YR6/6.
436.5	10.0	Medium dense, moist, light gray and yellowish red, Poorly Graded fine to medium SAND with Clay (SP-SC), few medium plasticity fines, 10YR7/1, 7.5YR6/6.
		Boring Terminated at 10 feet.
431.5		
426.5		
421.5		

Graphic Log

Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
0.0	SS-1	1	2	2	2	4
2.0	SS-2	2	1	1	2	2
4.0	SS-3	2	2	3	3	5
6.0	SS-4	4	8	11	13	19
8.0	SS-5	6	11	12	12	23



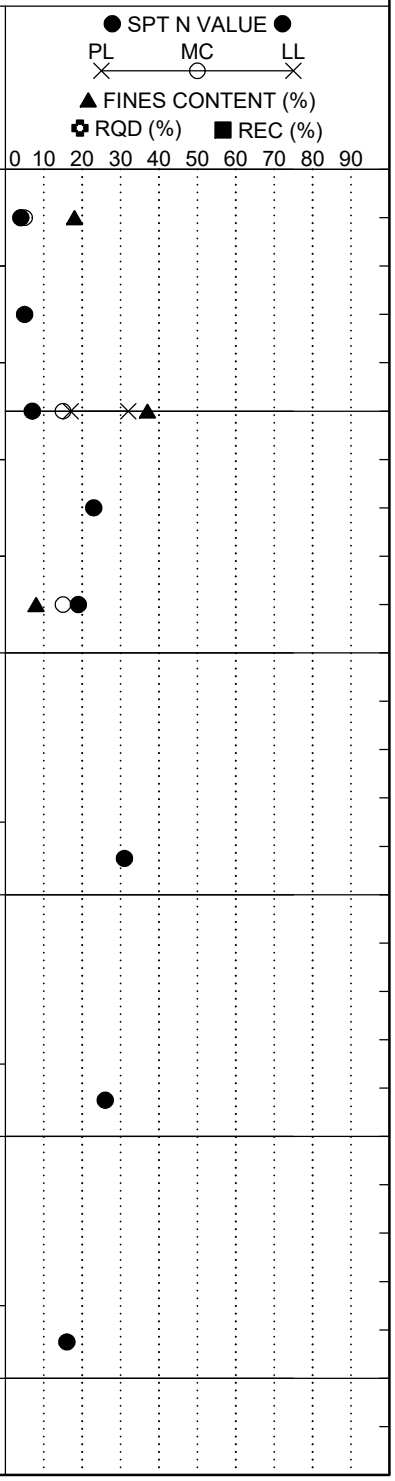
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	WR-10		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	US-21		
Eng./Geo.:	H. Skerkis	**Boring Location:**	703+89.21	**Offset:**	-17.4	**Alignment:**	Proposed
Elev.:	440.2 ft	**Latitude:**	34.190724214	**Longitude:**	-80.97192499	**Date Started:**	9/14/2023
Total Depth:	40 ft	**Soil Depth:**	40 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/14/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-750X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81.6%
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** N/A	**24HR**	5.4 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	1	1	3	3	4
	0.3	**SURFACE MATERIAL** - TOPSOIL - 4 inches.							
		COASTAL PLAIN - very loose, moist, reddish gray, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, 5YR5/2. NMC=5%, %#200=18	2.0	SS-2	2	2	3	4	5
	4.0	@2 feet - loose, gray, 5YR6/1.	4.0	SS-3	2	3	4	6	7
435.2		Loose, moist, mottled yellowish red and light gray, Clayey fine to medium SAND (SC) (A-6(1)), some medium plasticity fines, 5YR4/6, 5YR7/1. LL=32, PL=17, PI=15, NMC=15%, %#200=37	6.0	SS-4	6	12	11	13	23
	7.0	@6 feet - medium dense, light gray, 5YR7/1.	8.0	SS-5	5	8	11	13	19
430.2		Medium dense, moist, reddish yellow, Poorly Graded fine to medium SAND with Clay (SP-SC), few medium plasticity fines, 7.5YR7/8, 7.5YR6/8.							
		@8 feet - moist to wet, light red to red, trace fine gravel, 2.5YR6/8 to 2.5YR4/8. NMC=15%, %#200=8	13.5	SS-6	14	15	16		31
425.2		@13.5 feet - dense, white, pinkish white and pink, fine to coarse, 2.5YR8/1, 2.5YR8/2, 2.5YR8/4.	18.5	SS-7	8	13	13		26
420.2		@18.5 feet - medium dense, white, reddish gray and weak red, 2.5YR8/1, 2.5YR5/1, 2.5YR5/2.	23.5	SS-8	5	8	8		16
415.2	23.5	Medium dense, moist to wet, white to light reddish gray, Clayey fine to coarse SAND (SC), some medium plasticity fines, 2.5YR8/1 to 2.5YR7/1.							



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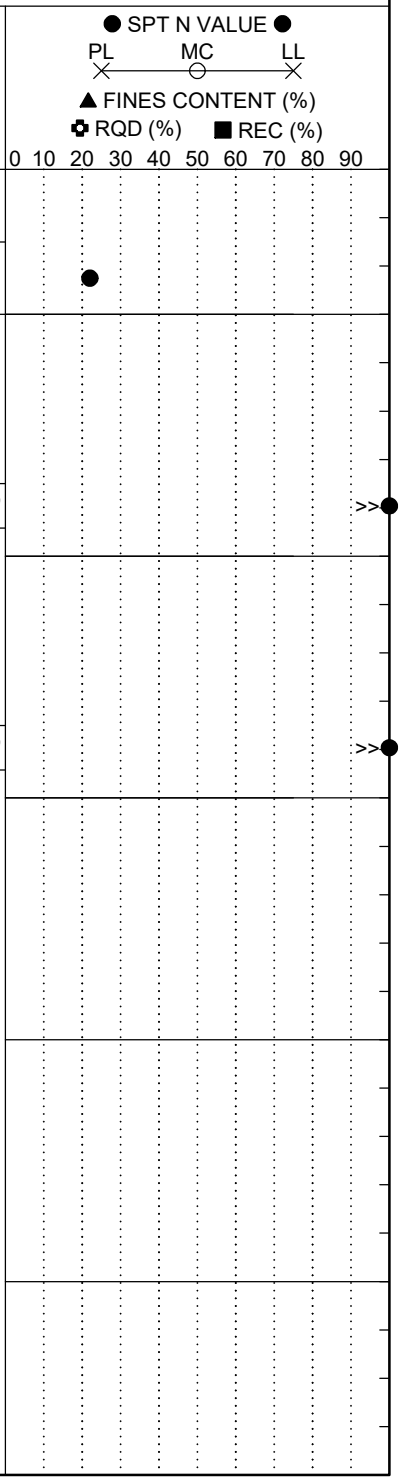
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	WR-10		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	US-21		
Eng./Geo.:	H. Skerkis	**Boring Location:**	703+89.21	**Offset:**	-17.4	**Alignment:**	Proposed
Elev.:	440.2 ft	**Latitude:**	34.190724214	**Longitude:**	-80.97192499	**Date Started:**	9/14/2023
Total Depth:	40 ft	**Soil Depth:**	40 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/14/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-750X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81.6%
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** N/A	**24HR**	5.4 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
			28.5						
				SS-9	5	8	14		22
410.2									
	33.5	**PIEDMONT RESIDUUM** - very hard, moist, laminated white, pale brown and yellow, Sandy SILT (ML), some fine to coarse sands, 2.5Y8/1, 2.5Y8/2, 2.5Y8/8.	33.5	SS-10	25	50/5"			50/5"
405.2									
	38.5	**PARTIALLY WEATHERED ROCK (PWR)** - very dense, moist, laminated white, pale brown and yellow, Silty fine to coarse SAND (SM), some low plasticity fines, 2.5Y8/1, 2.5Y8/2, 2.5Y8/8.	38.5	SS-11	22	50/5"			50/5"
400.2	40.0	Boring Terminated at 40 feet.							
395.2									
390.2									



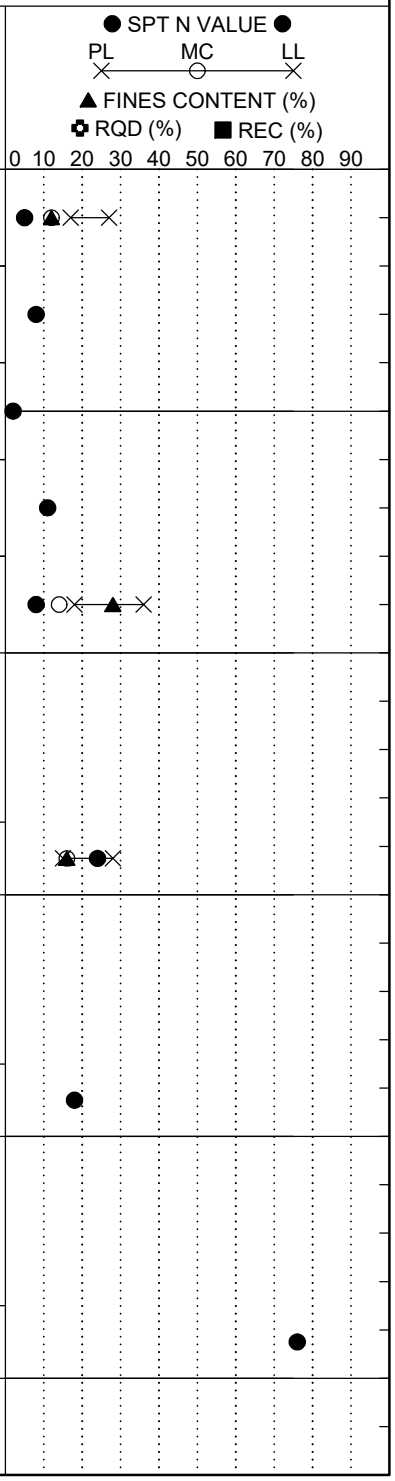
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	WR-11		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	US-21		
Eng./Geo.:	Z. Zelaya	**Boring Location:**	695+44.72	**Offset:**	-12.0	**Alignment:**	Proposed
Elev.:	445.4 ft	**Latitude:**	34.189216825	**Longitude:**	-80.969797265	**Date Started:**	9/20/2023
Total Depth:	39.2 ft	**Soil Depth:**	39.2 ft	**Core Depth:**	N/A ft	**Date Completed:**	9/20/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	CME-750X	**Drill Method:**	RW	**Hammer Type:**	Automatic	**Energy Ratio:**	81.6%
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** N/A	**24HR**	7.5 ft

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0		0.0	SS-1	1	1	4	2	5
	0.2	**SURFACE MATERIAL** - TOPSOIL - 2 inches.	2.0	SS-2	3	4	4	5	8
		COASTAL PLAIN - loose, moist, very dark grayish brown, Clayey fine to medium SAND (SC) (A-2-4), little medium plasticity fines, trace roots, 10YR3/2. LL=27, PL=17, PI=10, NMC=12%, %#200=12	4.0	SS-3	2	1	1	2	2
440.4		@1.5 feet - gray and yellowish brown, fine to coarse, 10YR6/1, 10YR6/6.	6.0	SS-4	1	4	7	7	11
		@4 feet - very loose, gray, 10YR6/1.	8.0	SS-5	3	4	4	16	8
		@6 feet - medium dense, gray and brownish yellow, fine to medium, 10YR6/1, 10YR6/6.	13.5	SS-6	11	10	14		24
435.4		@8 feet - loose, gray and brownish yellow, fine to coarse (A-2-6(1)), 10YR6/1, 10YR6/6 to 10YR6/8. LL=36, PL=18, PI=18, NMC=14%, %#200=28	18.5	SS-7	8	5	13		18
430.4		@13.5 feet - moist to wet, white, gray and brownish yellow, (A-2-6(0)), 10YR8/1, 10YR6/1, 10YR6/6. LL=28, PL=15, PI=13, NMC=16%, %#200=16	23.5	SS-8	20	29	47		76
425.4									
420.4	23.5	**PIEDMONT RESIDUUM** - very hard, dry, light gray with brownish yellow mottles, Lean CLAY (CL), few fine to coarse sands, 10YR7/1, 10YR6/8.							



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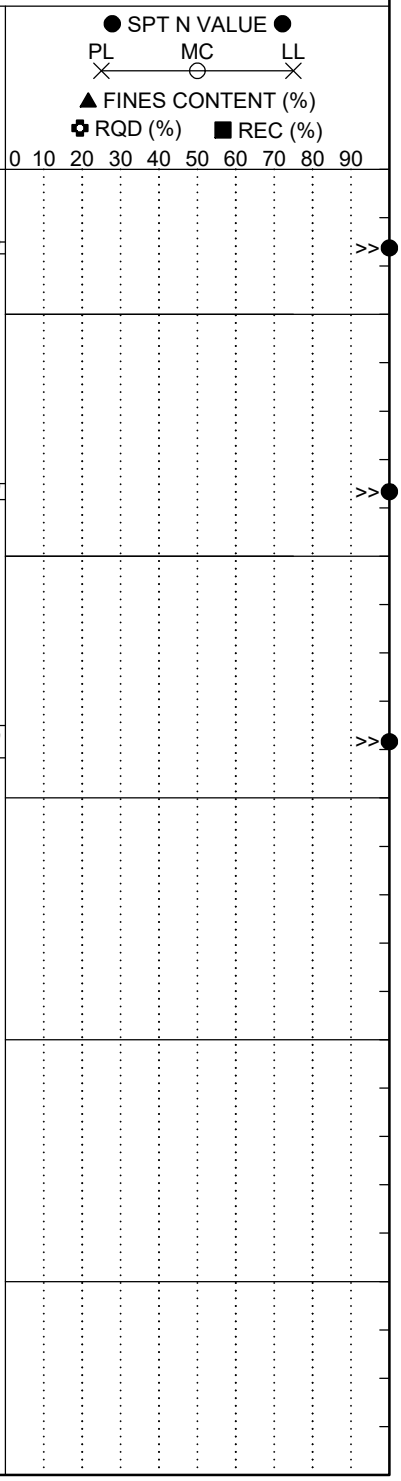
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	WR-11
Site Description:	I-77 Exit 26 - Roadways			**Route:**	US-21
Eng./Geo.:	Z. Zelaya	**Boring Location:**	695+44.72	**Offset:**	-12.0
Alignment:	Proposed				
Elev.:	445.4 ft	**Latitude:**	34.189216825	**Longitude:**	-80.969797265
Date Started:	9/20/2023				
Total Depth:	39.2 ft	**Soil Depth:**	39.2 ft	**Core Depth:**	N/A ft
Date Completed:	9/20/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-750X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	81.6%				
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** N/A
24HR	7.5 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	28.5	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, slightly laminated light gray with brownish yellow mottles, SILT (ML), trace fine sands, 10YR7/1, 10YR6/8.		28.5	SS-9	50/3"				50/3"
415.4										
	33.5	Very hard, dry, laminated yellowish brown and brownish yellow, Sandy SILT (ML), some fine to coarse sands, relict rock structure, 10YR5/8, 10YR6/6.		33.5	SS-10	50/4"				50/4"
410.4										
	38.5			38.5						
	39.2	Very hard, dry, laminated yellowish brown and white, SILT with Sand (ML), little fine to medium sands, relict rock structure, 10YR5/8, 10YR8/1.			SS-11	47	50/2"			50/2"
405.4		Boring Terminated at 39.2 feet.								
400.4										
395.4										



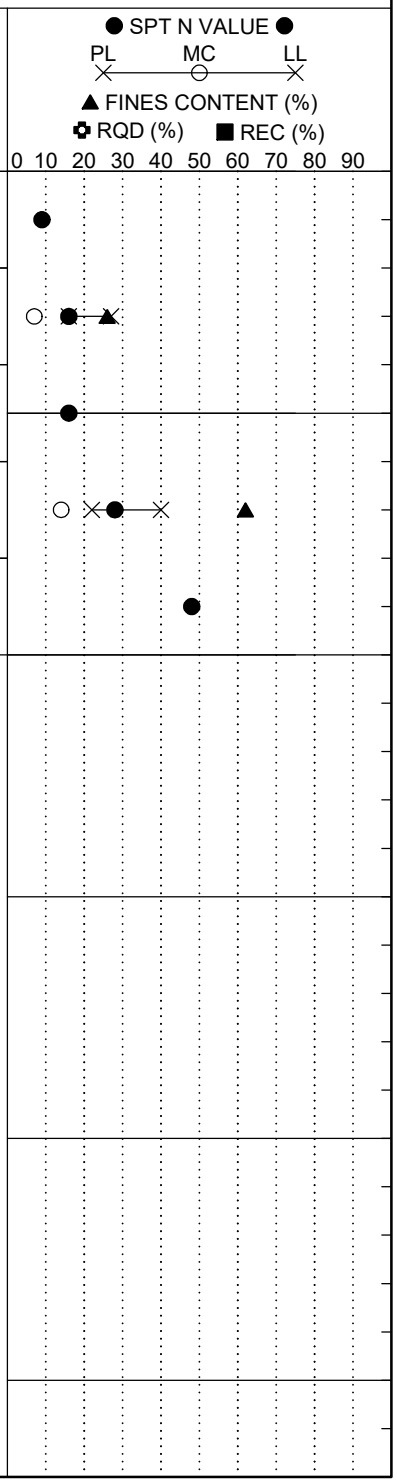
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	WR-12		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	SC-555		
Eng./Geo.:	H. Skerkis	**Boring Location:**	18+65.13	**Offset:**	-8.5	**Alignment:**	Proposed
Elev.:	446.1 ft	**Latitude:**	34.187835968	**Longitude:**	-80.96743385	**Date Started:**	11/16/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	11/16/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	D-50 Turbo	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	96.8%
Core Size:	N/A	**Driller:**	F. Crane	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0									
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.		0.0	SS-1	2	4	5	7	9
		COASTAL PLAIN - loose, moist, light gray and brown, Clayey fine to medium SAND (SC), little medium plasticity fines, trace organics, 10YR7/2, 10YR5/3.		2.0	SS-2	7	8	8	8	16
		@2 feet - medium dense, light gray and yellow, (A-2-6(0)), 10YR7/2, 10YR7/8. LL=27, PL=16, PI=11, NMC=7%, %#200=26		4.0	SS-3	5	8	8	8	16
441.1	6.0	@4 feet - light gray, yellow and brown, some medium plasticity fines, 10YR7/2, 10YR7/8, 10YR5/3.		6.0	SS-4	6	12	16		28
		Stiff, moist, mottled white, reddish yellow and yellow, Sandy Lean CLAY (CL) (A-6(9)), some fine to medium sands, 7.5YR6/6, 7.5YR7/8, 7.5YR8/1, 10YR7/8. LL=40, PL=22, PI=18, NMC=14%, %#200=62		8.0	SS-5	20	22	26	36	48
436.1	10.0	@8 feet - hard.								
		Boring Terminated at 10 feet.								
431.1										
426.1										
421.1										



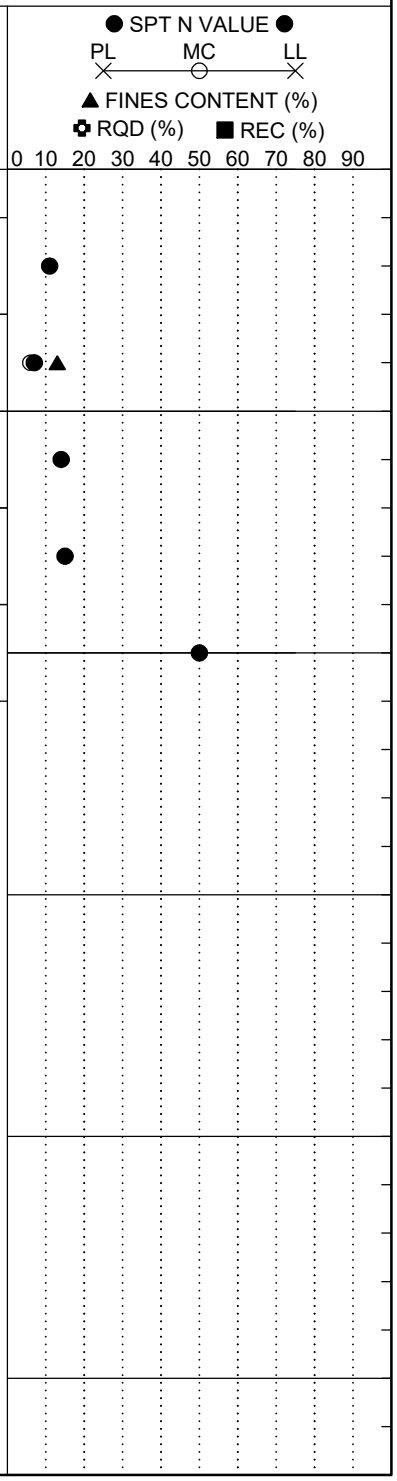
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	WR-13		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	US-21		
Eng./Geo.:	H. Skerkis	**Boring Location:**	683+78.49	**Offset:**	-7.5	**Alignment:**	Proposed
Elev.:	451.7 ft	**Latitude:**	34.186713242	**Longitude:**	-80.967871427	**Date Started:**	11/16/2023
Total Depth:	11 ft	**Soil Depth:**	11 ft	**Core Depth:**	N/A ft	**Date Completed:**	11/16/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	D-50 Turbo	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	96.8%
Core Size:	N/A	**Driller:**	F. Crane	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	Roadway							
	0.7	**SURFACE MATERIAL** - ASPHALT - 8 inches.							
	1.3	AGGREGATE BASE COURSE - 8 inches.	1.0						
		FILL - medium dense, moist, yellow, Silty fine to medium SAND (SM), little low plasticity fines, 10YR7/6.		SS-1	8	7	4	3	11
		@3 feet - loose, (A-2-4). NMC=6%, %#200=13	3.0	SS-2	3	3	4	4	7
446.7	5.0	**COASTAL PLAIN** - medium dense, moist, mottled reddish yellow and light gray, Clayey fine to medium SAND (SC), some medium plasticity fines, 7.5YR7/6, 7.5YR6/6, 7.5YR7/1.	5.0	SS-3	5	6	8	13	14
			7.0	SS-4	4	6	9	12	15
		@9 feet - dense.	9.0	SS-5	19	23	27	32	50
441.7	11.0	Boring Terminated at 11 feet.							
436.7									
431.7									
426.7									



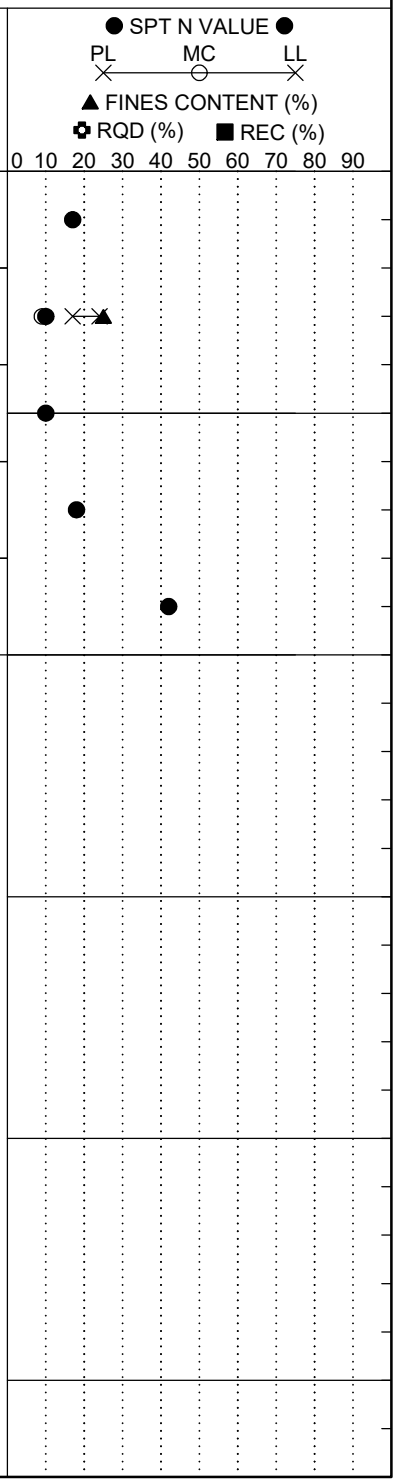
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	WR-14		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	SC-555		
Eng./Geo.:	H. Skerkis	**Boring Location:**	15+70.11	**Offset:**	19.6	**Alignment:**	Proposed
Elev.:	448.9 ft	**Latitude:**	34.187901549	**Longitude:**	-80.966467604	**Date Started:**	11/16/2023
Total Depth:	10 ft	**Soil Depth:**	10 ft	**Core Depth:**	N/A ft	**Date Completed:**	11/16/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	D-50 Turbo	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	96.8%
Core Size:	N/A	**Driller:**	F. Crane	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	**COASTAL PLAIN** - medium dense, moist, yellow and very pale brown, Poorly Graded fine to medium SAND with Silt (SP-SM), few low plasticity fines, 10YR8/4, 10YR7/6.	0.0	SS-1	5	8	9	7	17
	2.0	Loose, moist, yellow and brownish yellow, Silty, Clayey fine to medium SAND (SC-SM) (A-2-4), little low to medium plasticity fines, 10YR7/8, 10YR7/6, 10YR6/8. LL=24, PL=17, PI=7, NMC=9%, %#200=25	2.0	SS-2	4	5	5	8	10
443.9	4.0	Loose, moist, reddish yellow and light gray, Clayey fine to medium SAND (SC), some medium plasticity fines, 7.5YR6/6, 7.5YR7/6, 7.5YR7/1.	4.0	SS-3	3	4	6	5	10
	8.0	@6 feet - medium dense, reddish yellow, yellow and light gray, 5YR7/8, 5YR6/6, 10YR7/8, 10YR8/8, 10YR7/1.	6.0	SS-4	3	8	10	11	18
438.9	10.0	Hard, moist, white, reddish yellow and yellow, Sandy Lean CLAY (CL), some fine to medium sands, 5YR8/1, 5YR6/6, 10YR7/8.	8.0	SS-5	17	19	23	32	42
		Boring Terminated at 10 feet.							
433.9									
428.9									
423.9									



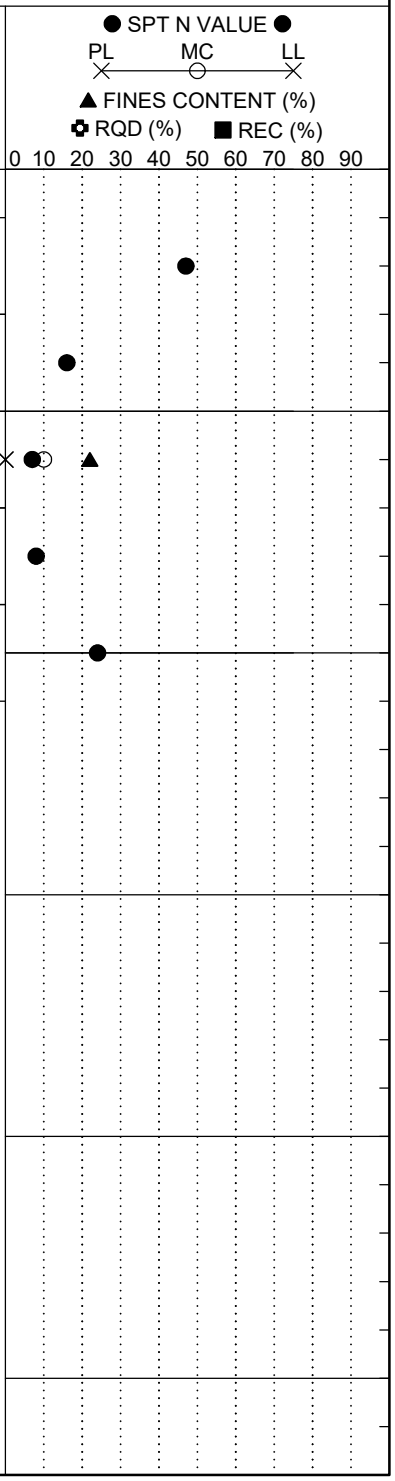
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	WR-15		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	SC-555		
Eng./Geo.:	H. Skerkis	**Boring Location:**	13+13.69	**Offset:**	-8.1	**Alignment:**	Proposed
Elev.:	450.0 ft	**Latitude:**	34.187371353	**Longitude:**	-80.965904951	**Date Started:**	11/16/2023
Total Depth:	11 ft	**Soil Depth:**	11 ft	**Core Depth:**	N/A ft	**Date Completed:**	11/16/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	D-50 Turbo	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	96.8%
Core Size:	N/A	**Driller:**	F. Crane	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	Roadway							
	0.7	**SURFACE MATERIAL** - ASPHALT - 8 inches.							
		FILL - dense, moist, yellow and very pale brown, Poorly Graded fine to medium SAND with Silt (SP-SM), few nonplastic fines, 10YR7/6, 10YR7/3.	1.0	SS-1	19	27	20	12	47
	3.0	**COASTAL PLAIN** - medium dense, moist, mottled yellow and very pale brown, Clayey fine to medium SAND (SC), little medium plasticity fines, 10YR7/6, 10YR8/3.	3.0	SS-2	8	7	9	6	16
445.0	5.0	Loose, moist, reddish yellow and light gray, Silty fine to medium SAND (SM) (A-1-b), little low plasticity fines, 7.5YR7/8, 7.5YR7/6, 7.5YR7/1. LL=NP, PL=NP, PI=NP, NMC=10%, %#200=22	5.0	SS-3	2	3	4	5	7
		@7 feet - reddish yellow and light gray, some low plasticity fines, 5YR6/6, 7.5YR6/8, 7.5YR7/1.	7.0	SS-4	3	5	6	11	8
440.0			9.0	SS-5	10	11	13	15	24
	11.0	Boring Terminated at 10 feet.							
435.0									
430.0									
425.0									



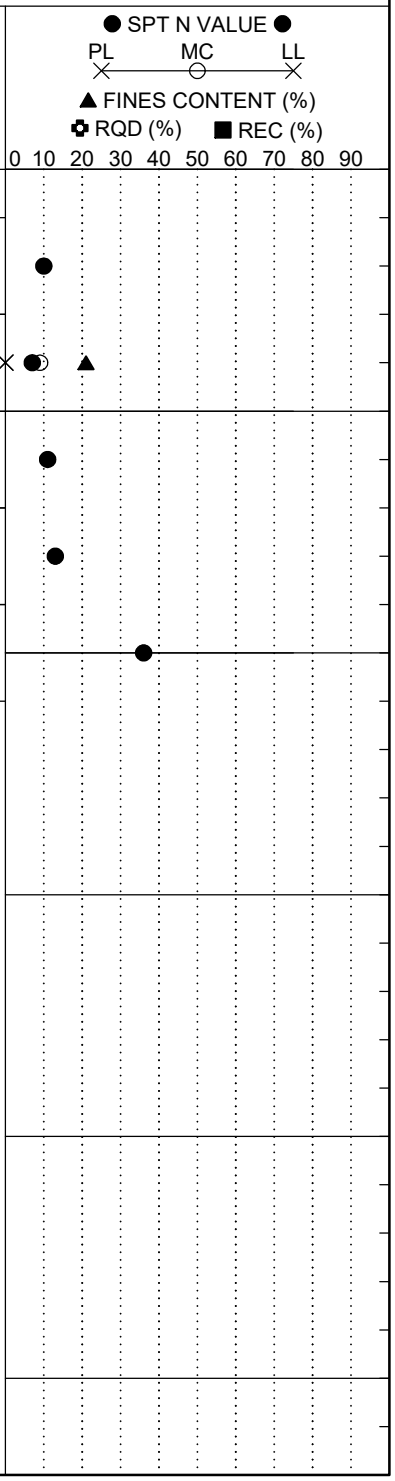
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	WR-16		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	US-21		
Eng./Geo.:	H. Skerkis	**Boring Location:**	678+24.52	**Offset:**	-9.4	**Alignment:**	Proposed
Elev.:	450.3 ft	**Latitude:**	34.185210308	**Longitude:**	-80.968161723	**Date Started:**	11/16/2023
Total Depth:	11 ft	**Soil Depth:**	11 ft	**Core Depth:**	N/A ft	**Date Completed:**	11/16/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	D-50 Turbo	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	96.8%
Core Size:	N/A	**Driller:**	F. Crane	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	Roadway							
	0.8	**SURFACE MATERIAL** - ASPHALT - 9 inches.							
		FILL - loose, moist, very pale brown and brown, Silty fine to medium SAND (SM), little low plasticity fines, 10YR7/4, 10YR5/3.	1.0	SS-1	10	6	4	4	10
		@3 feet - yellow, (A-1-b), 10YR7/6. LL=NP, PL=NP, PI=NP, NMC=9%, %#200=21	3.0	SS-2	2	3	4	4	7
445.3	5.0	**COASTAL PLAIN** - medium dense, moist, reddish yellow and light gray, Clayey fine to medium SAND (SC), some medium plasticity fines, 7.5YR6/6, 7.5YR6/8, 7.5YR7/1.	5.0	SS-3	3	5	6	6	11
			7.0	SS-4	4	5	8	10	13
		@9 feet - dense, reddish yellow, yellow and light gray, 5YR6/6, 10YR7/8, 10YR7/2.	9.0	SS-5	12	17	19	22	36
440.3	11.0	Boring Terminated at 11 feet.							
435.3									
430.3									
425.3									



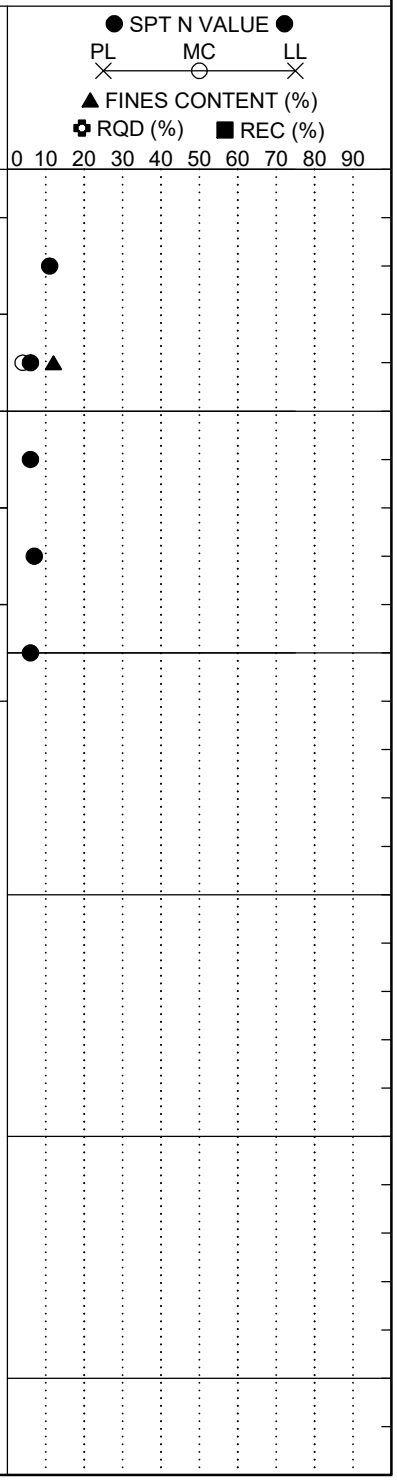
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	WR-26		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	US-21		
Eng./Geo.:	H. Skerkis	**Boring Location:**	724+87.08	**Offset:**	9.7	**Alignment:**	Proposed
Elev.:	474.5 ft	**Latitude:**	34.197593062	**Longitude:**	-80.970037588	**Date Started:**	11/16/2023
Total Depth:	11 ft	**Soil Depth:**	11 ft	**Core Depth:**	N/A ft	**Date Completed:**	11/16/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	D-50 Turbo	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	96.8%
Core Size:	N/A	**Driller:**	F. Crane	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	Roadway							
	1.0	**SURFACE MATERIAL** - ASPHALT - 12 inches.	1.0						
	3.0	**FILL** - medium dense, moist, reddish yellow, Poorly Graded fine to medium SAND with Silt (SP-SM), few nonplastic fines, 7.5YR6/8, 7.5YR6/6.	3.0	SS-1	10	7	4	4	11
469.5		**COASTAL PLAIN** - loose, moist, reddish yellow, Poorly Graded fine to medium SAND with Silt (SP-SM), few nonplastic fines, 7.5YR6/8, 7.5YR6/6. NMC=4%, %#200=12	5.0	SS-2	3	3	3	4	6
		@5 feet - reddish yellow, 7.5YR8/6.	7.0	SS-3	3	3	3	4	6
			9.0	SS-4	2	3	4	3	7
464.5		@9 feet - reddish yellow, 7.5YR6/8, 7.5YR6/6.		SS-5	3	3	3	3	6
	11.0	Boring Terminated at 11 feet.							
459.5									
454.5									
449.5									



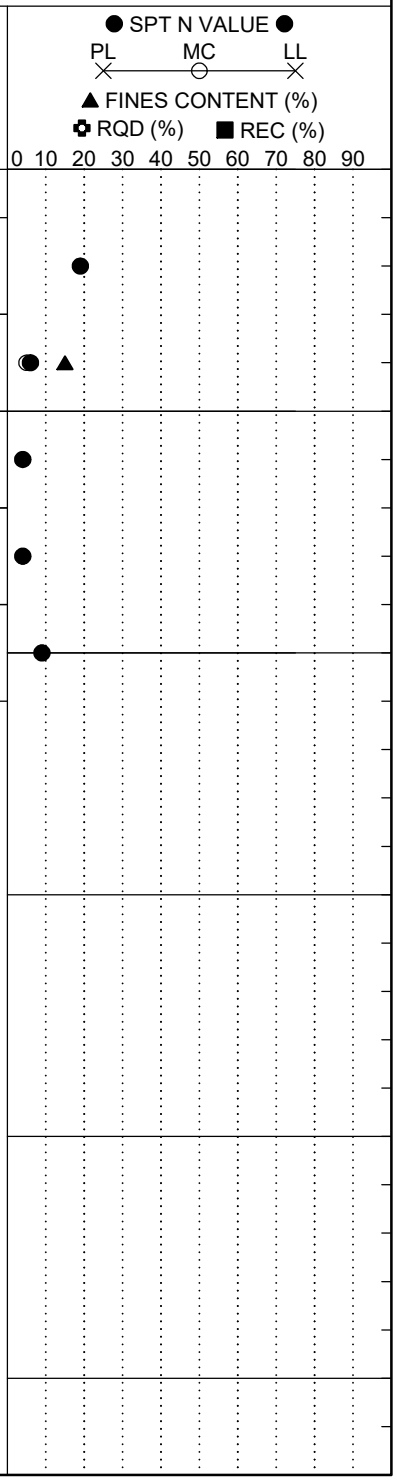
LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	P042443 (S&ME 23610178A)	**County:**	Richland	**Boring No.:**	WR-27		
Site Description:	I-77 Exit 26 - Roadways			**Route:**	US-21		
Eng./Geo.:	H. Skerkis	**Boring Location:**	729+79.57	**Offset:**	13.7	**Alignment:**	Proposed
Elev.:	478.7 ft	**Latitude:**	34.198868669	**Longitude:**	-80.970582653	**Date Started:**	11/16/2023
Total Depth:	11 ft	**Soil Depth:**	11 ft	**Core Depth:**	N/A ft	**Date Completed:**	11/16/2023
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)	**Liner Used:**	Y (N)
Drill Machine:	D-50 Turbo	**Drill Method:**	HSA	**Hammer Type:**	Automatic	**Energy Ratio:**	96.8%
Core Size:	N/A	**Driller:**	F. Crane	**Groundwater:**	**TOB** NE	**24HR**	N/A

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	Roadway							
	1.2	**SURFACE MATERIAL** - ASPHALT - 14 inches.	1.0						
	3.0	**FILL** - medium dense, moist, reddish yellow and light brown, Silty fine to medium SAND (SM), little low plasticity fines, 7.5YR7/6, 7.5YR6/4.	3.0	SS-1	10	11	8	5	19
473.7		**COASTAL PLAIN** - loose, moist, reddish yellow, Silty fine to medium SAND (SM) (A-2-4), little low plasticity fines, 7.5YR7/8. NMC=5%, %#200=15	5.0	SS-2	3	2	4	3	6
		@5 feet - very loose, yellow, 10YR8/6.	7.0	SS-3	2	2	2	3	4
			9.0	SS-4	1	2	2	4	4
468.7		@9 feet - very pale brown, 10YR8/3.		SS-5	3	4	5	6	9
	11.0	Boring Terminated at 11 feet.							
463.7									
458.7									
453.7									



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

Appendix IV– Laboratory Test Data Sheets – Split-Spoon Samples

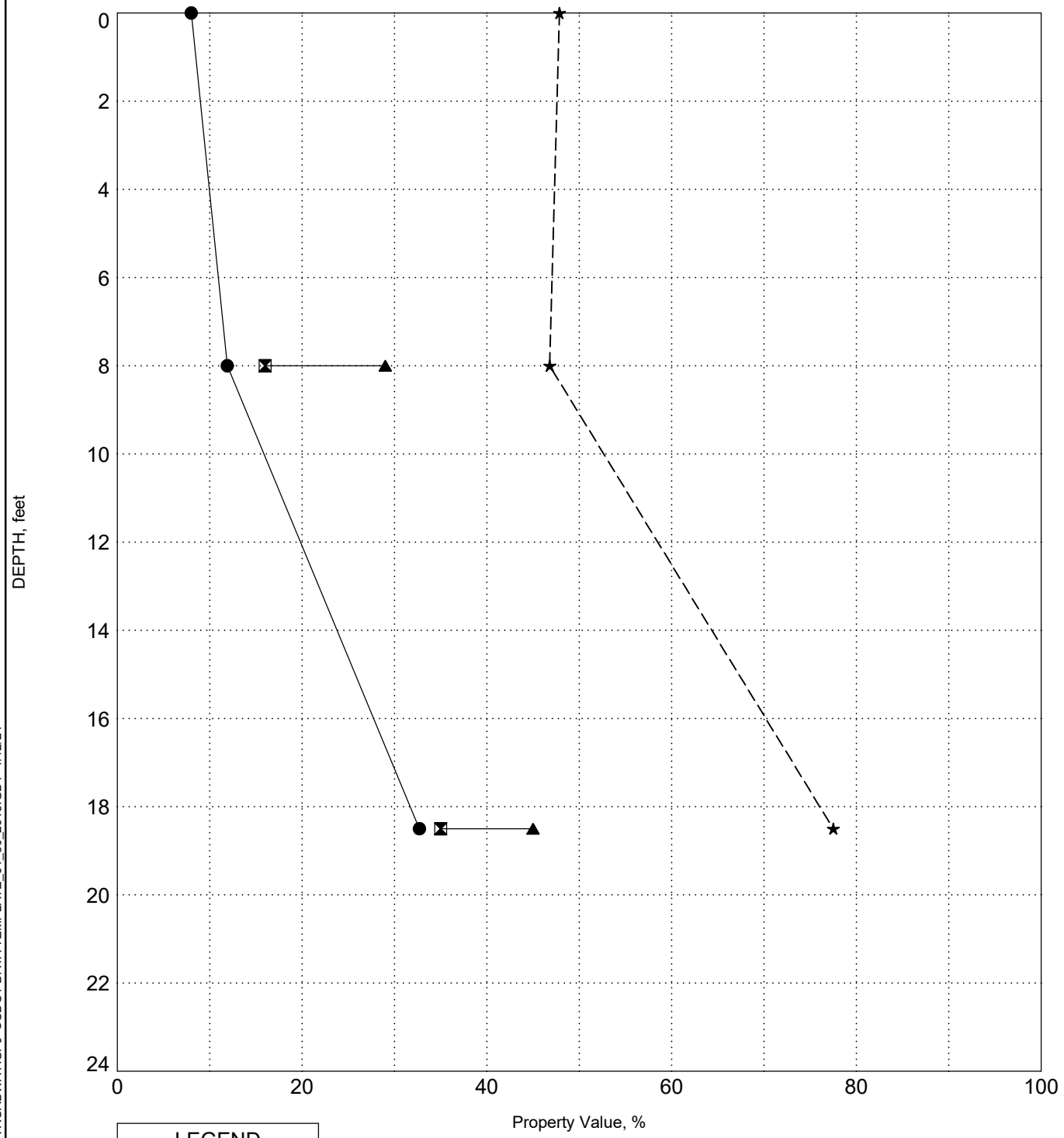
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING C- 1

SURFACE ELEVATION: 450.0



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

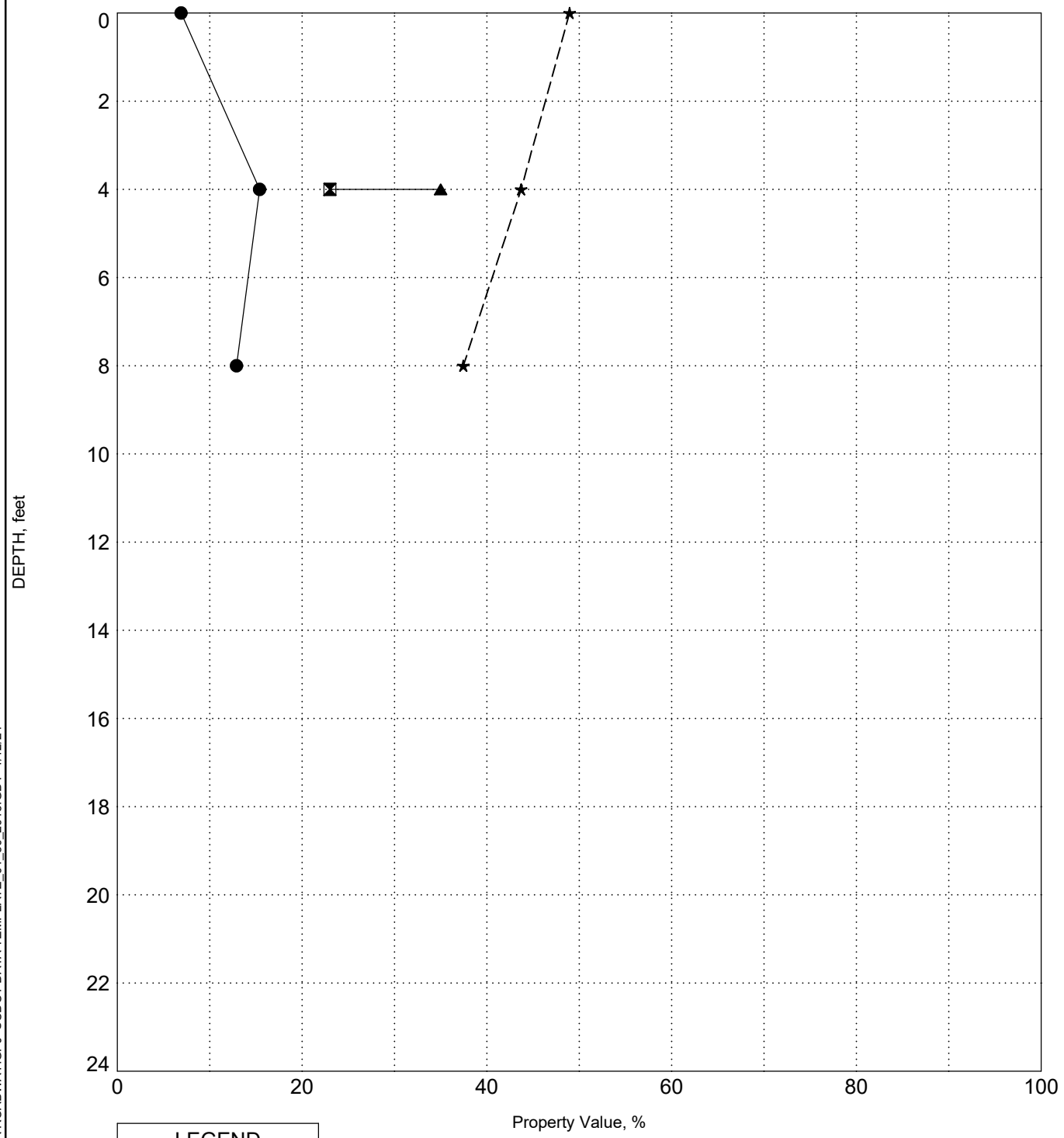
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING C- 2

SURFACE ELEVATION: 449.6



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

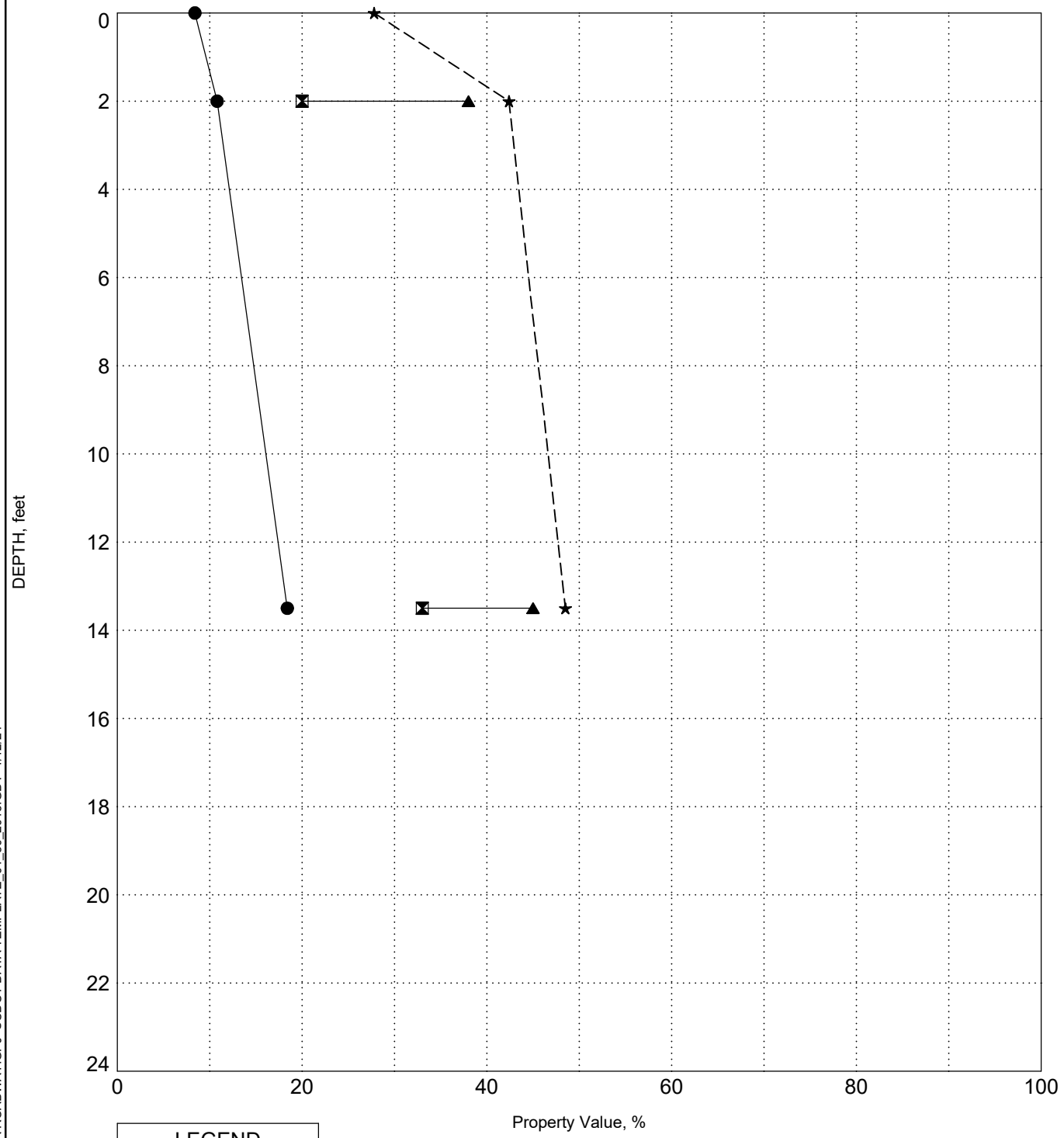
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING C- 3

SURFACE ELEVATION: 445.8



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

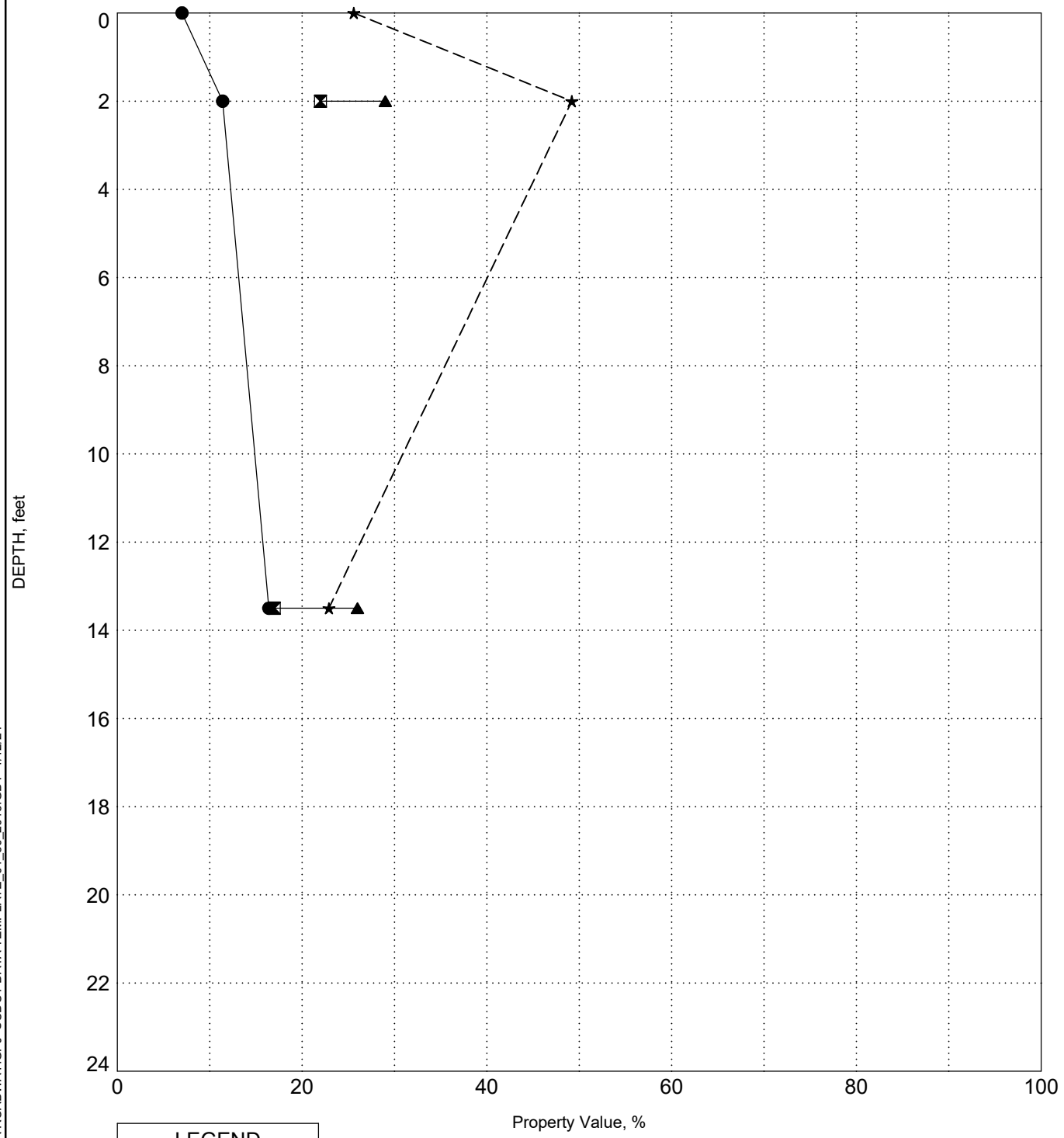
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING C- 4

SURFACE ELEVATION: 444.9



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

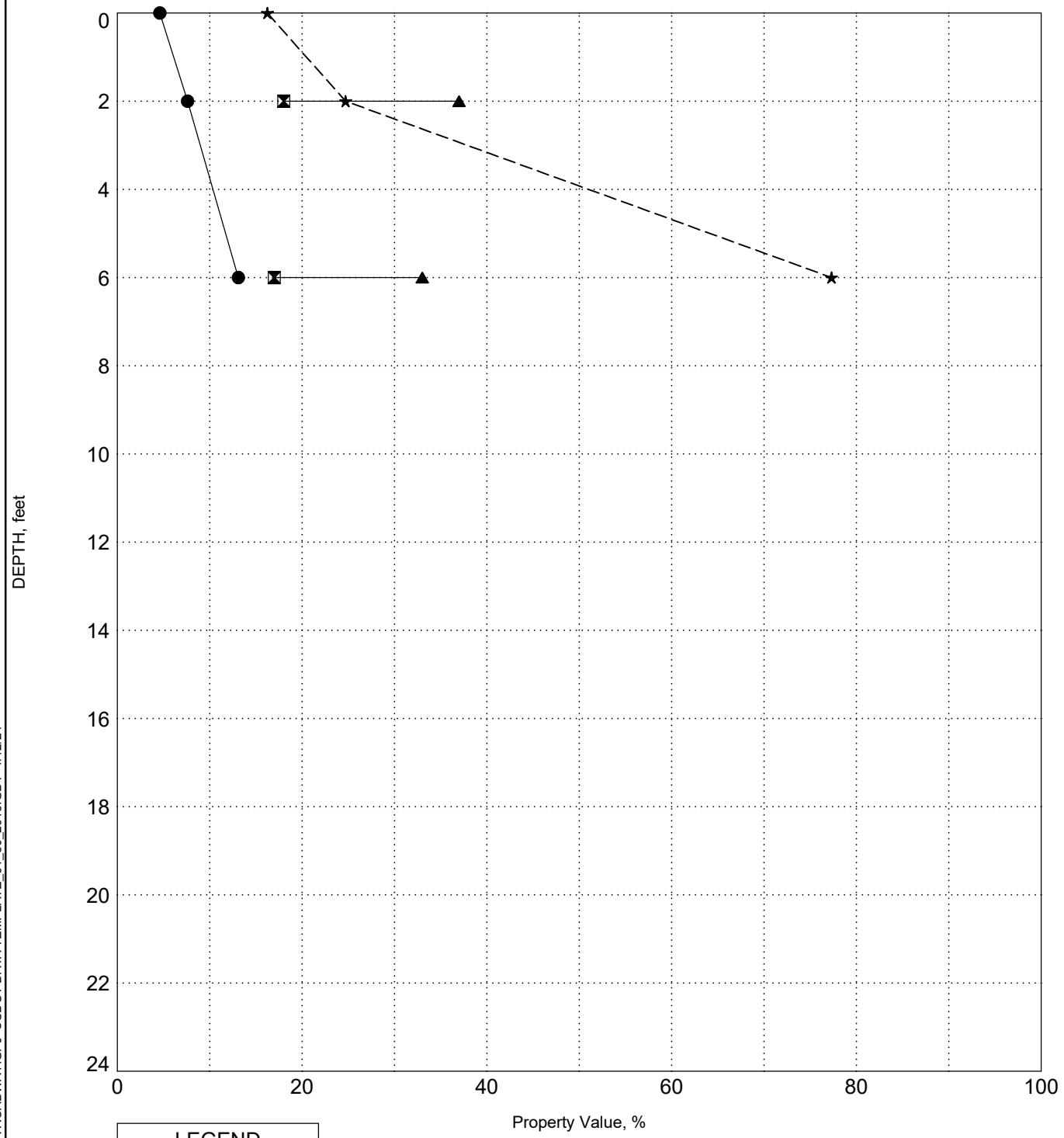
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING C- 5

SURFACE ELEVATION: 440.6



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

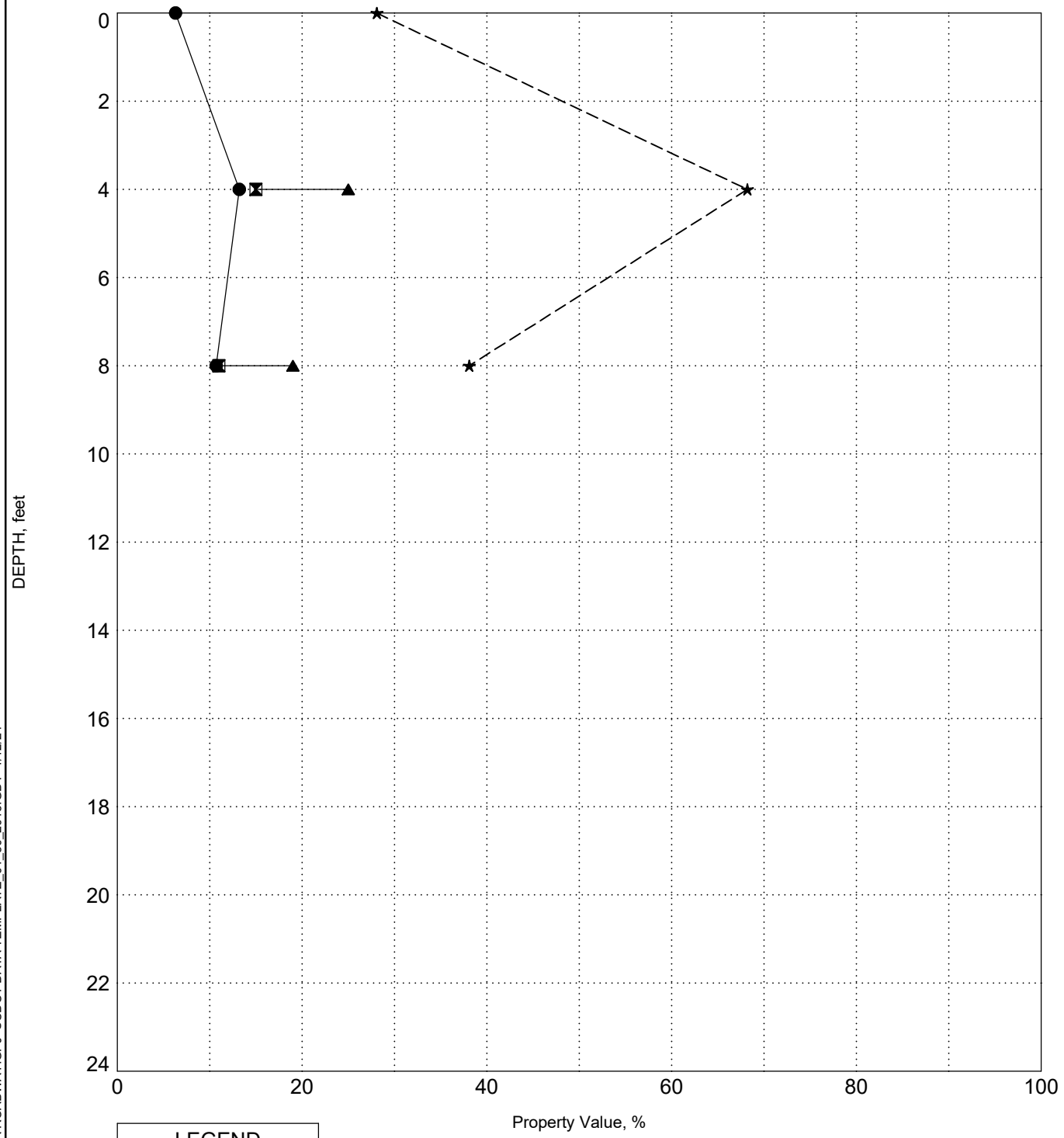
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING C- 6

SURFACE ELEVATION: 438.7



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

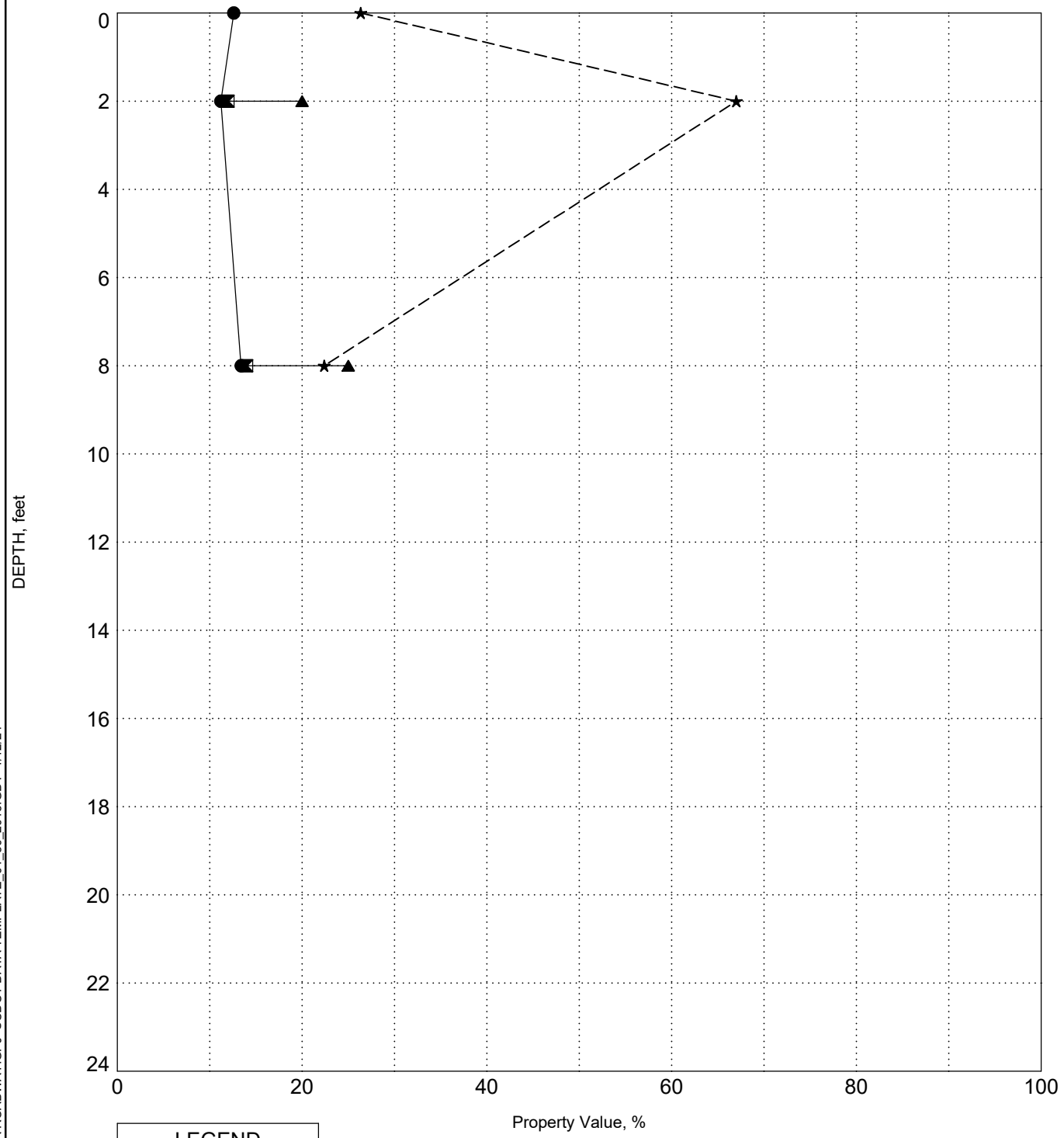
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING C- 7

SURFACE ELEVATION: 435.4



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

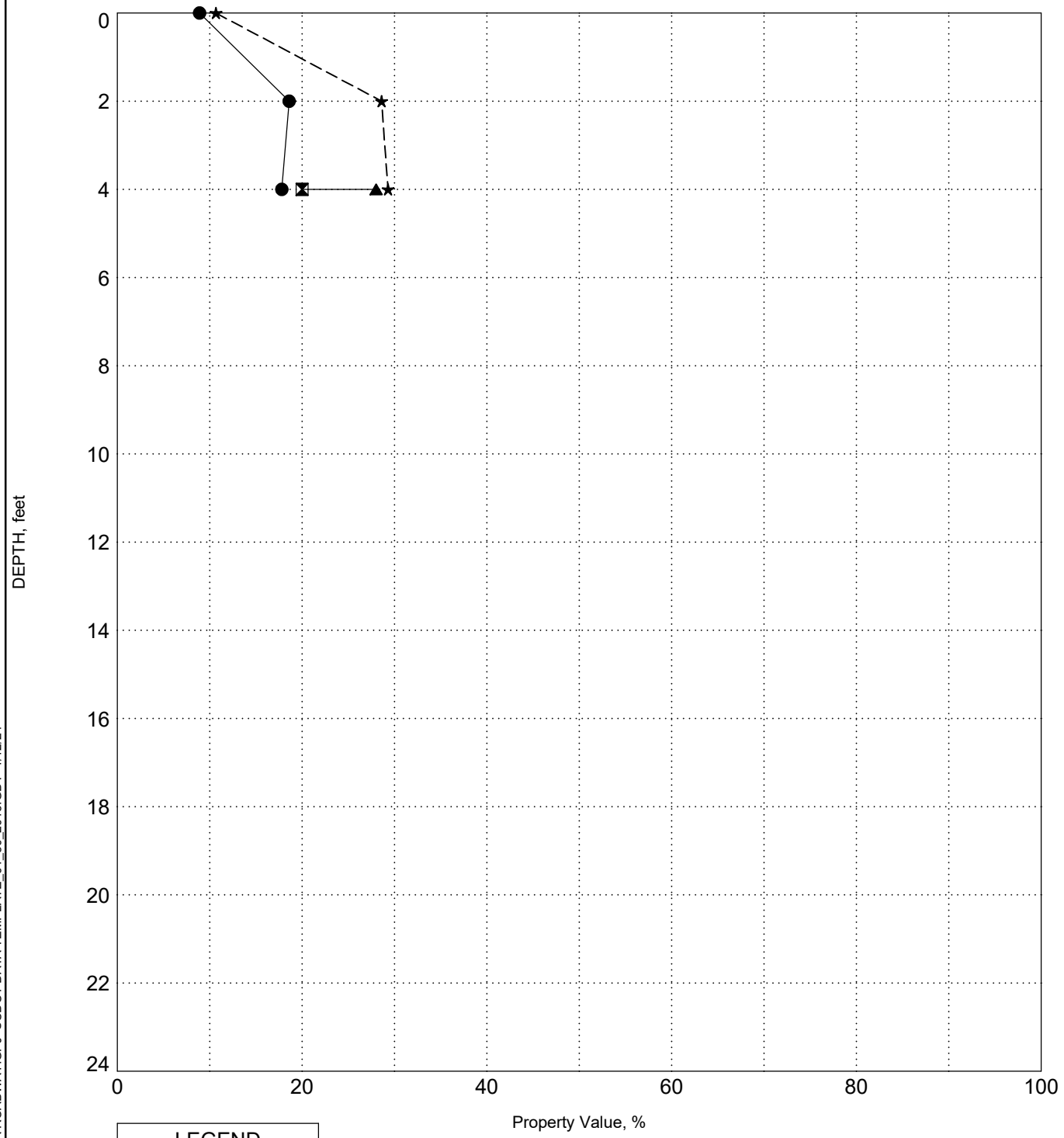
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING C- 8

SURFACE ELEVATION: 433.6



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

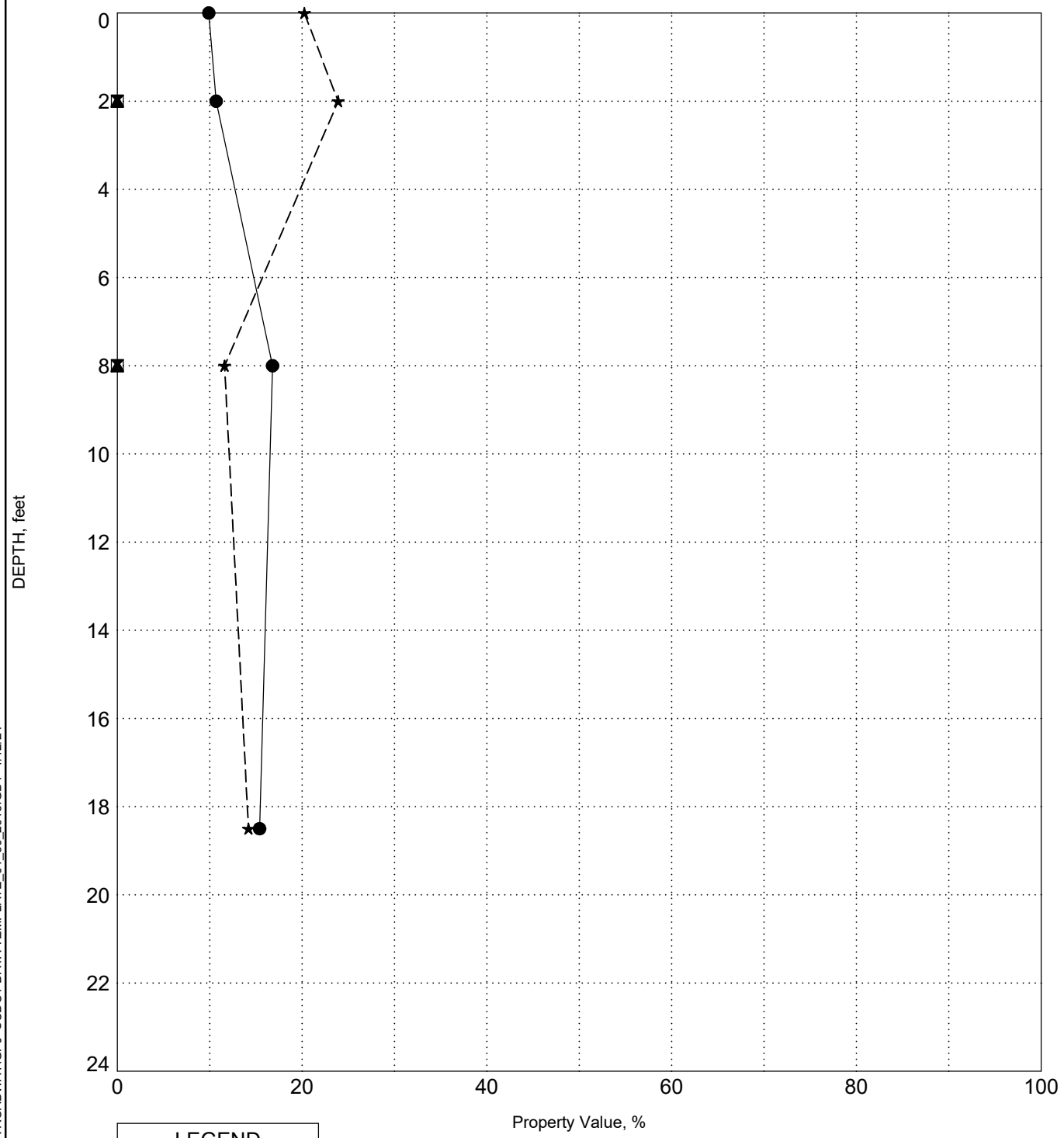
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING C- 9

SURFACE ELEVATION: 441.5



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

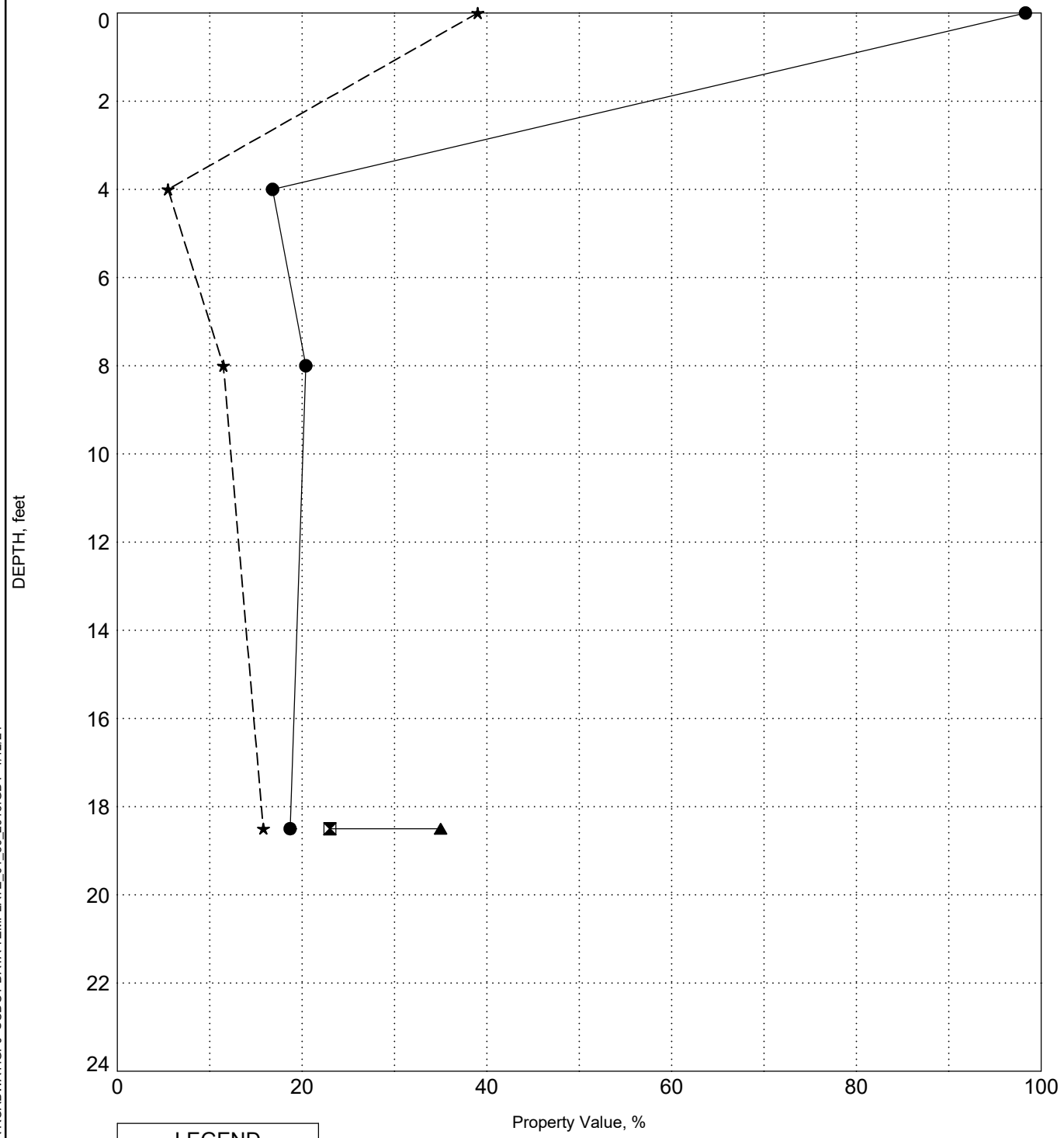
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING C-10

SURFACE ELEVATION: 438.9



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

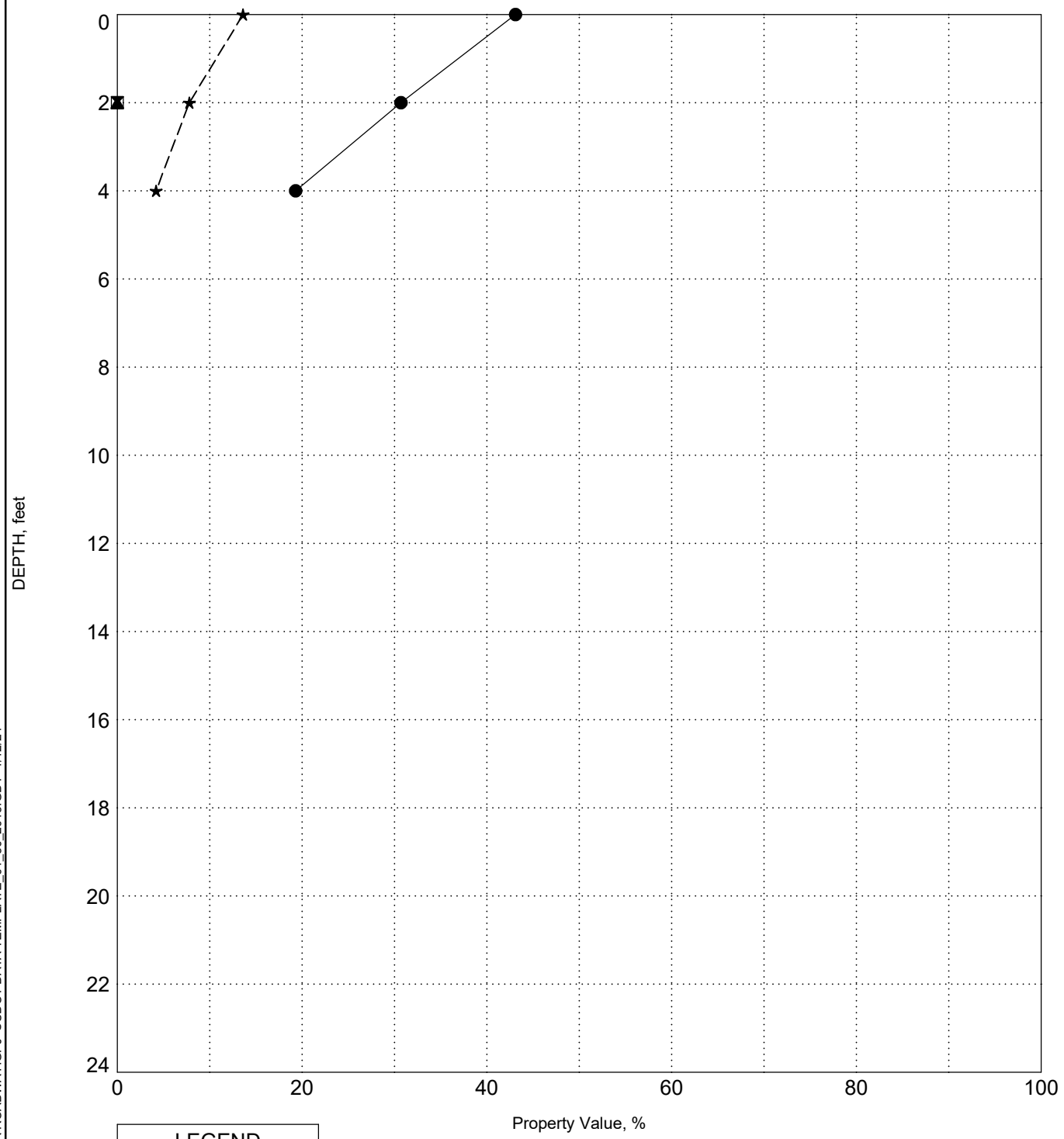
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING C-13

SURFACE ELEVATION: 407.4



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

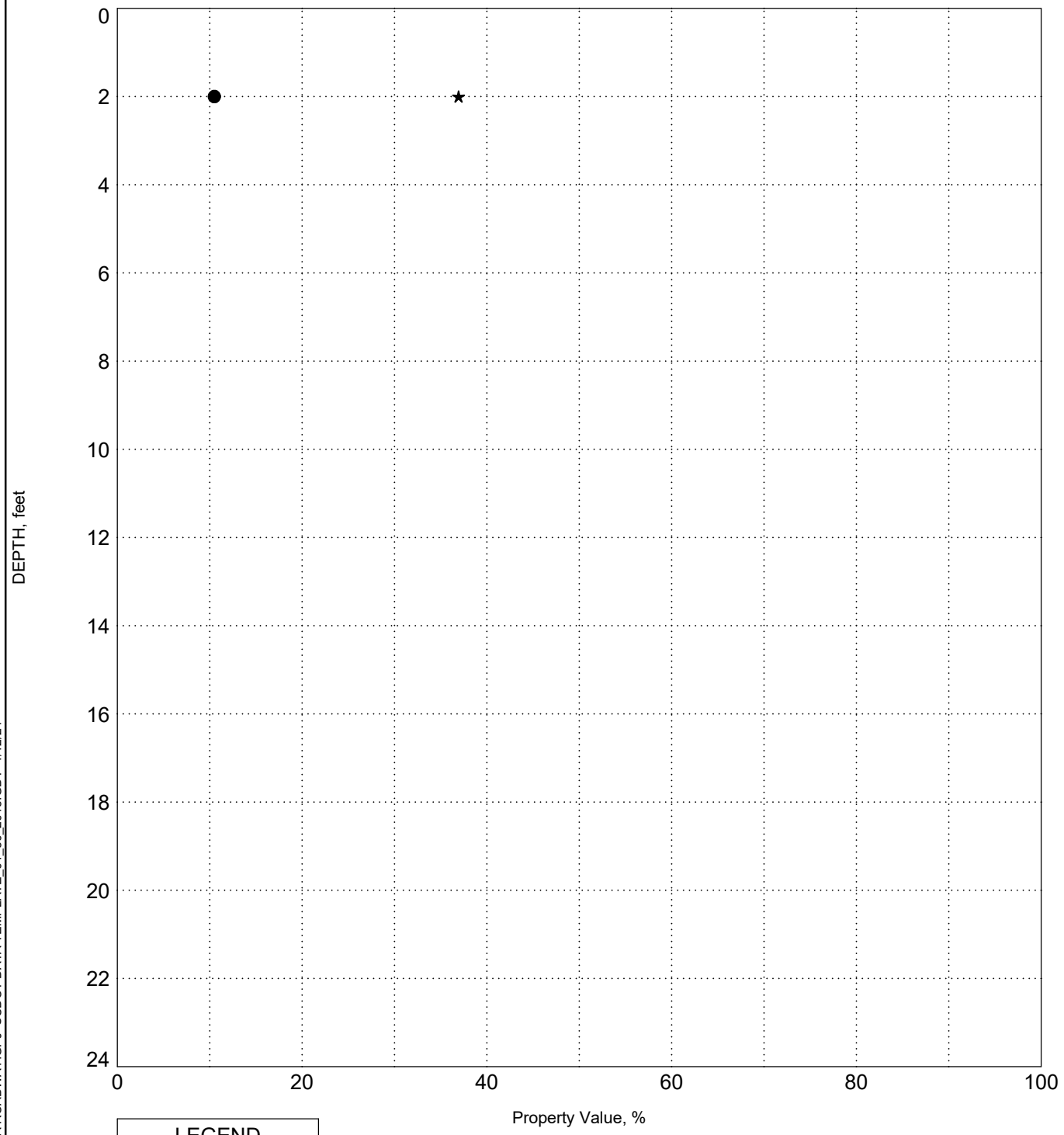
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING C-14

SURFACE ELEVATION: 419.5



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

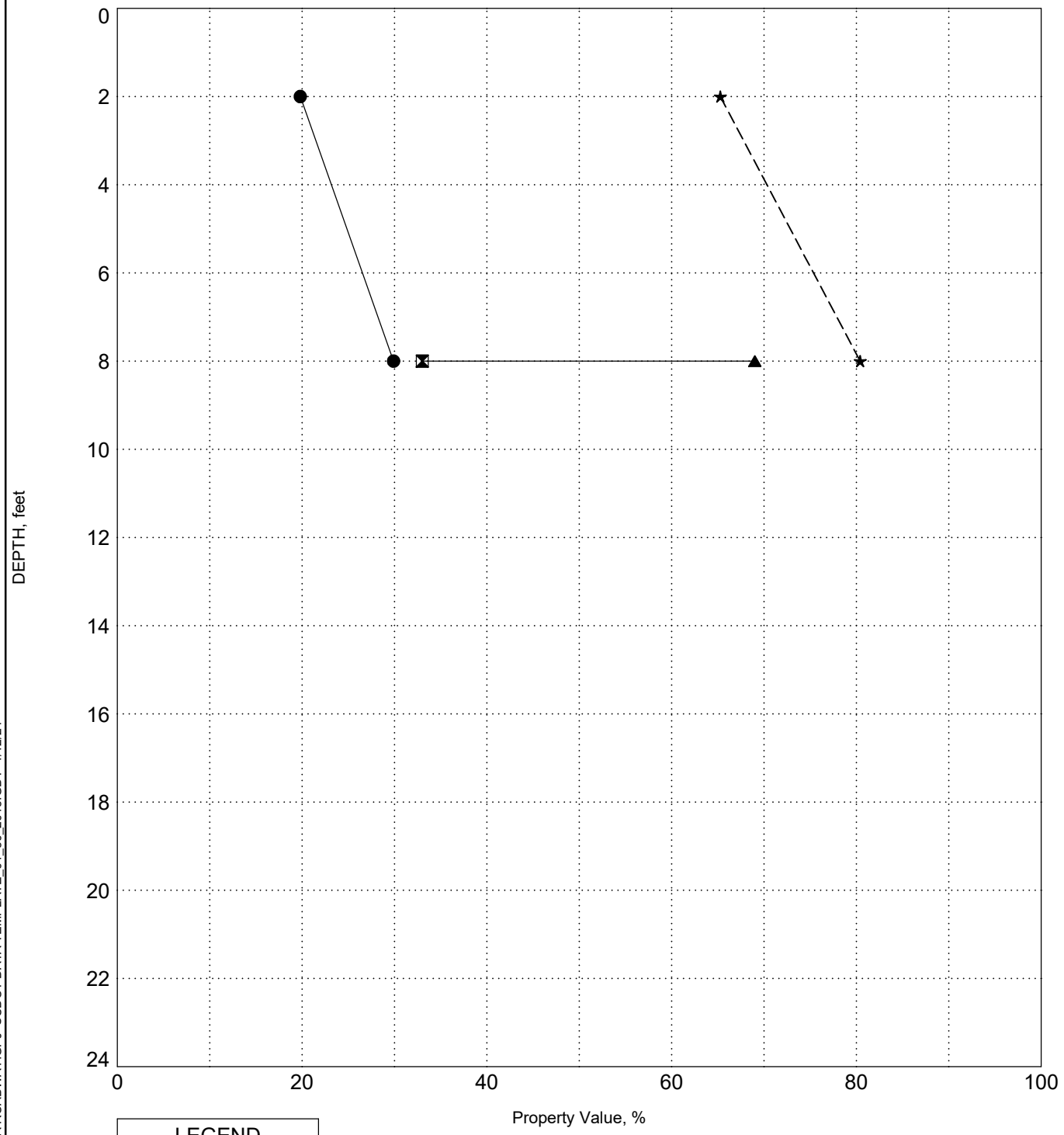
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING C-15

SURFACE ELEVATION: 395.0



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

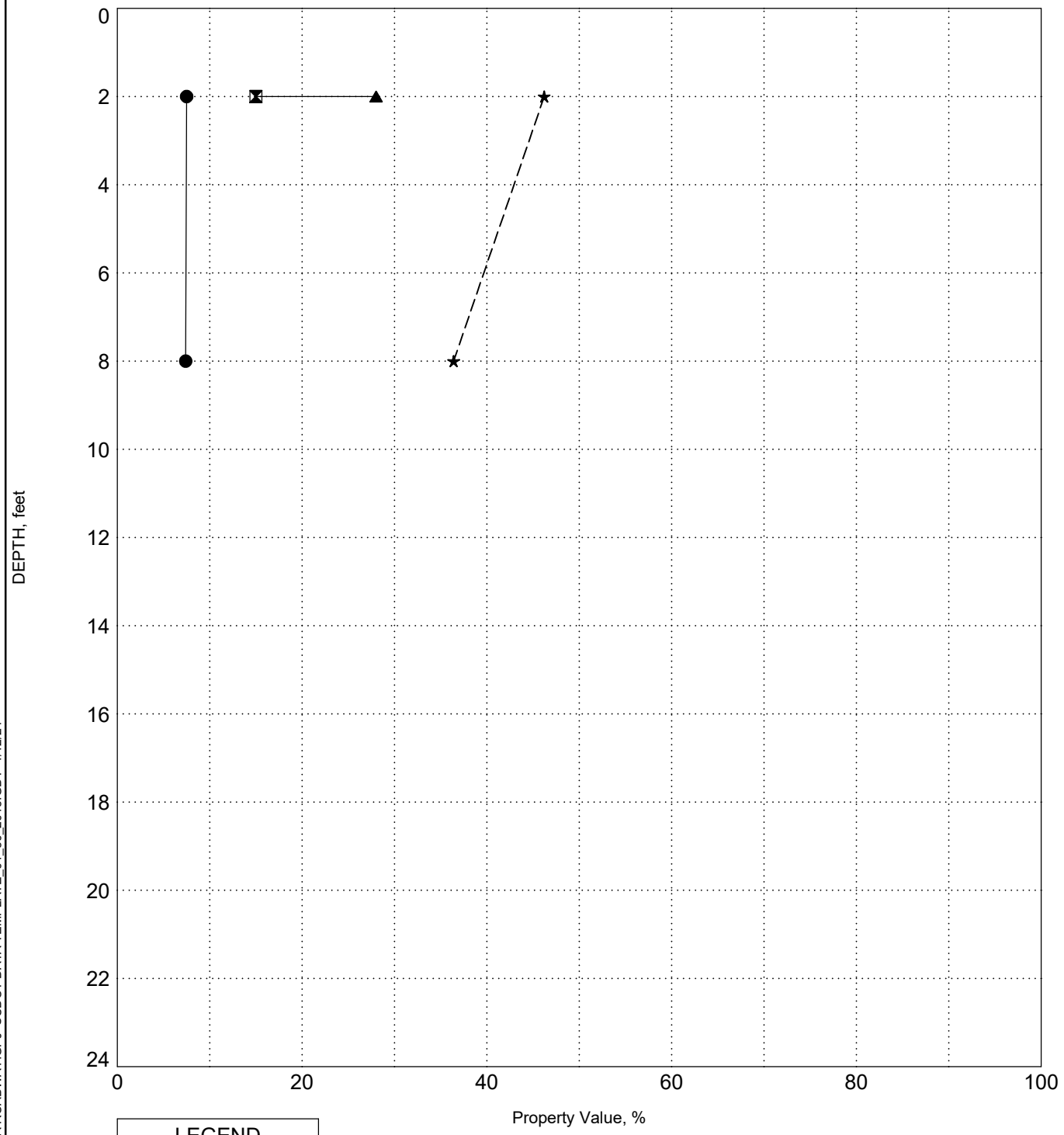
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING C-16

SURFACE ELEVATION: 399.2



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

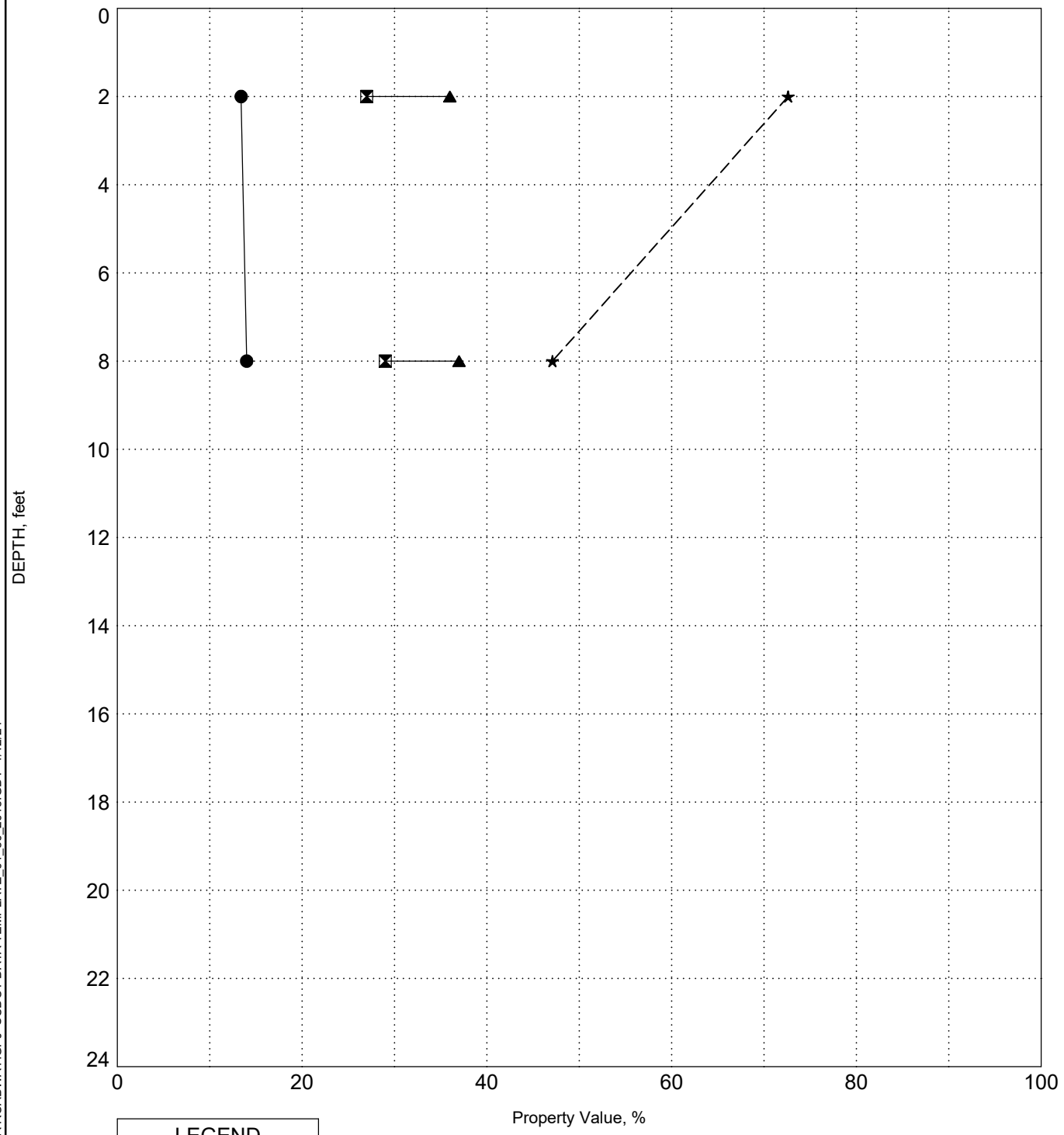
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING C-17

SURFACE ELEVATION: 461.2



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

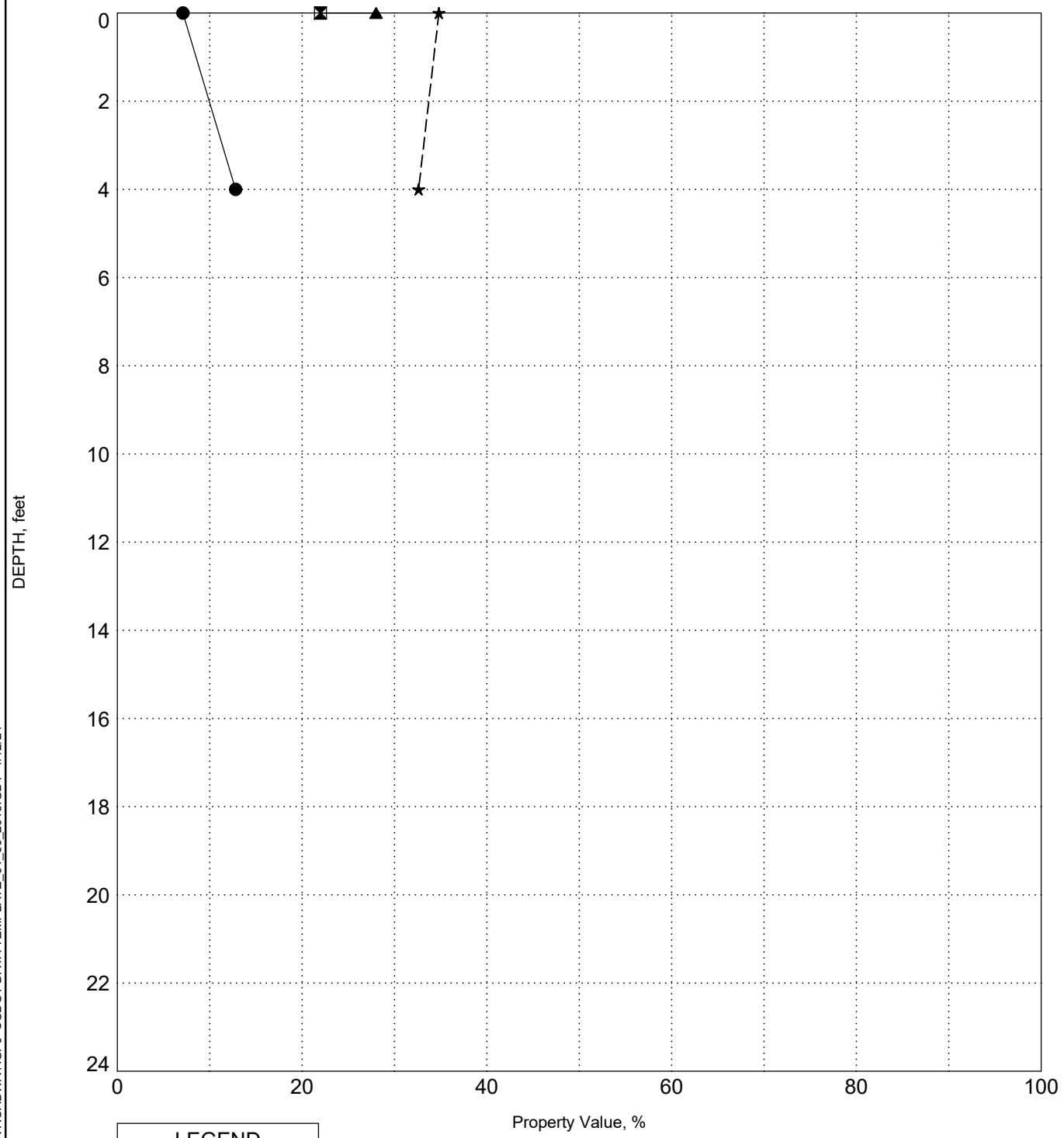
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING C-18

SURFACE ELEVATION: 428.5



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

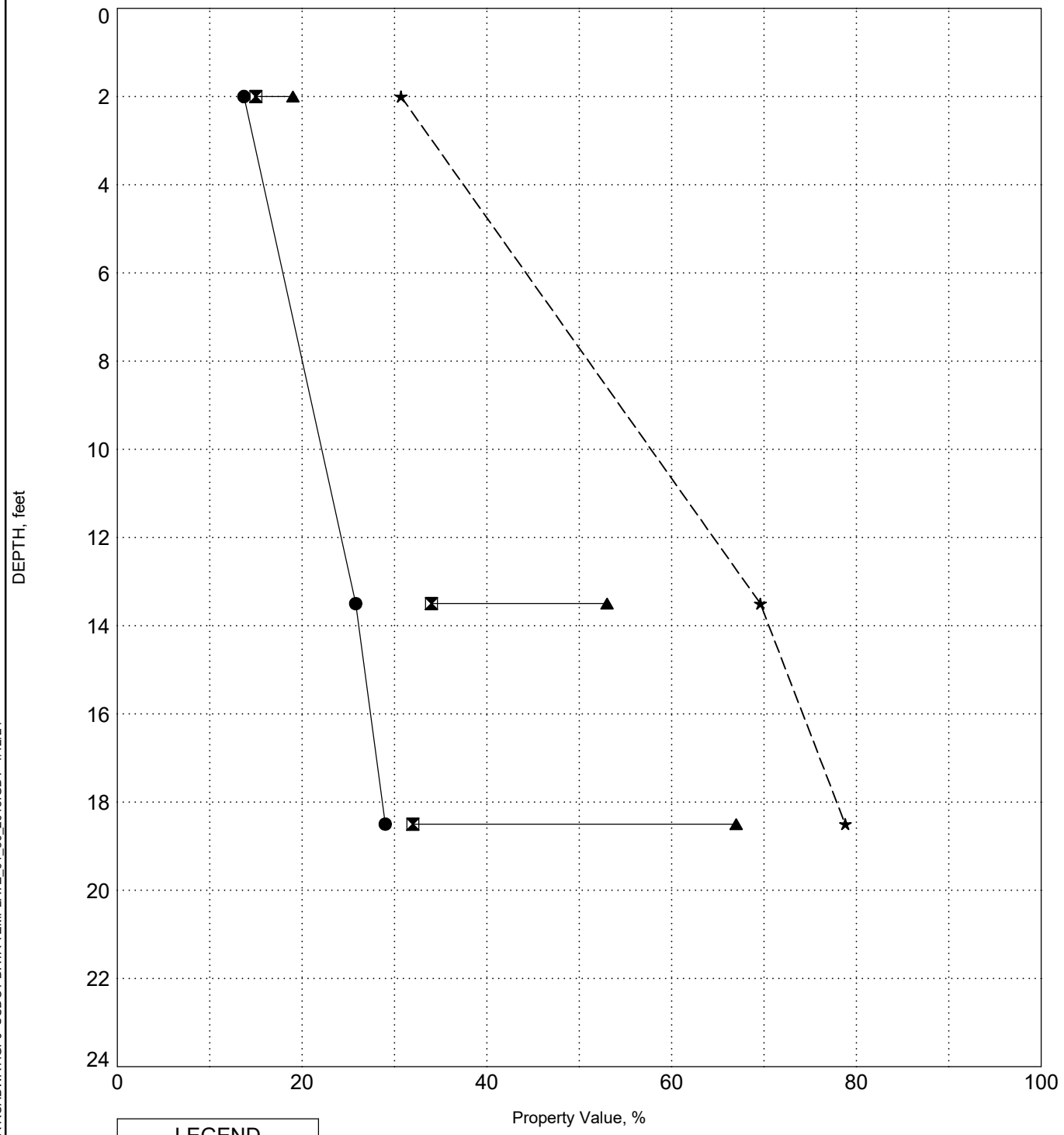
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING C-19

SURFACE ELEVATION: 418.8



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

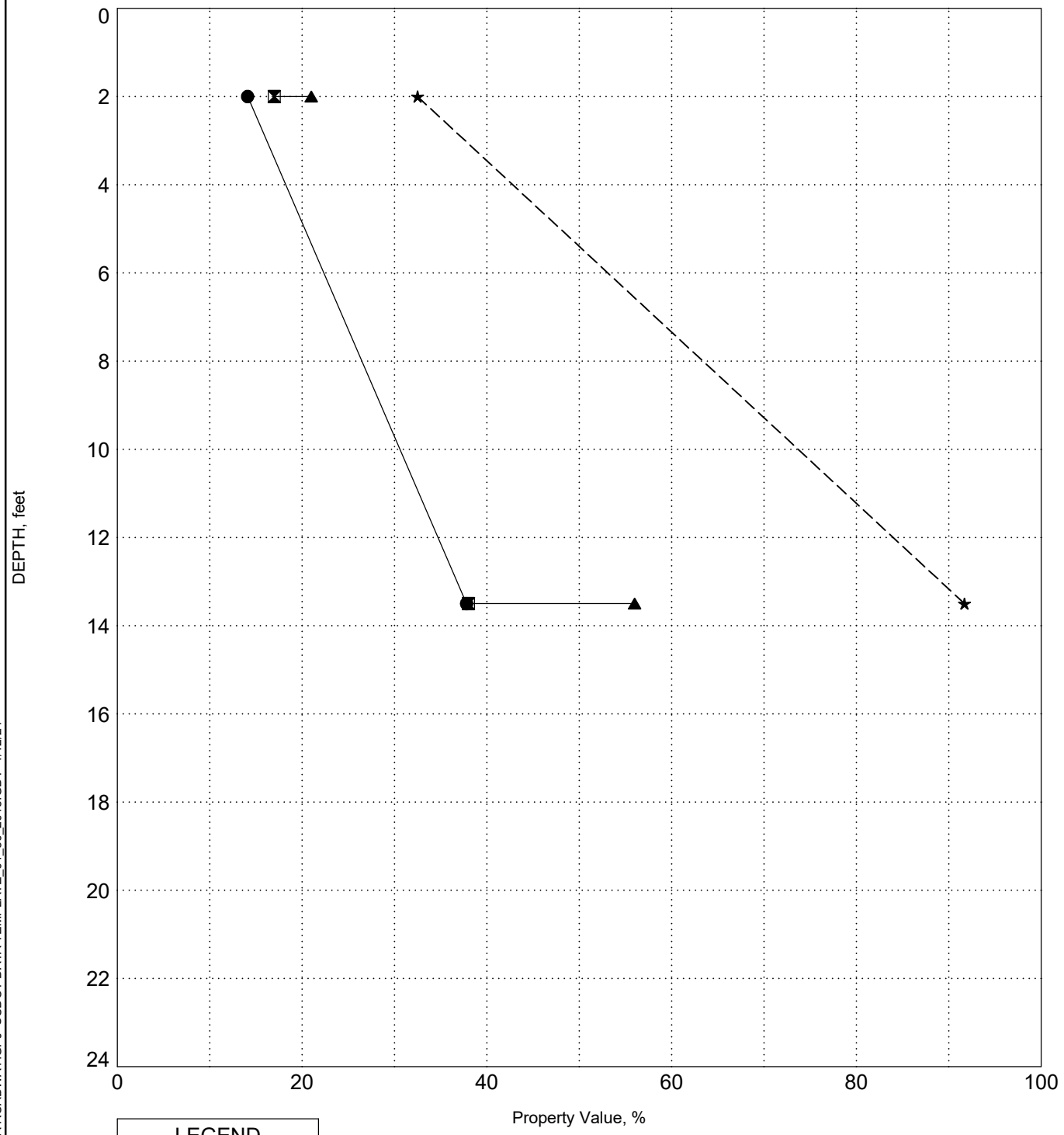
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING C-20

SURFACE ELEVATION: 422.5



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

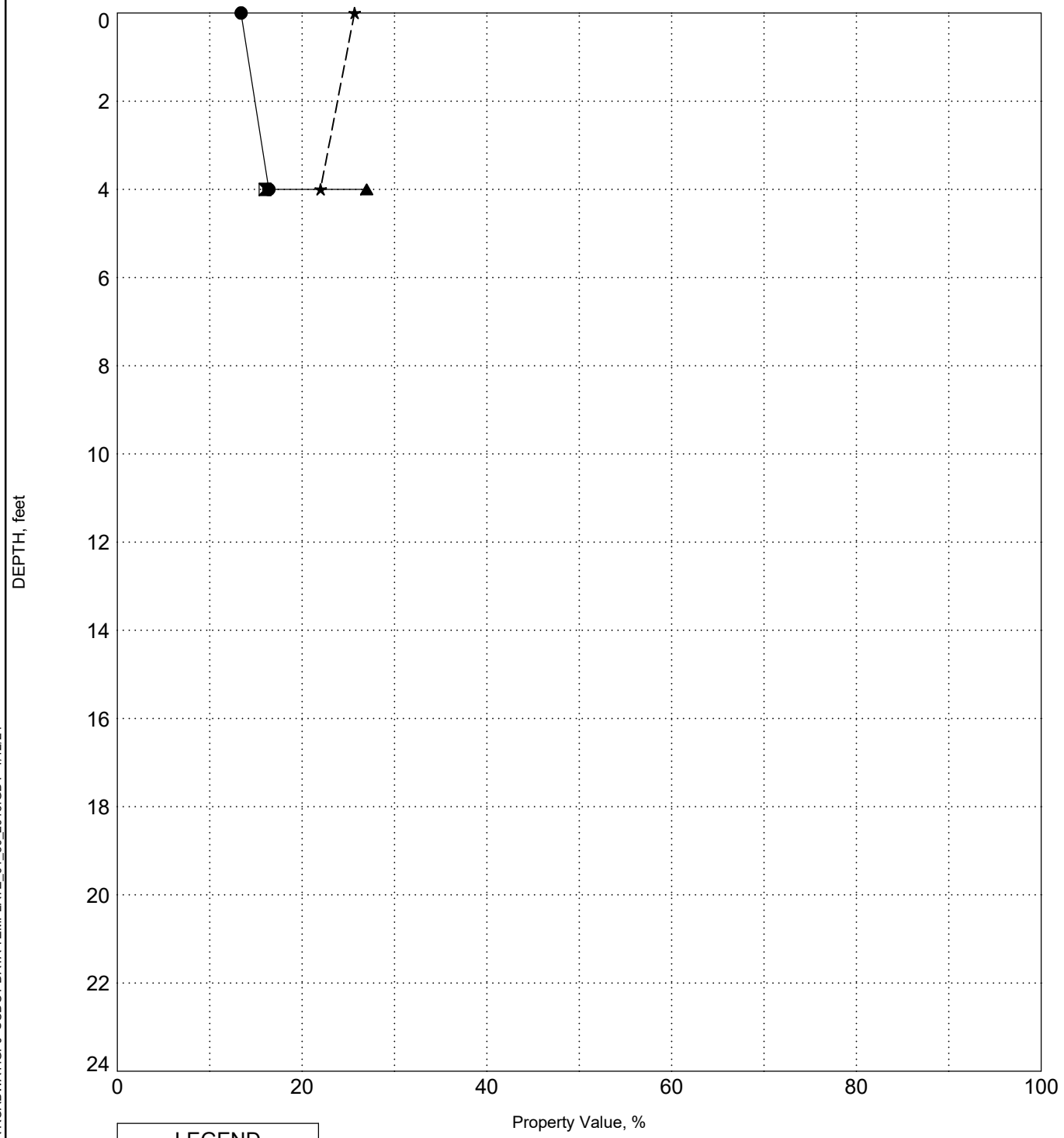
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING C-21

SURFACE ELEVATION: 448.4



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

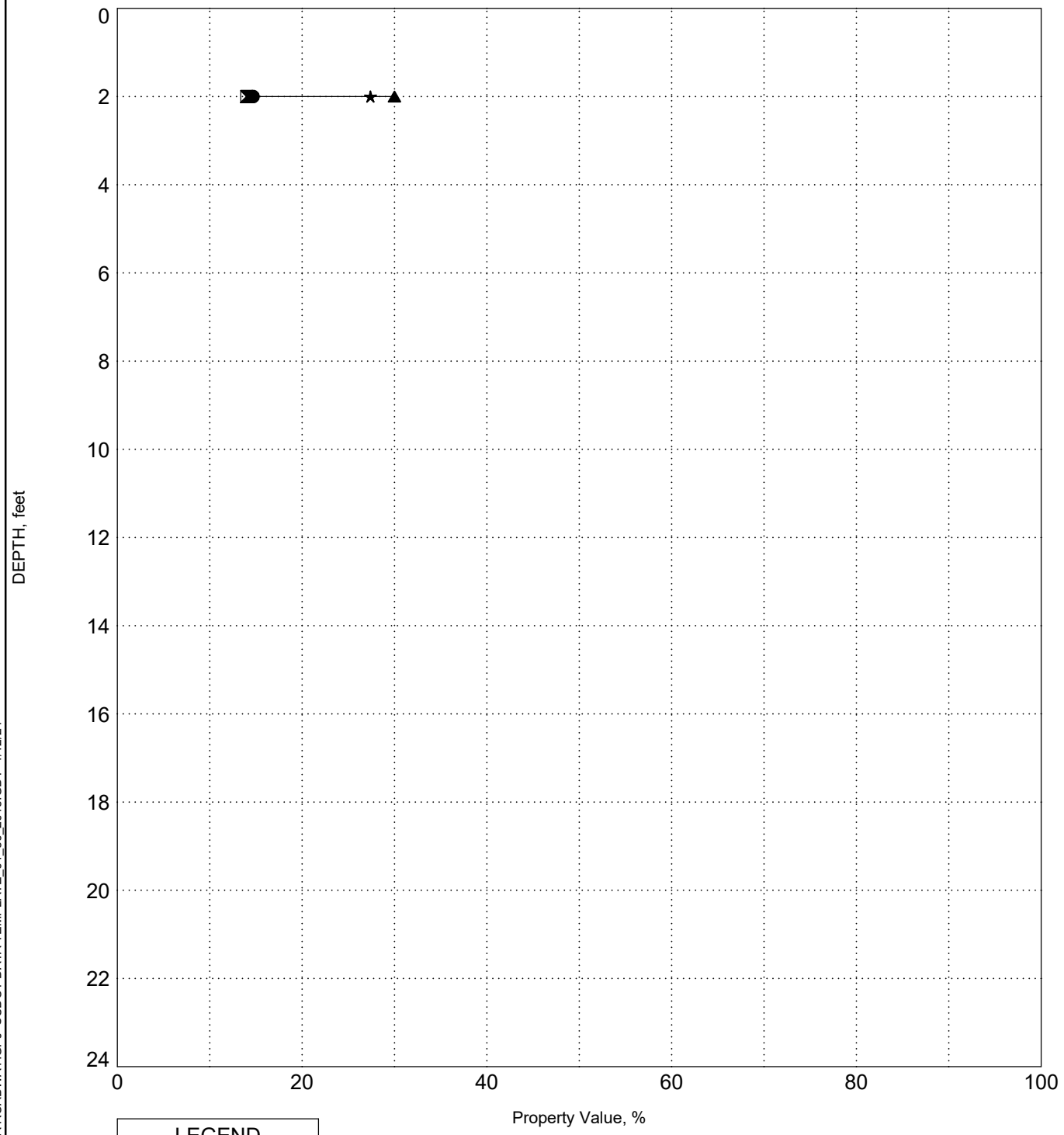
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING C-22

SURFACE ELEVATION: 444.5



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

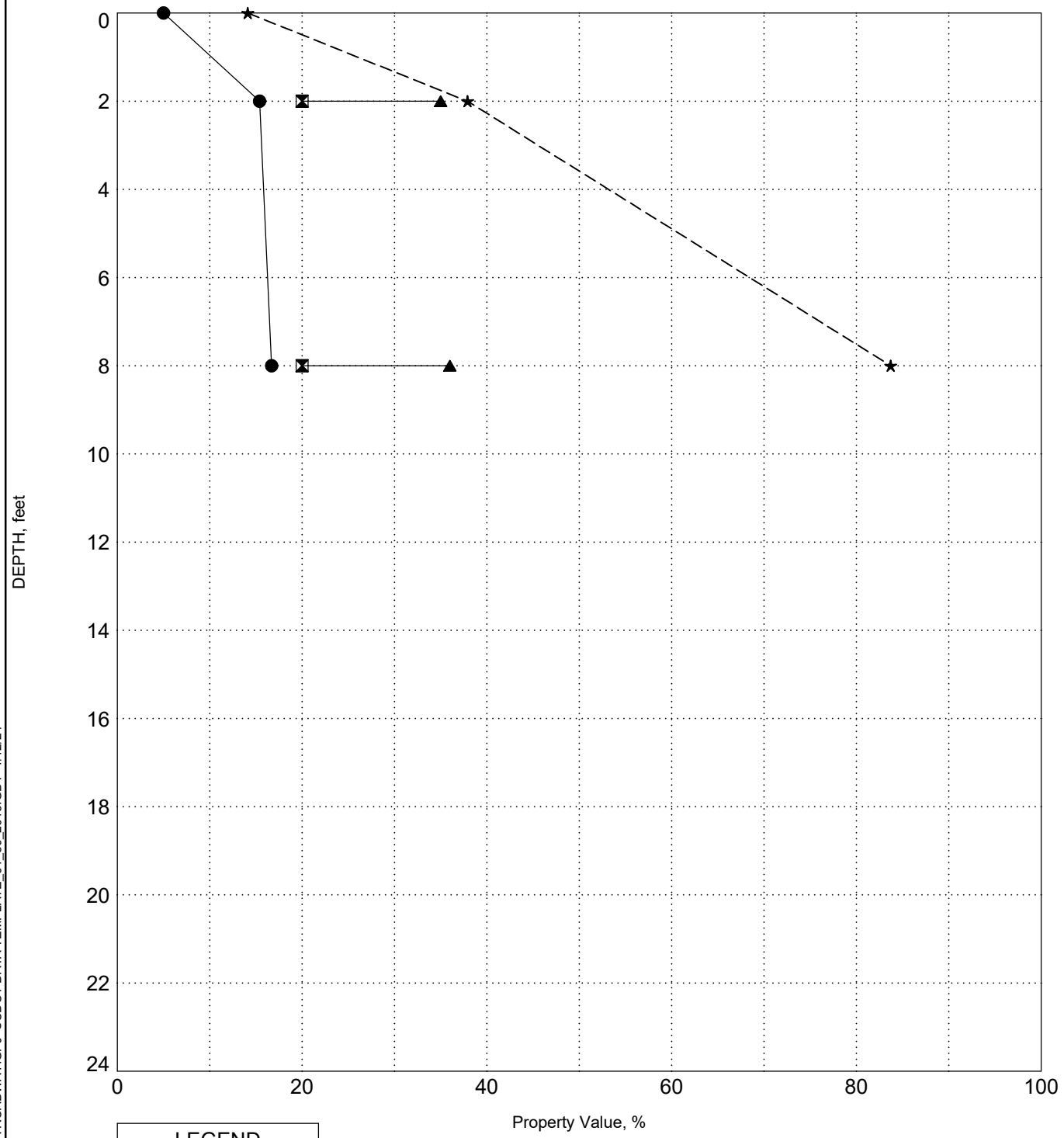
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING C-23

SURFACE ELEVATION: 447.4



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

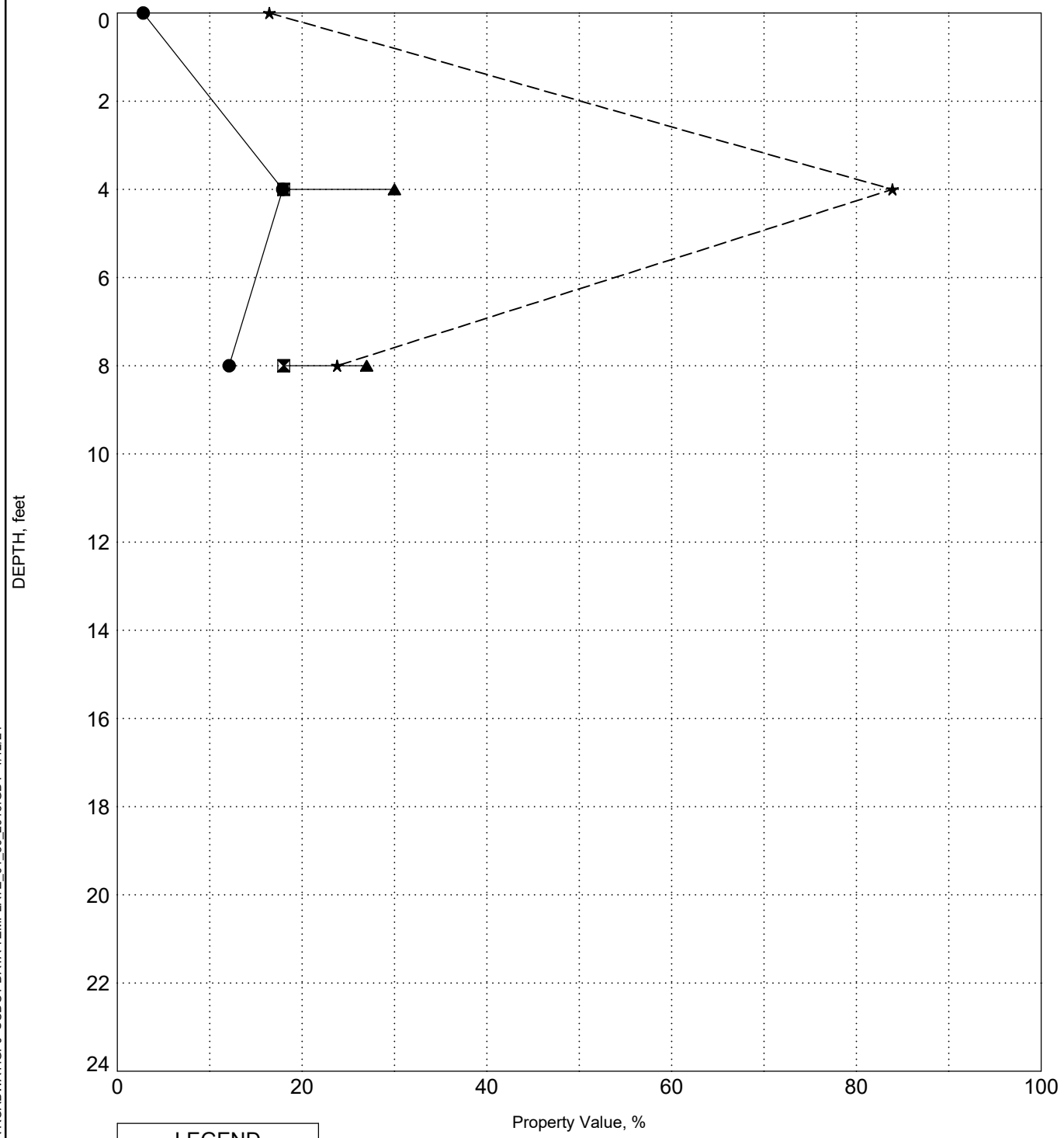
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING C-24

SURFACE ELEVATION: 446.6



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

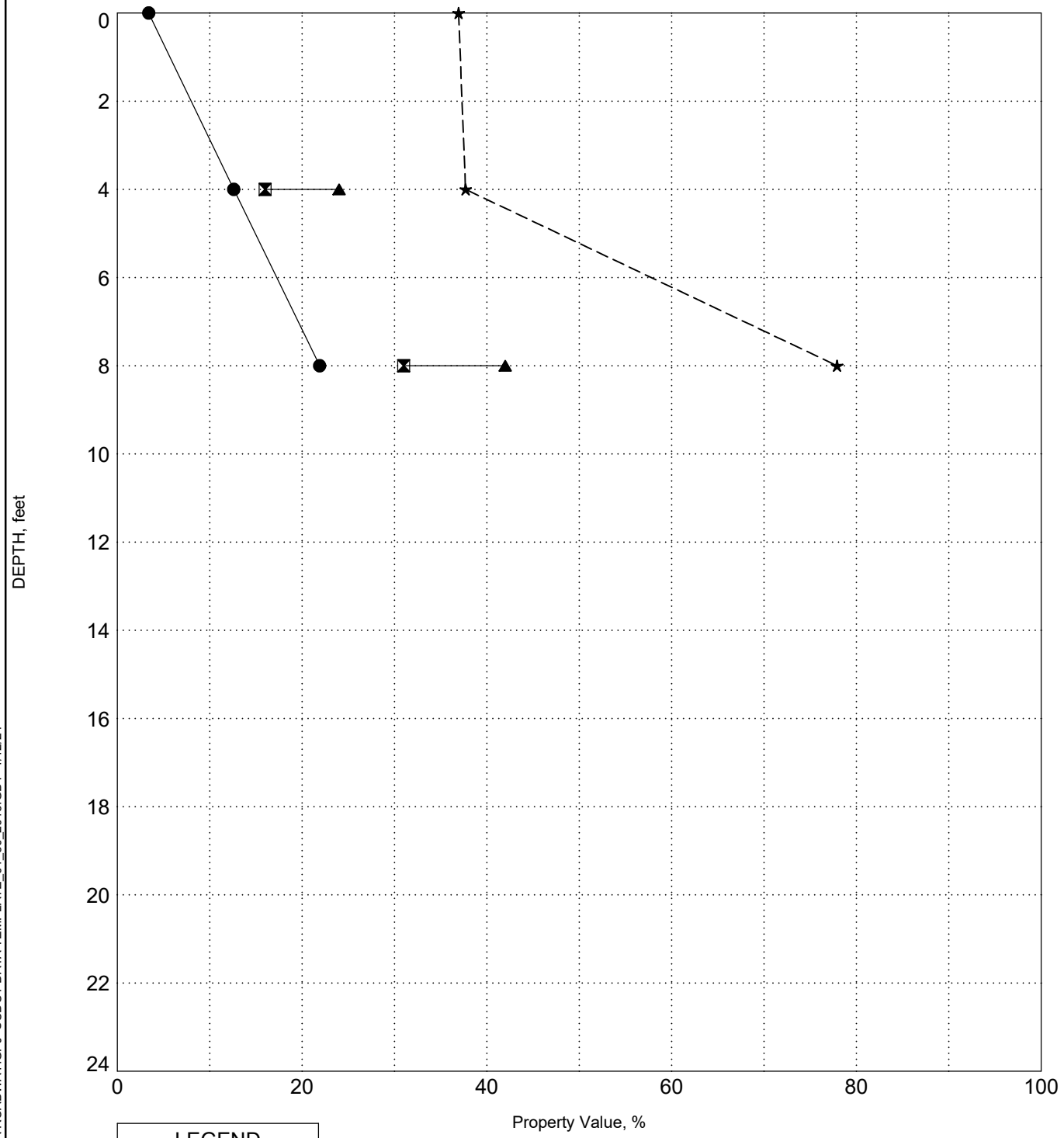
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING CN-1

SURFACE ELEVATION: 454.7



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

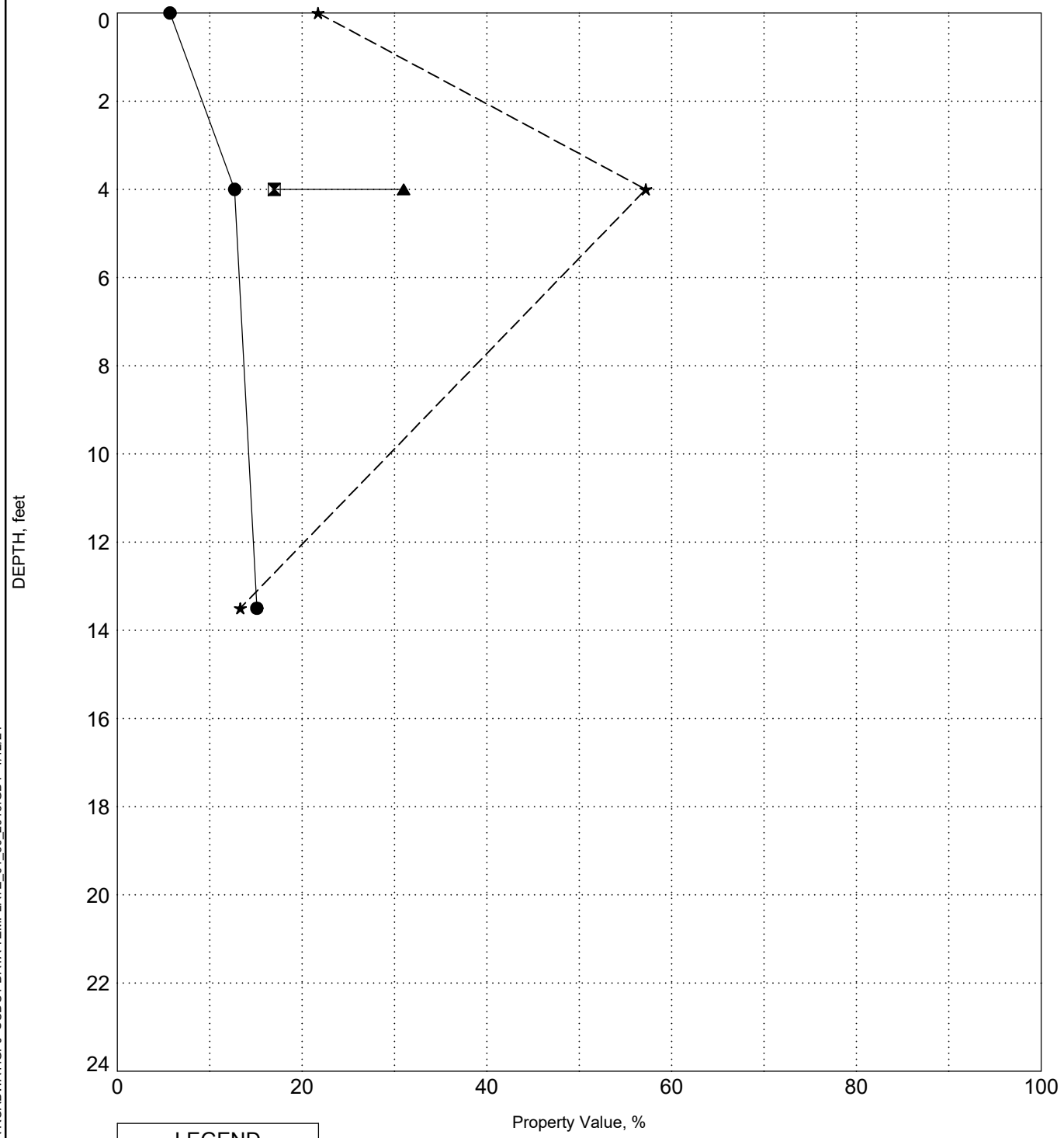
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING CN-2

SURFACE ELEVATION: 452.6



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

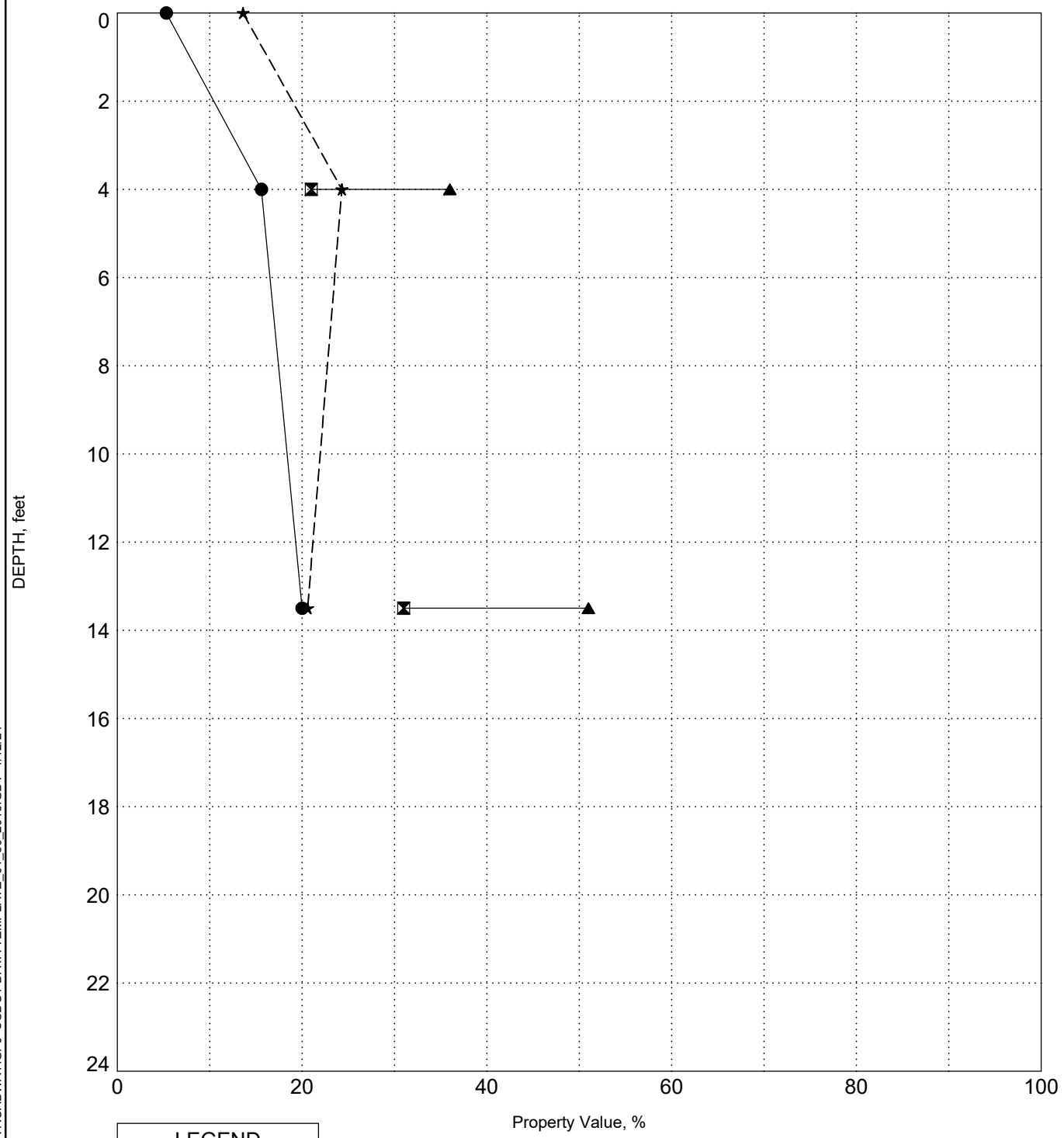
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING CN-3

SURFACE ELEVATION: 446.0



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

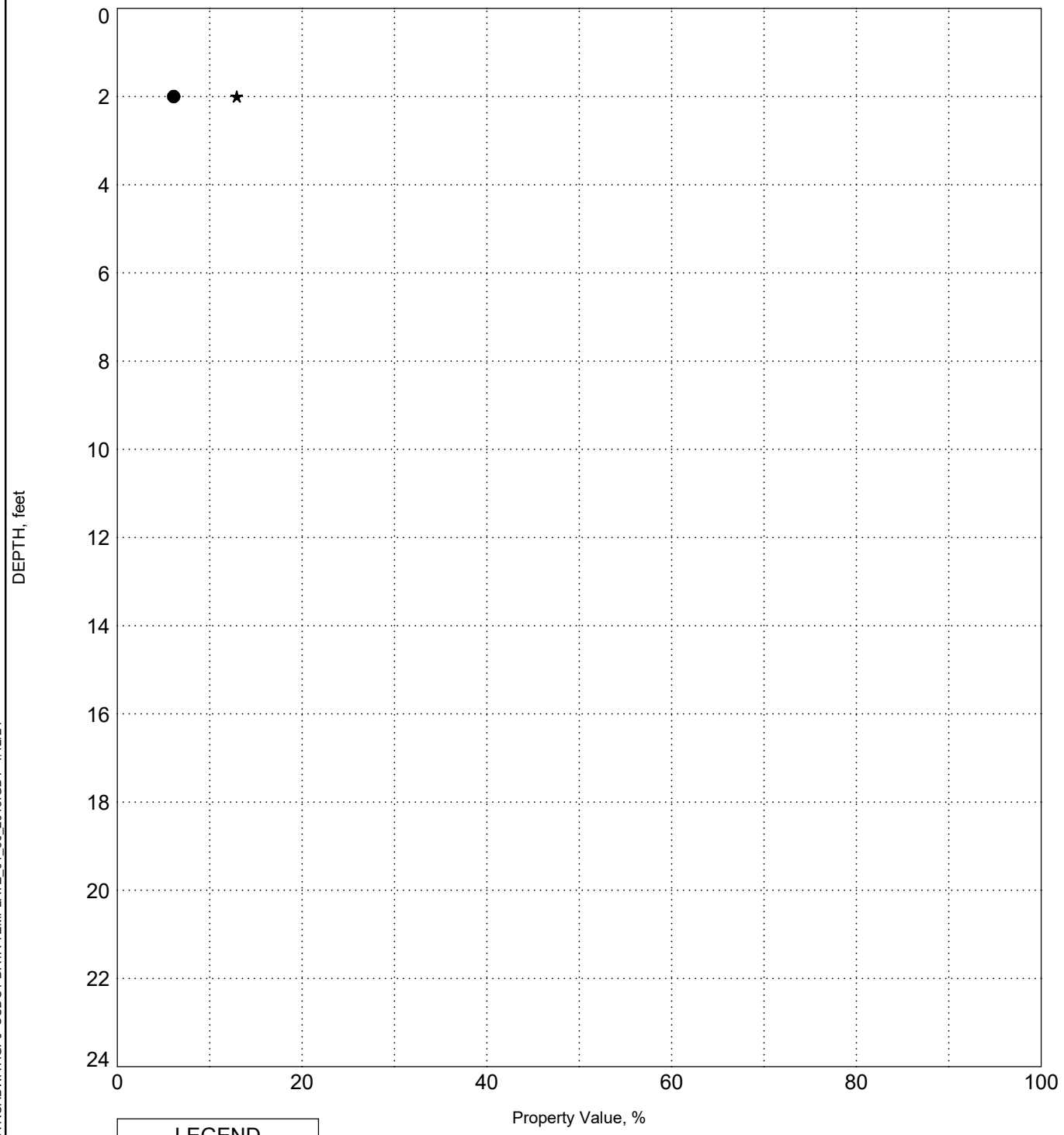
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING CN-4

SURFACE ELEVATION: 449.2



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

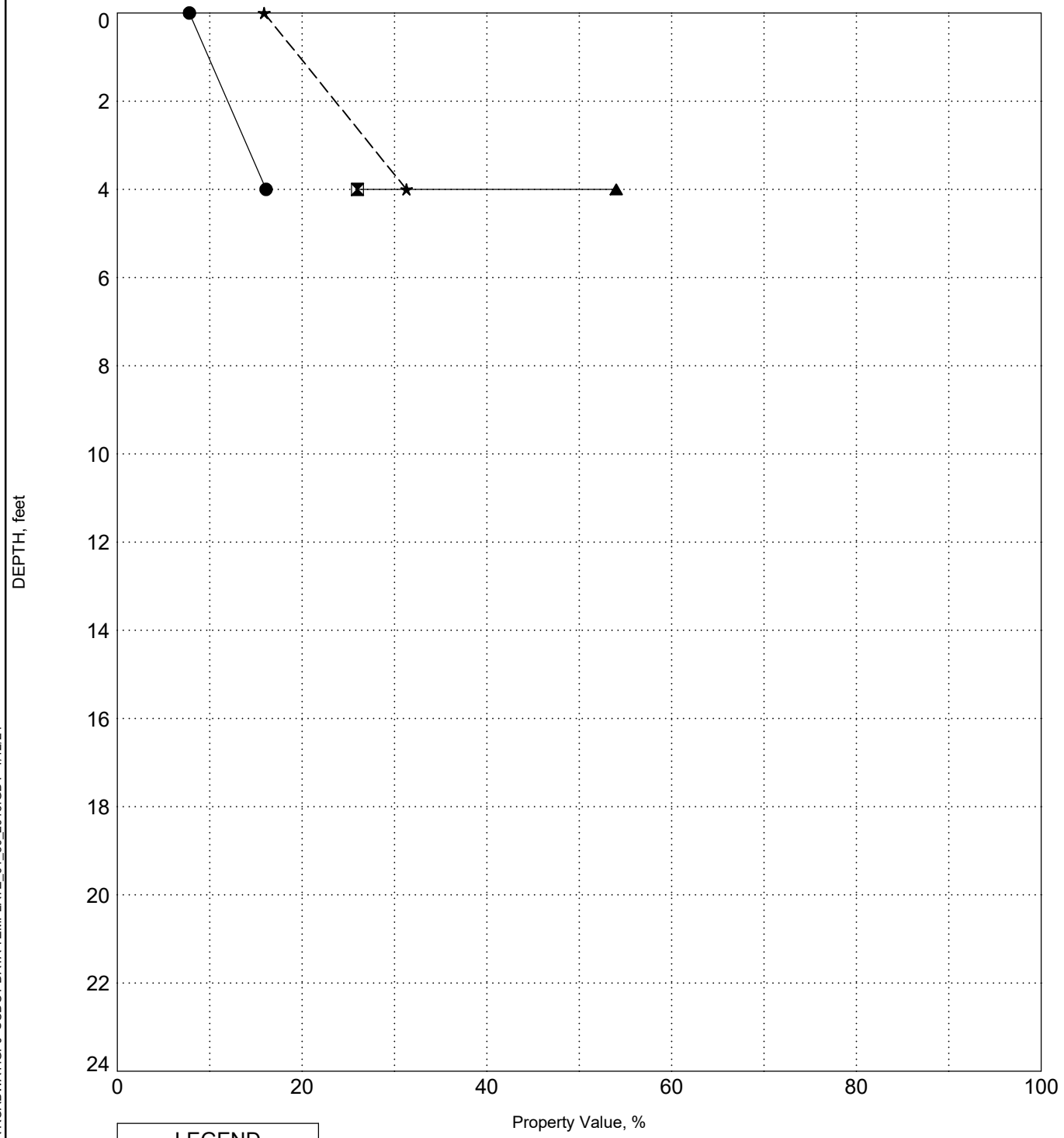
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING CN-5

SURFACE ELEVATION: 449.2



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

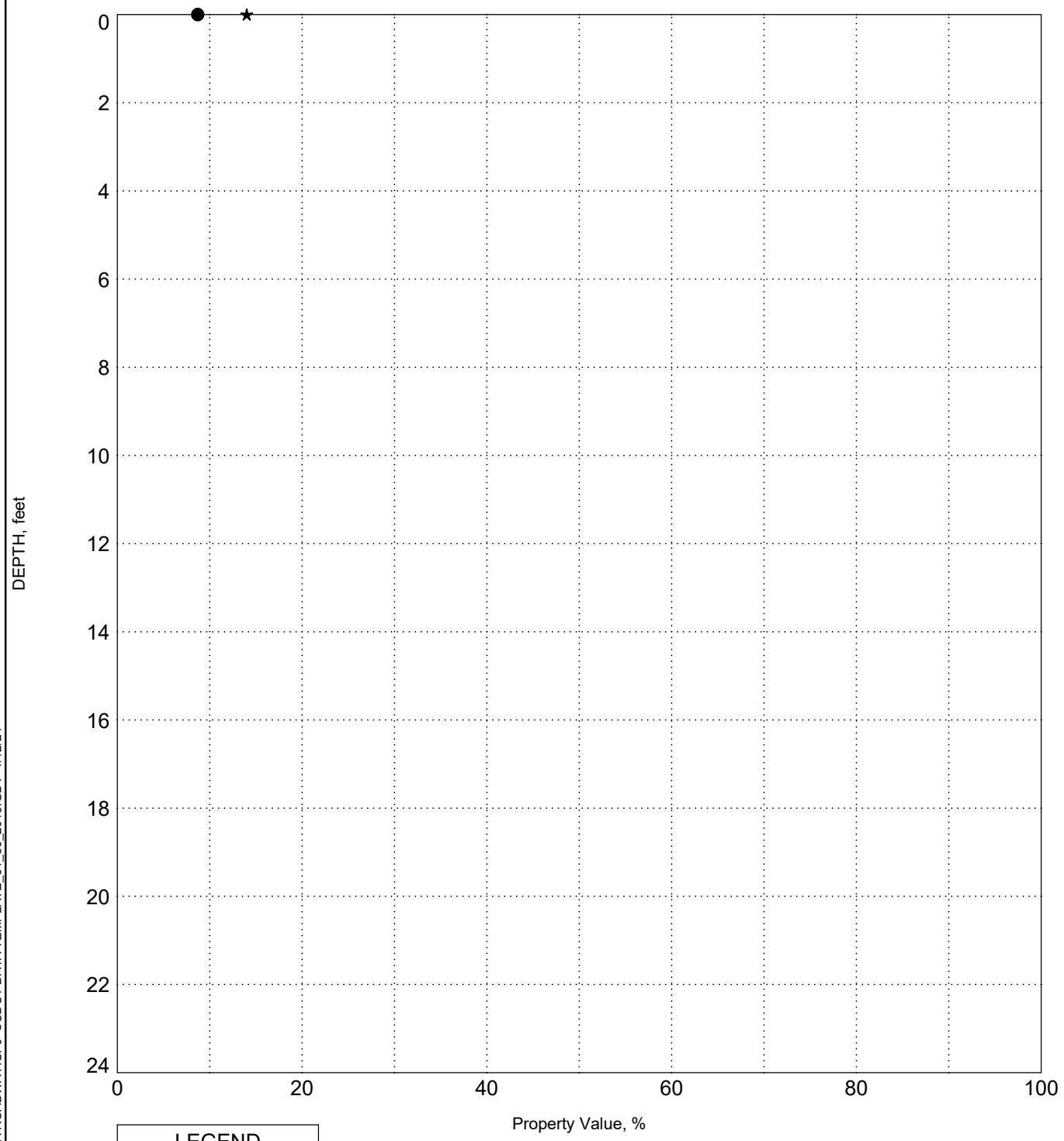
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING CR-1

SURFACE ELEVATION: 459.4



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

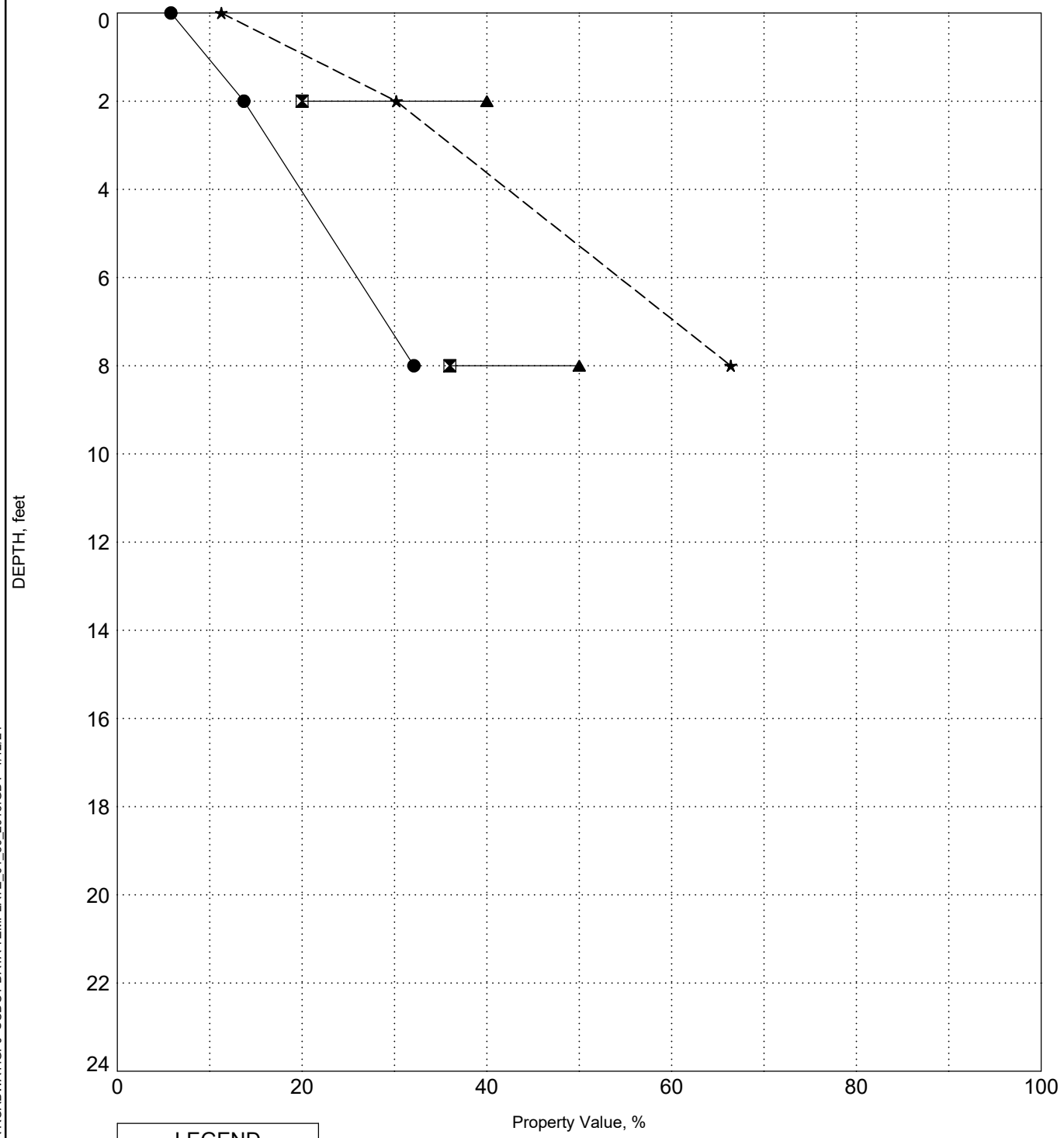
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING CR-2

SURFACE ELEVATION: 436.1



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

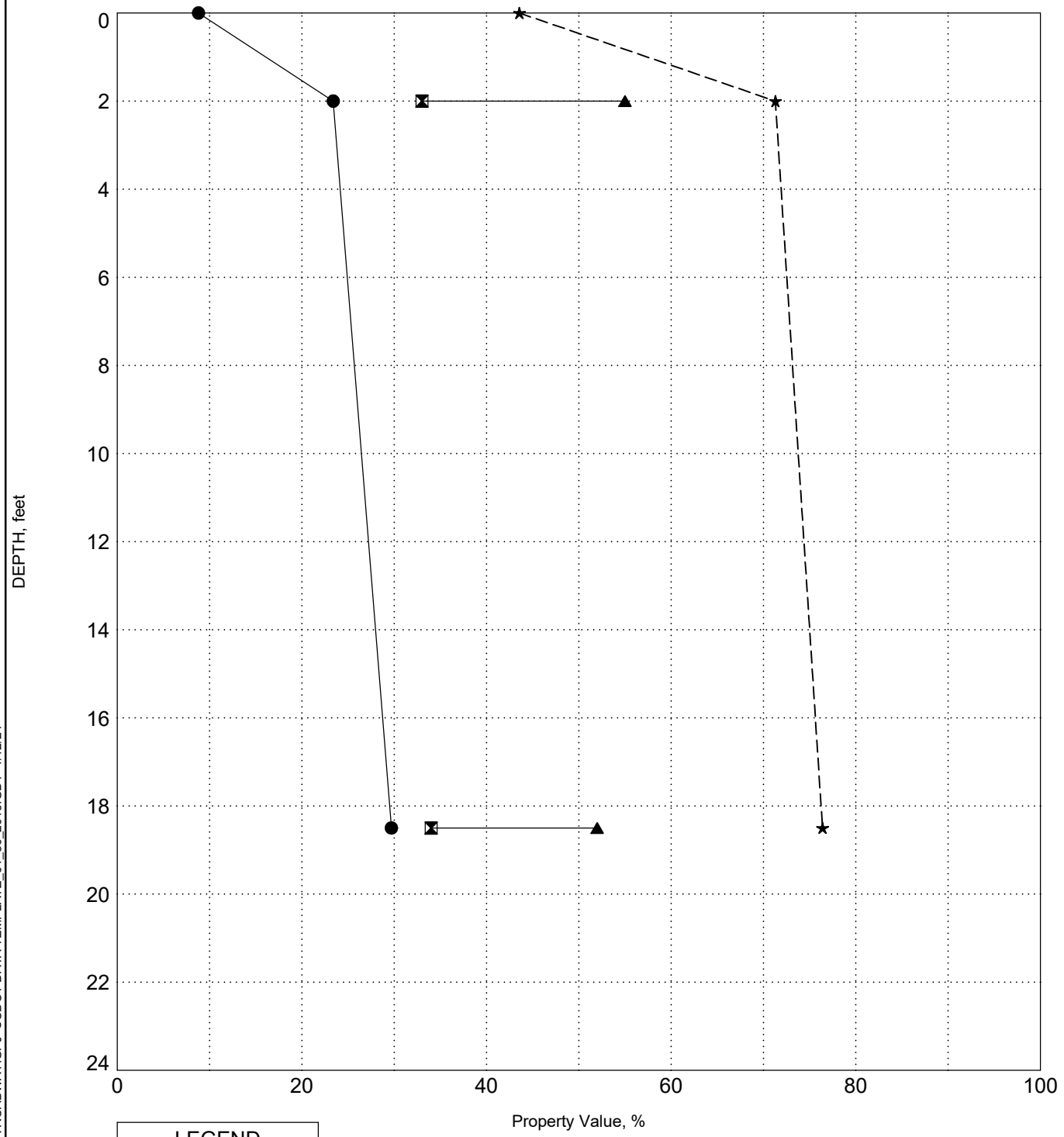
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING CR-3

SURFACE ELEVATION: 431.0



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

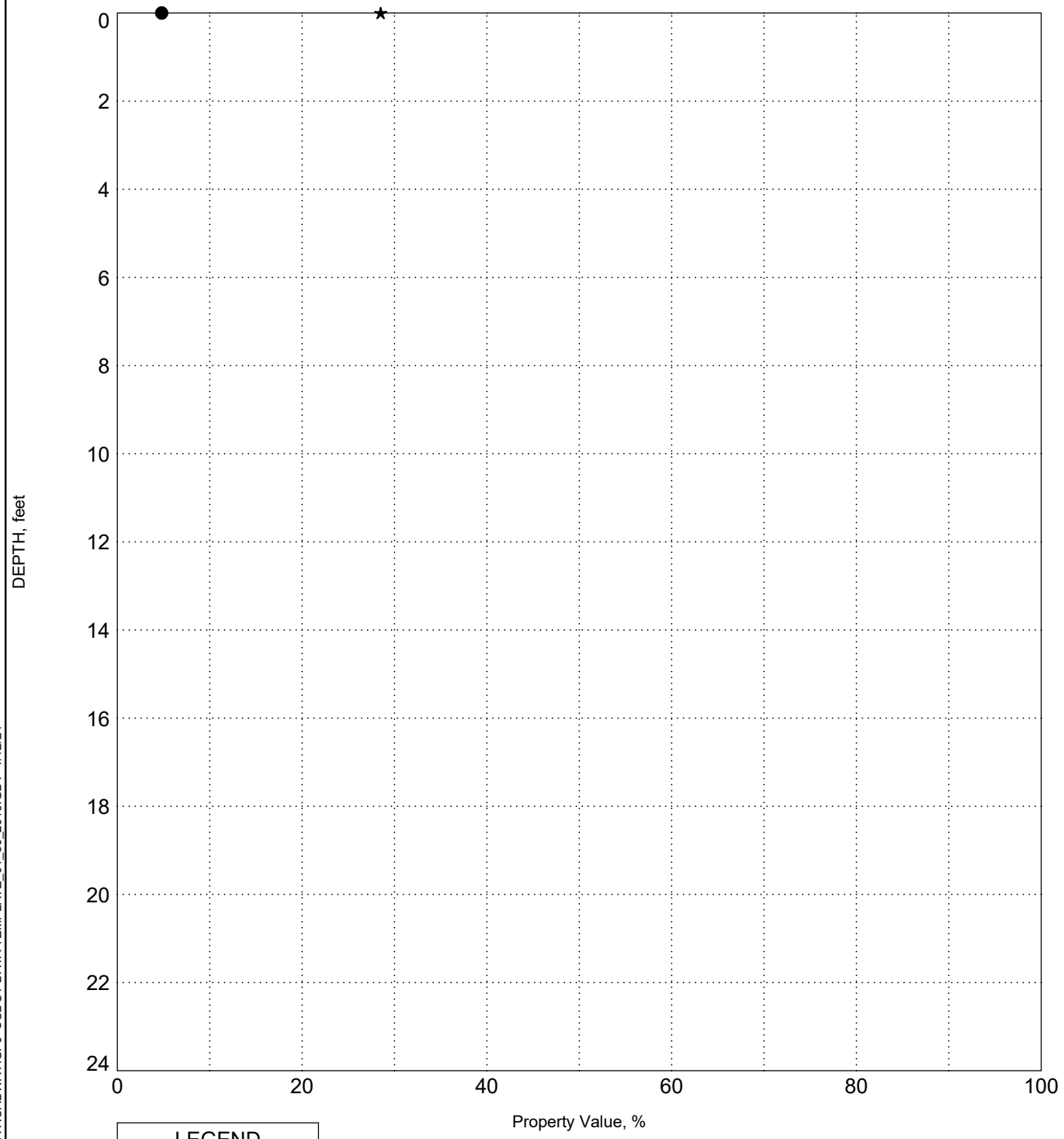
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING CR-4

SURFACE ELEVATION: 458.2



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

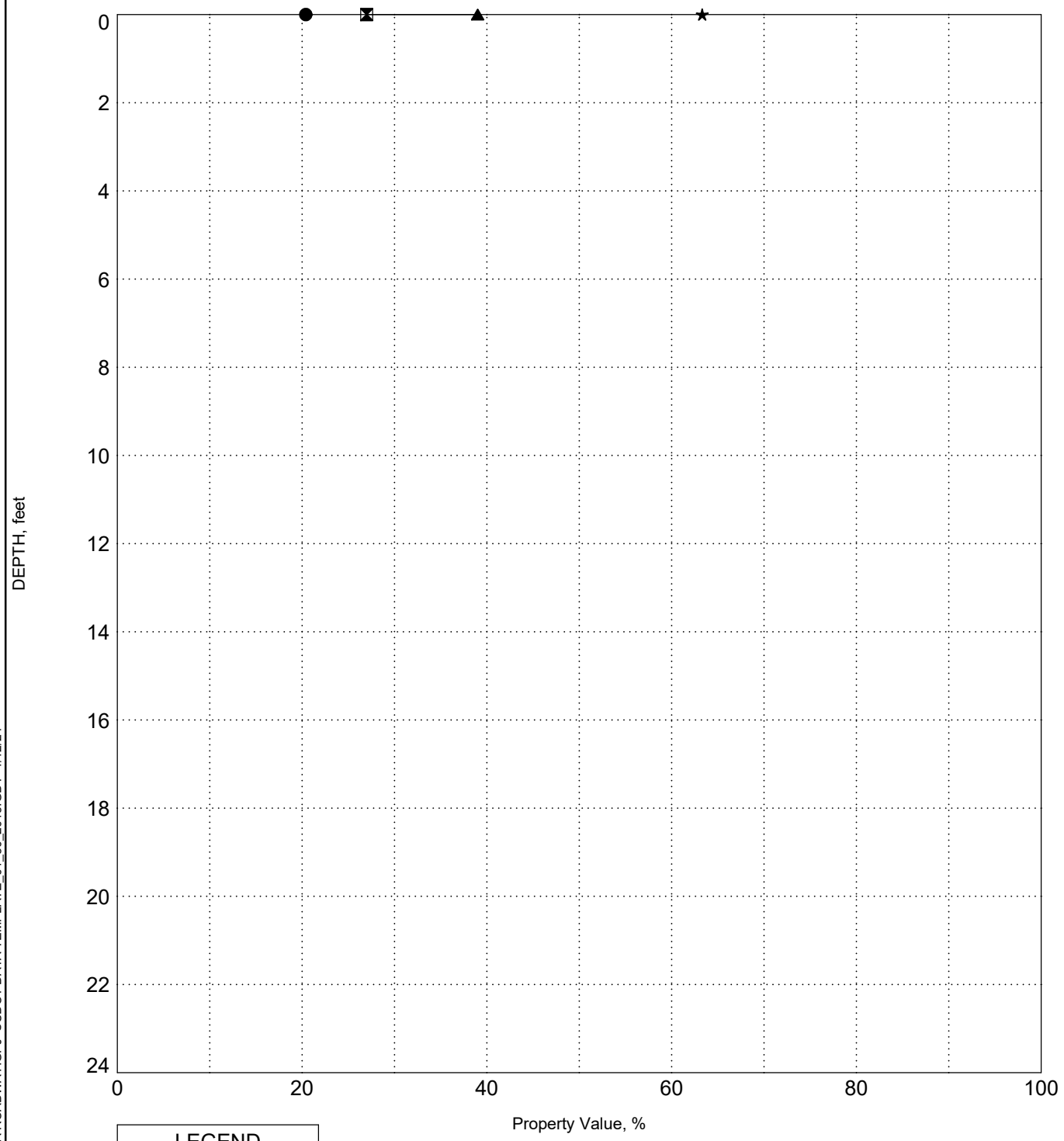
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING CR-5

SURFACE ELEVATION: 450.8



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

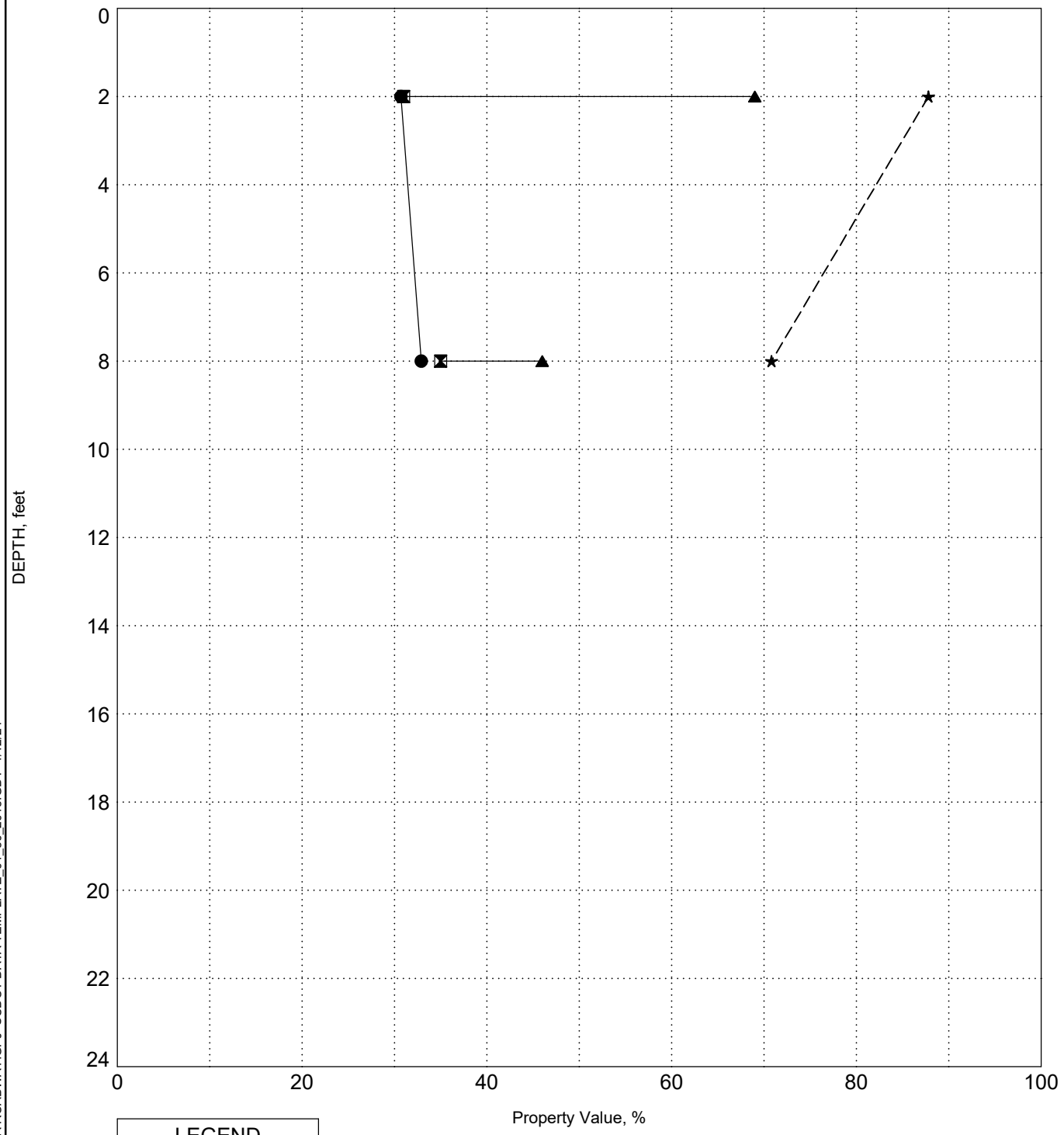
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING CR-6

SURFACE ELEVATION: 420.8



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

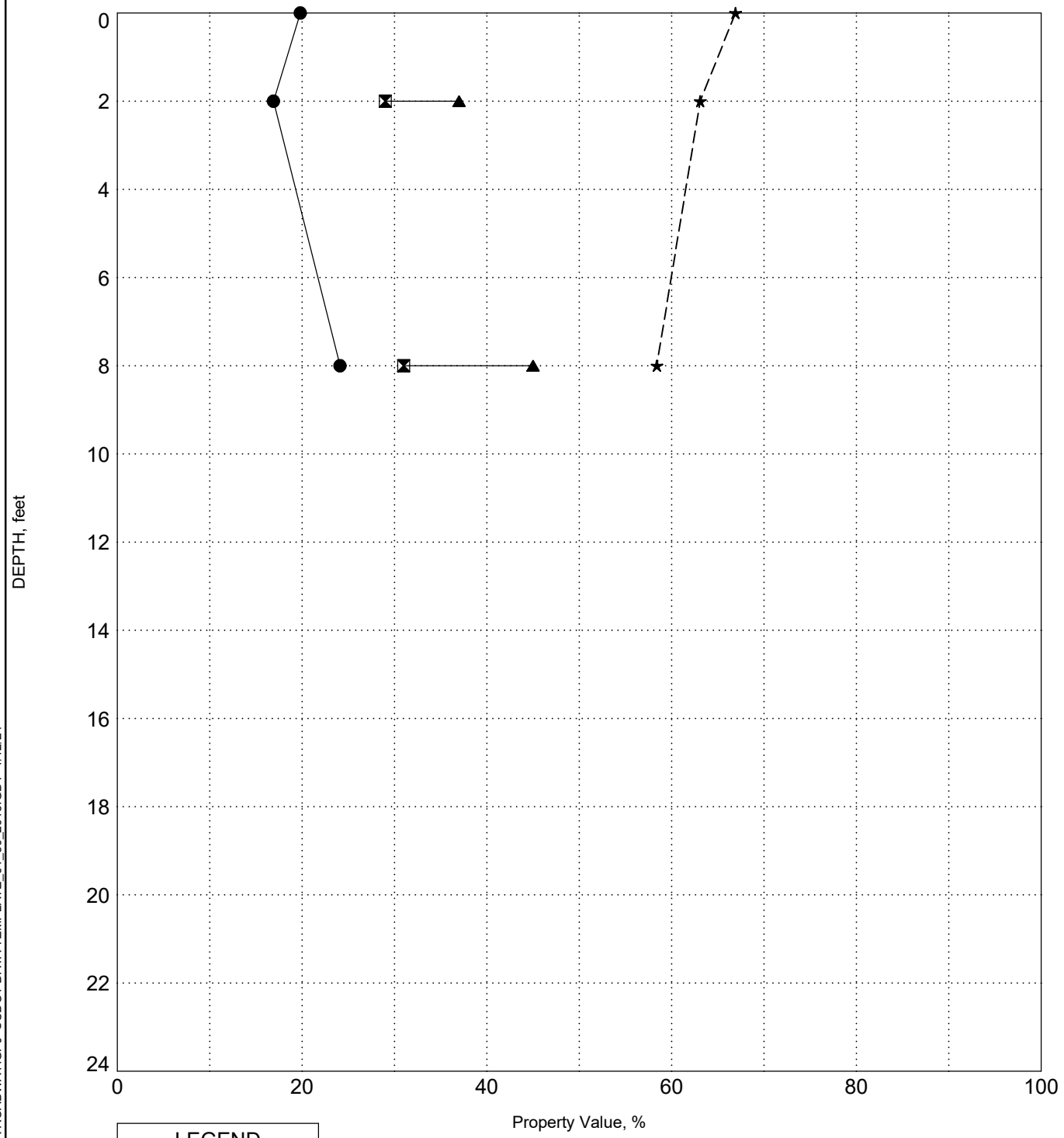
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING CR-7

SURFACE ELEVATION: 442.7



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

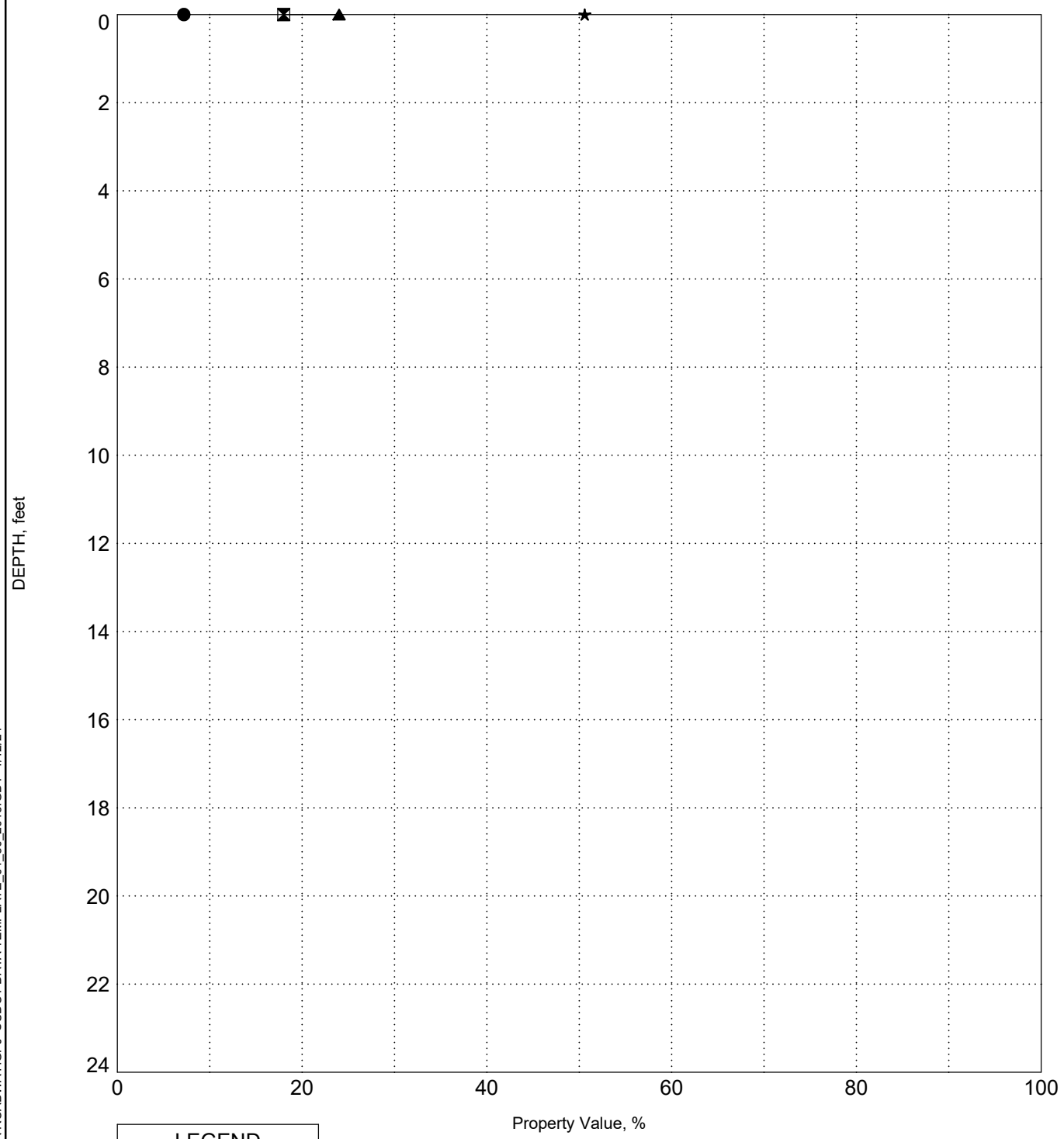
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING CR-8

SURFACE ELEVATION: 423.2



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

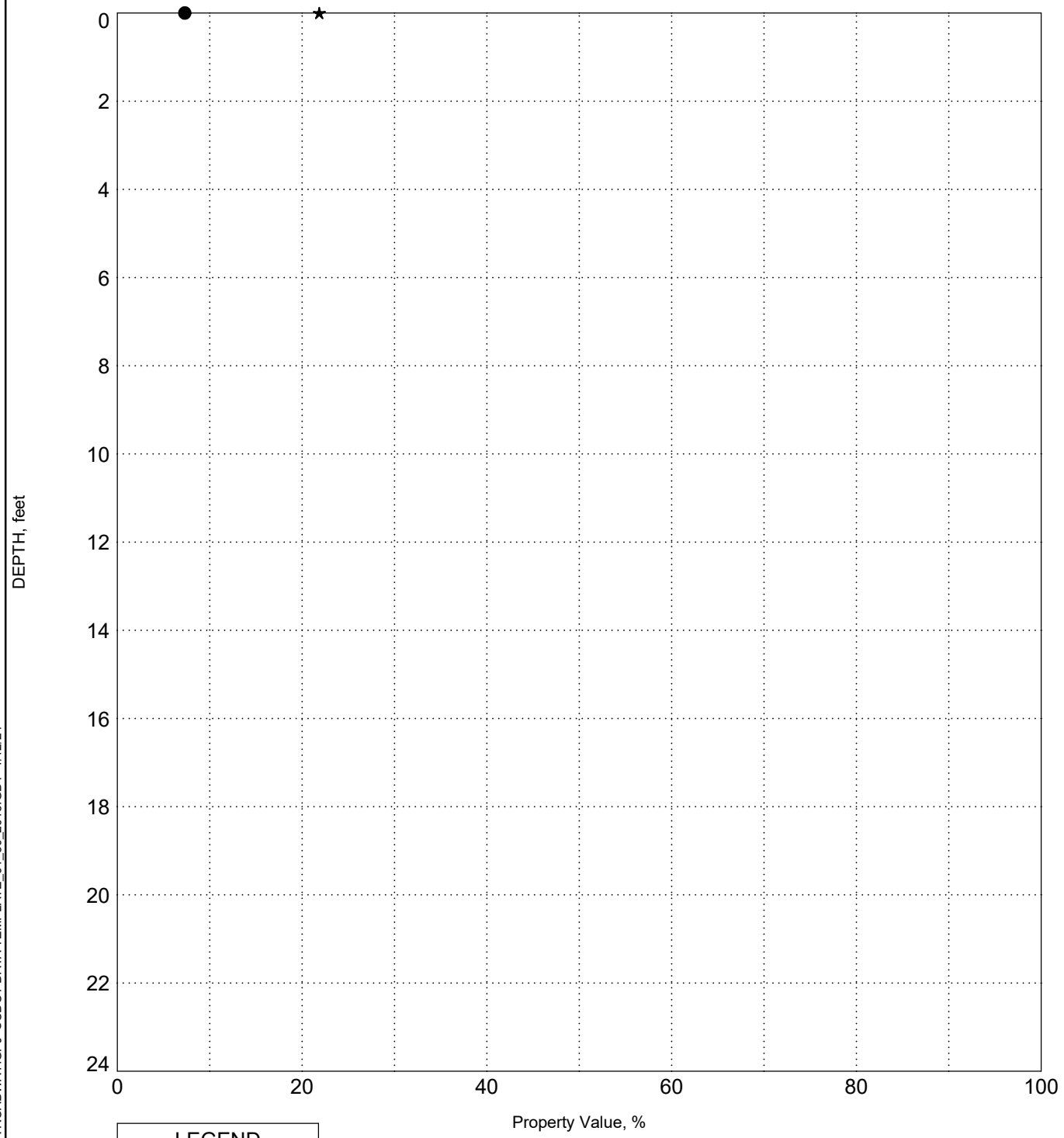
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB- 1

SURFACE ELEVATION: 430.7



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

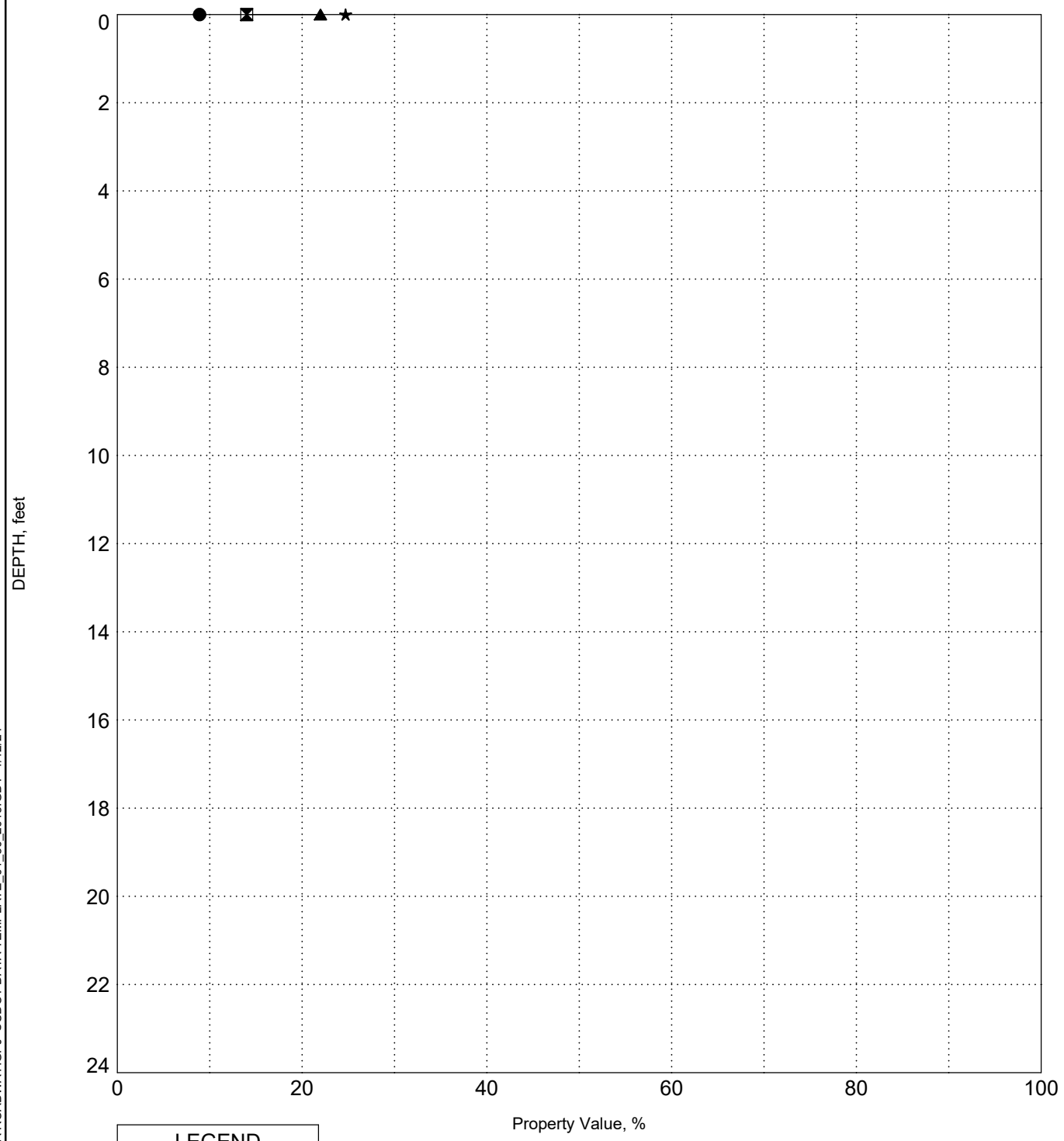
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB- 2

SURFACE ELEVATION: 433.0



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

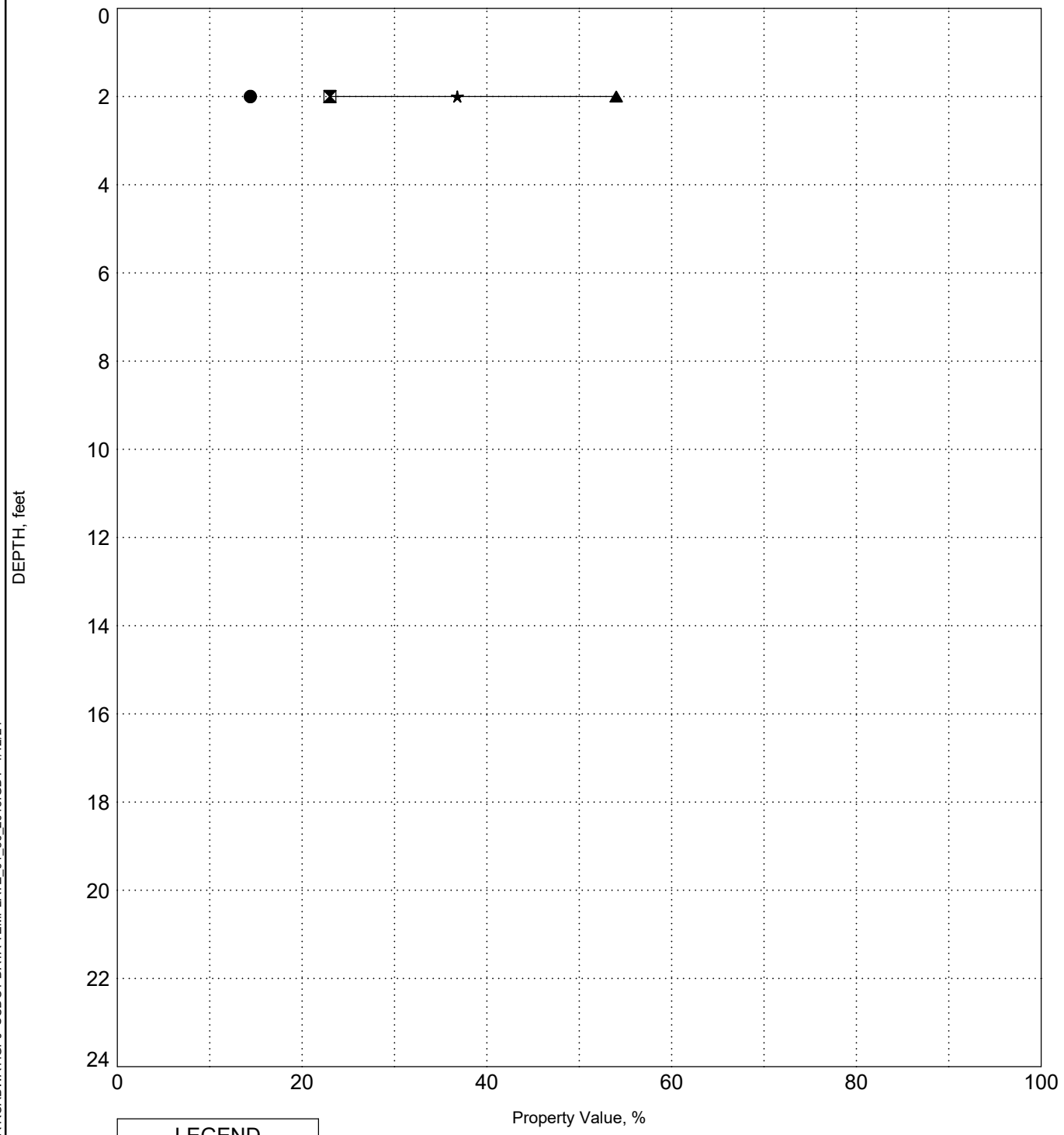
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB- 3

SURFACE ELEVATION: 433.9



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

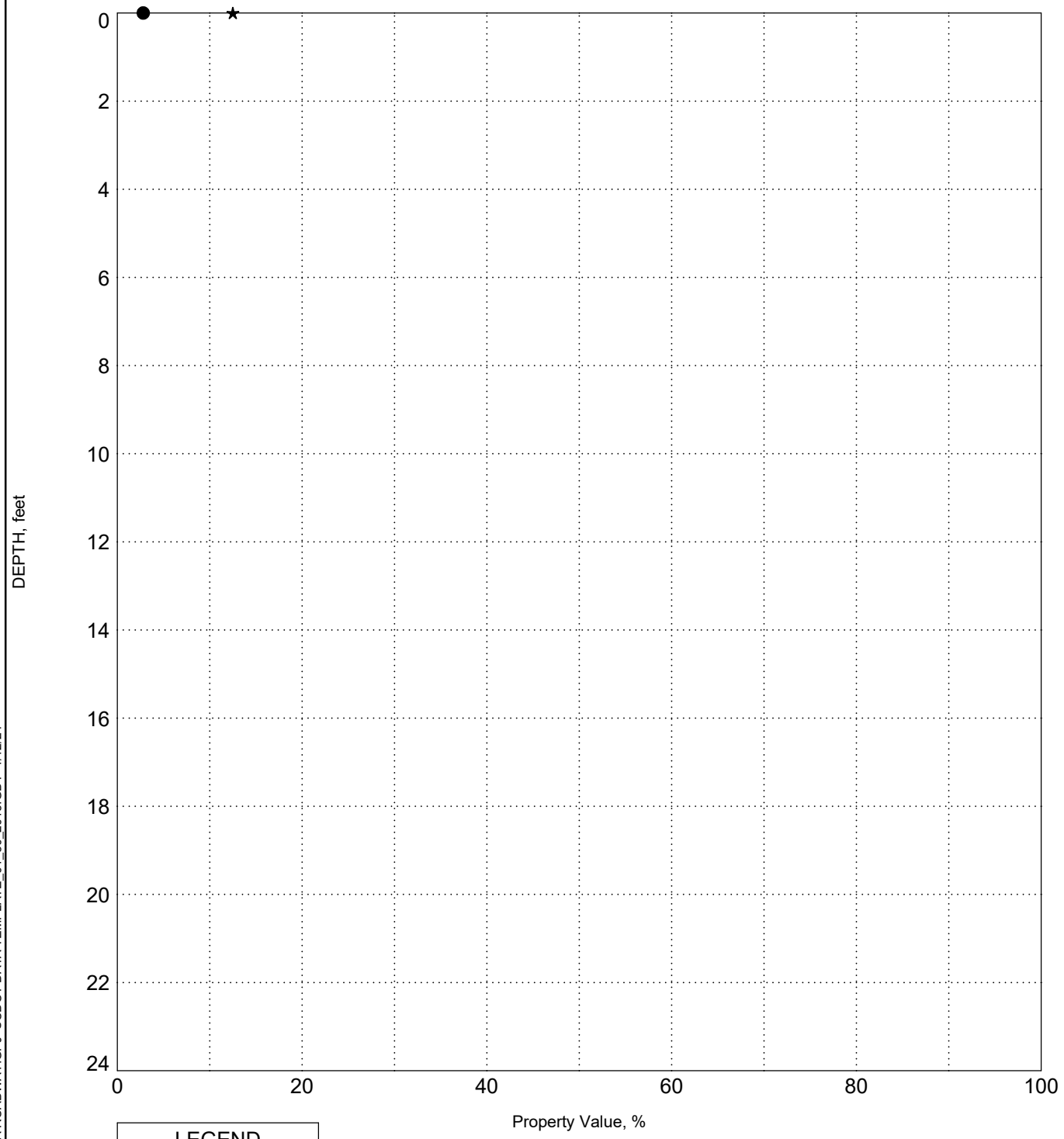
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB- 4

SURFACE ELEVATION: 437.4



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

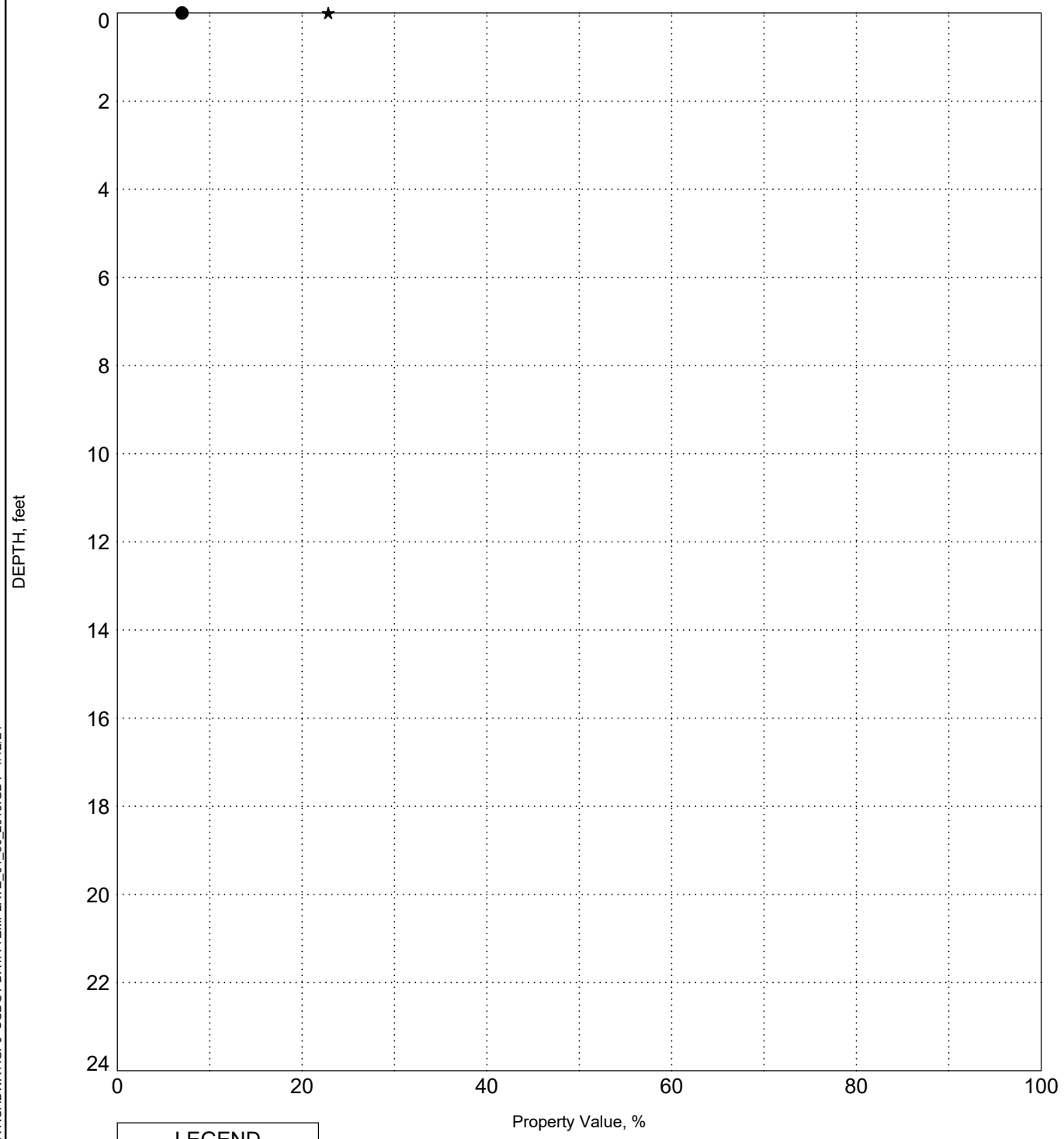
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB- 5

SURFACE ELEVATION: 437.3



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

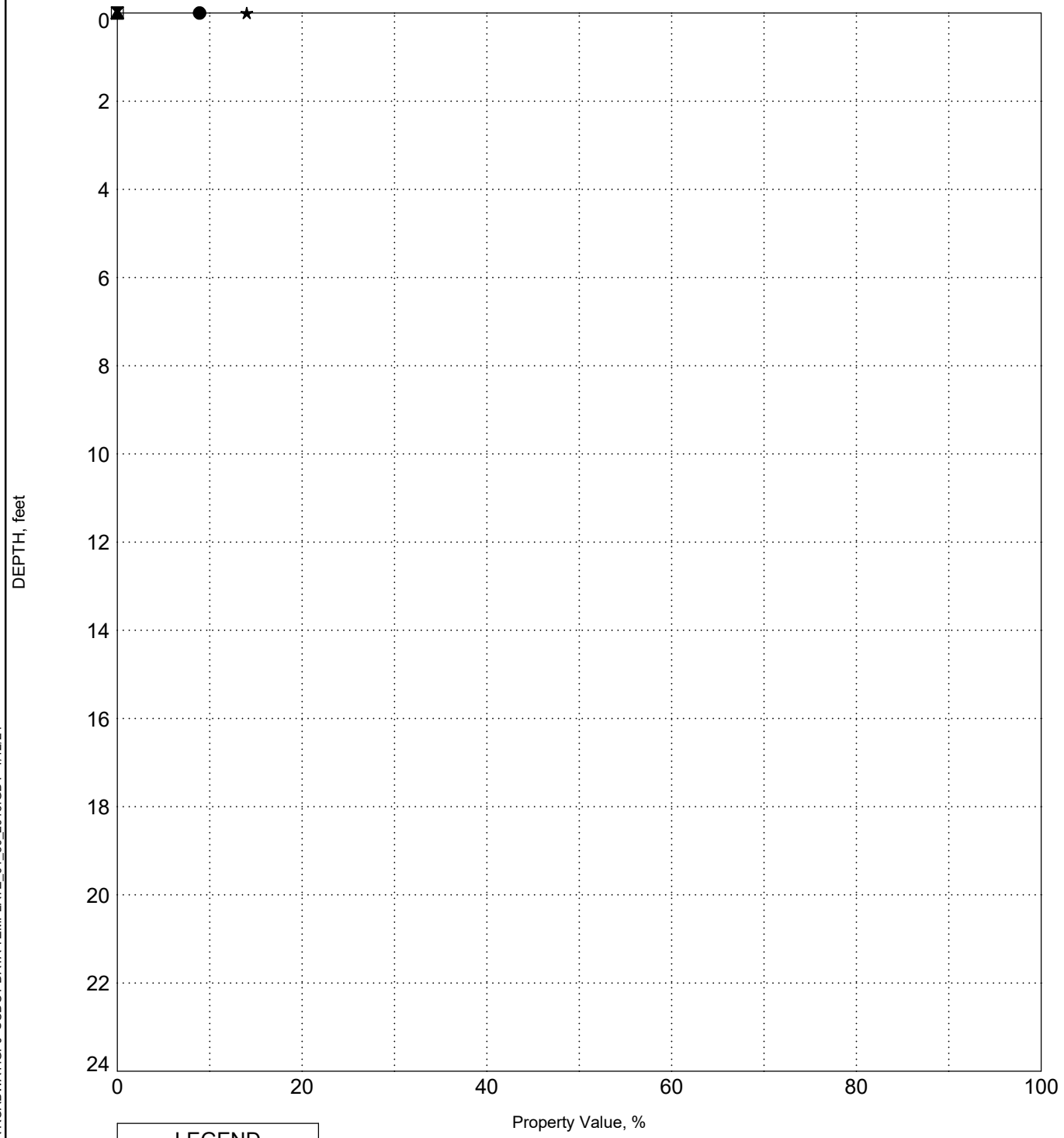
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB- 6

SURFACE ELEVATION: 440.8



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

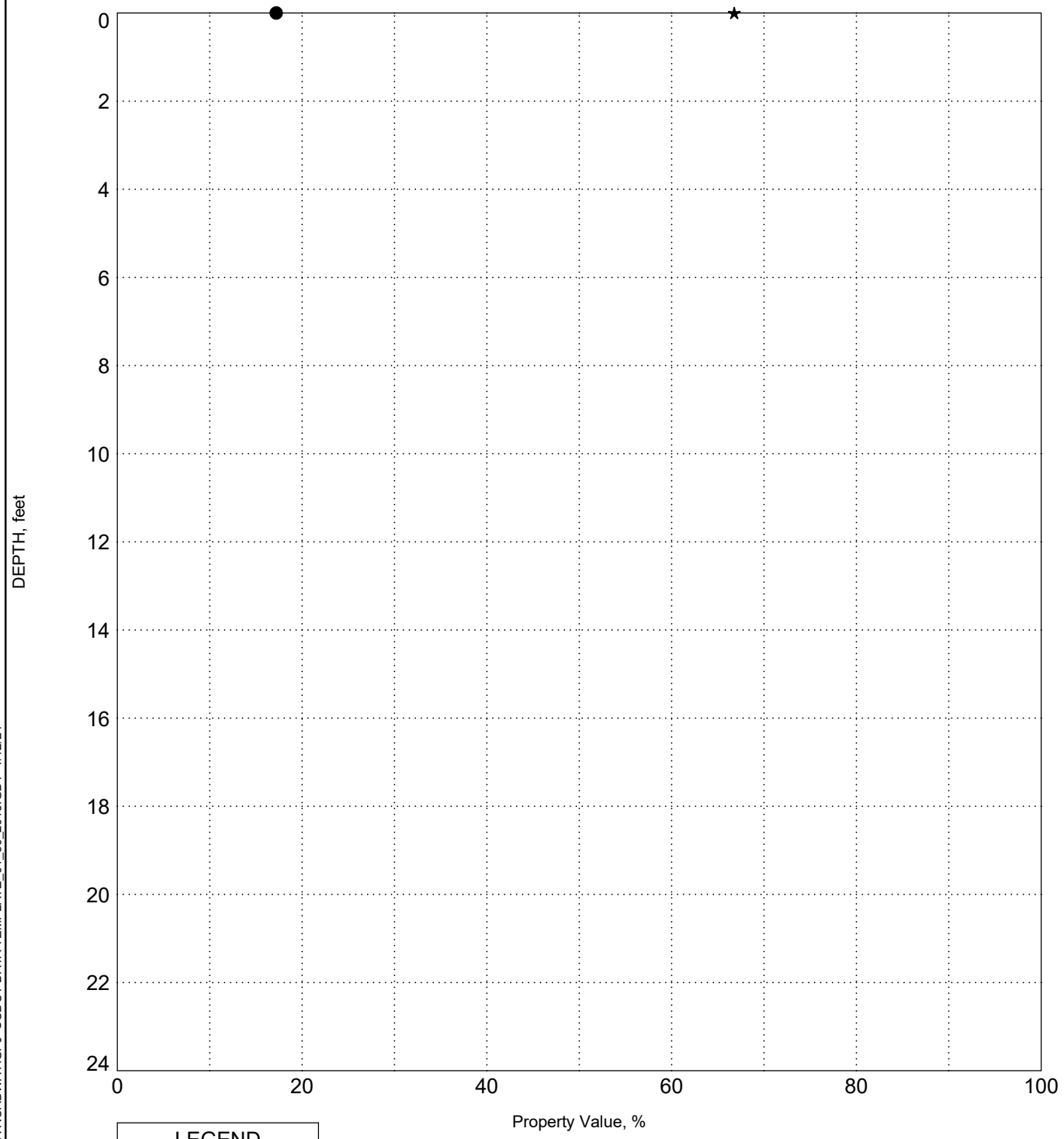
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB- 7

SURFACE ELEVATION: 437.2



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

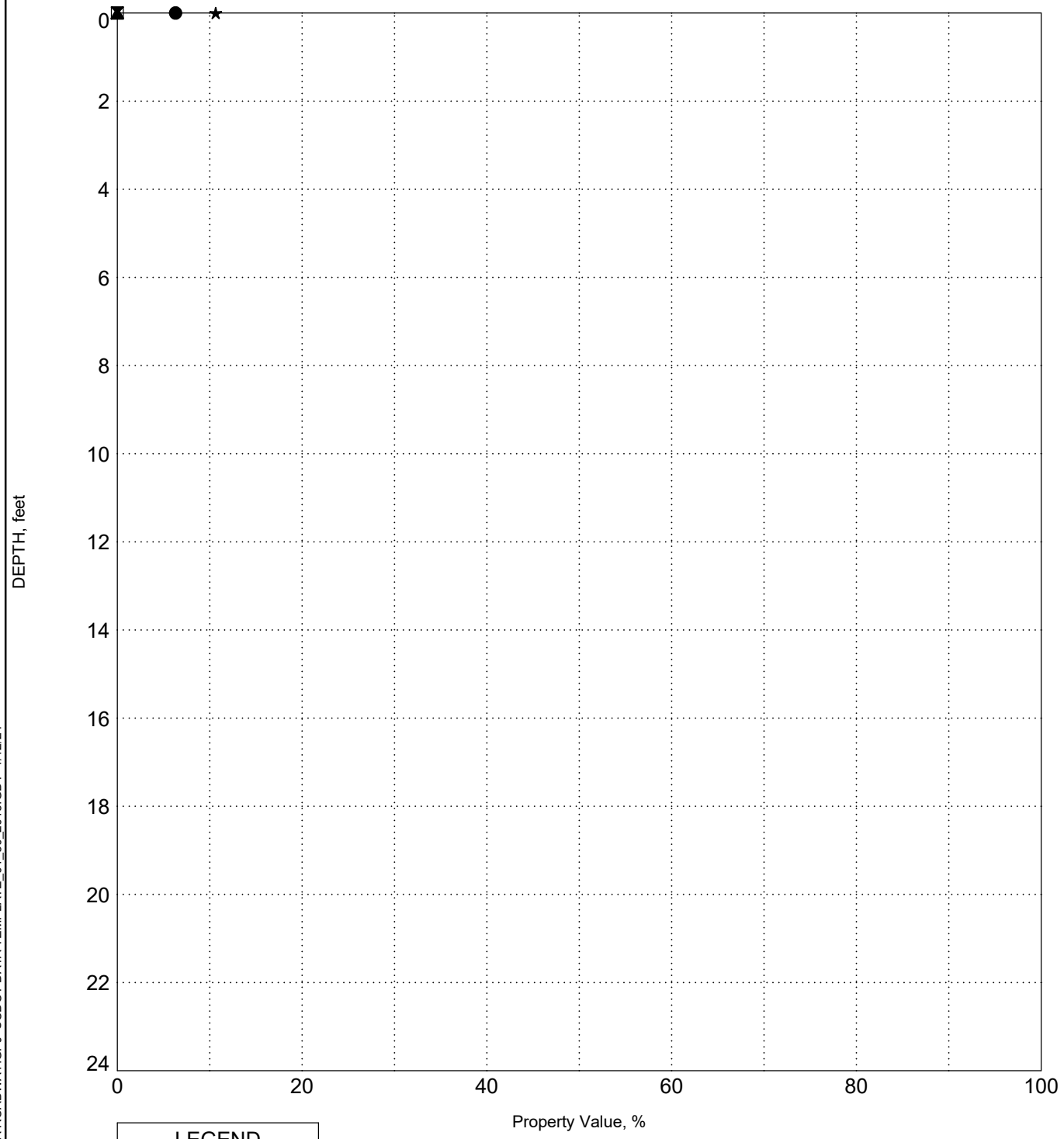
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB- 8

SURFACE ELEVATION: 435.0



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

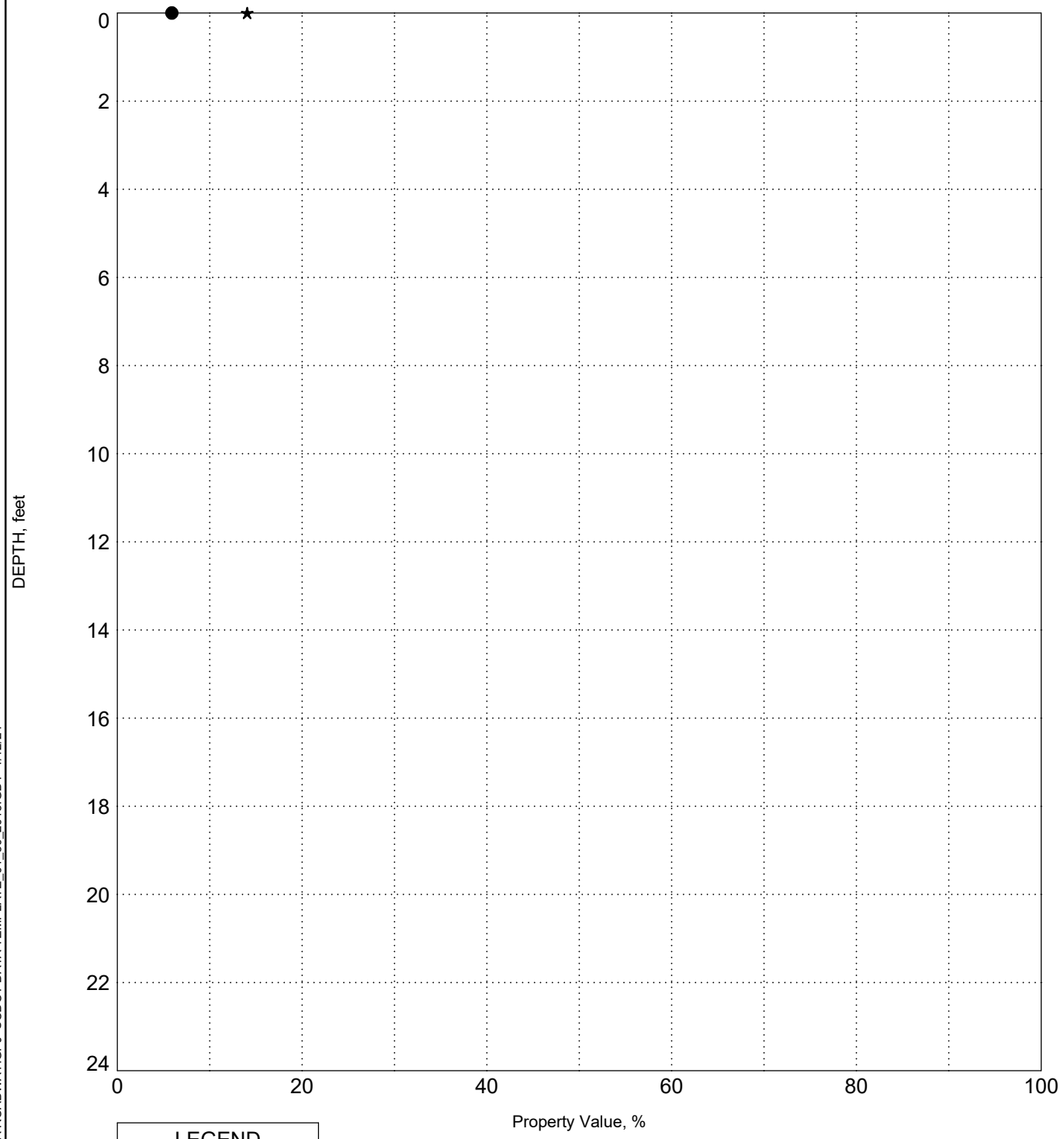
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB- 9

SURFACE ELEVATION: 428.7



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

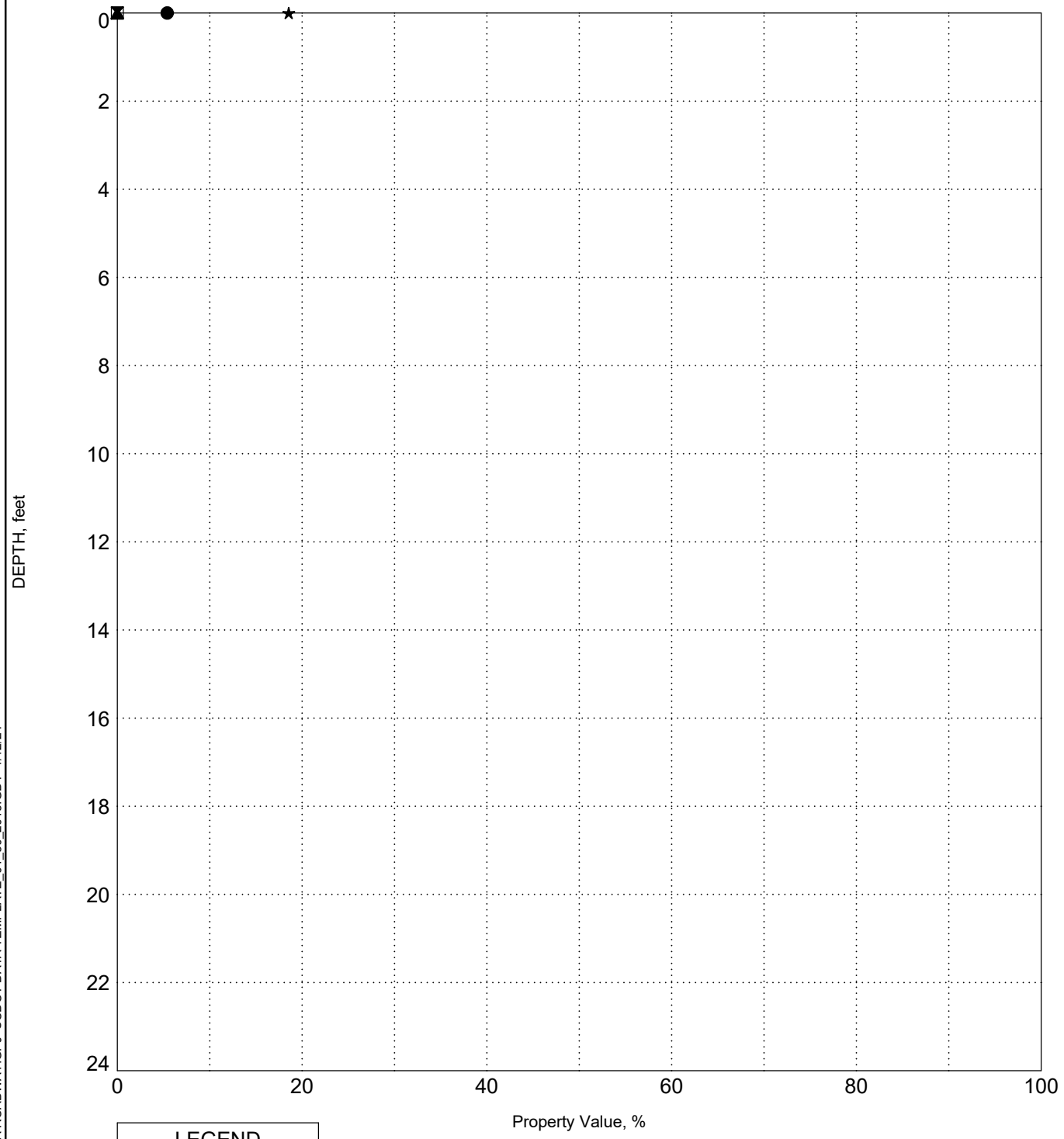
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB-10

SURFACE ELEVATION: 425.4



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

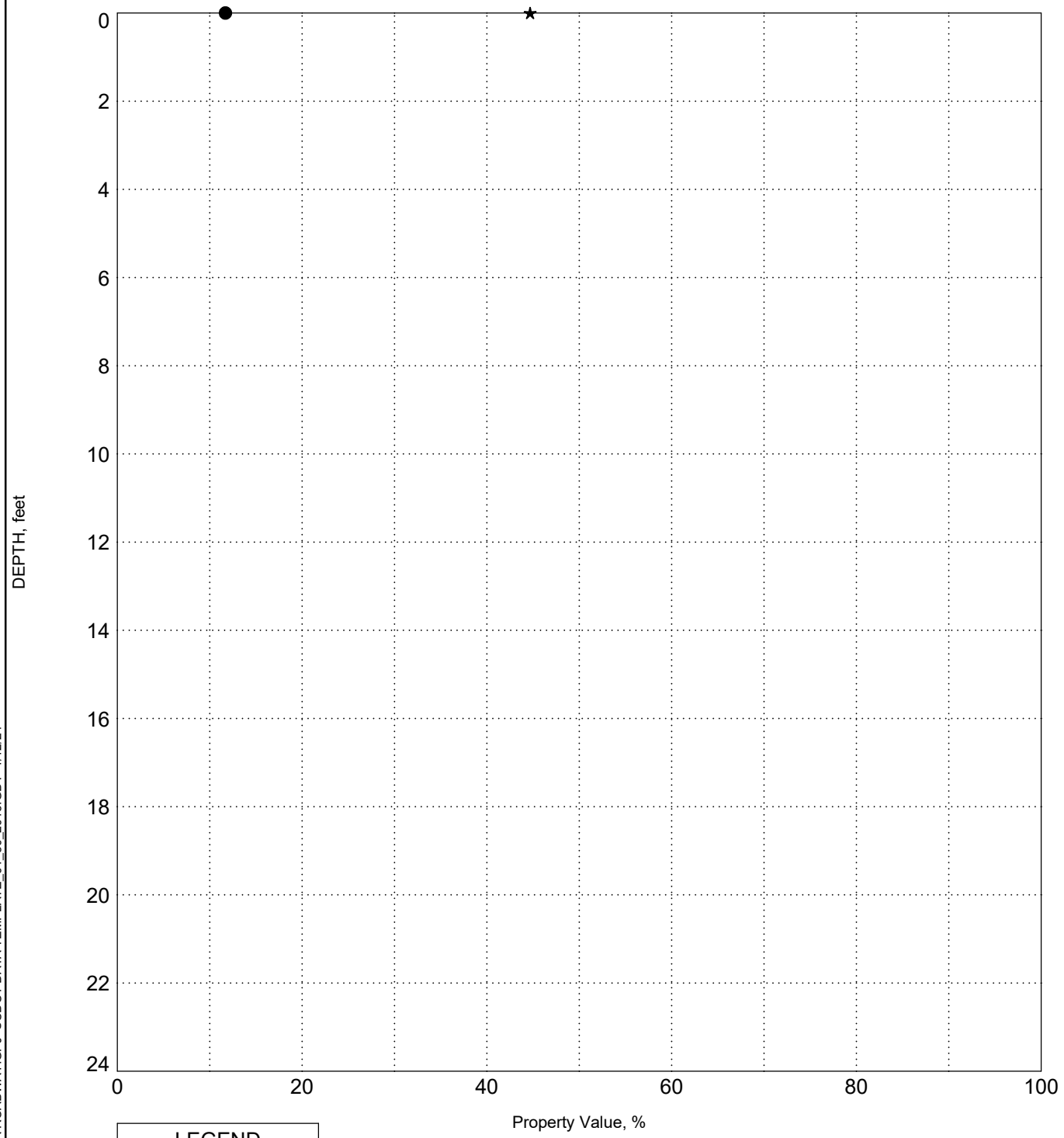
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB-11

SURFACE ELEVATION: 421.4



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

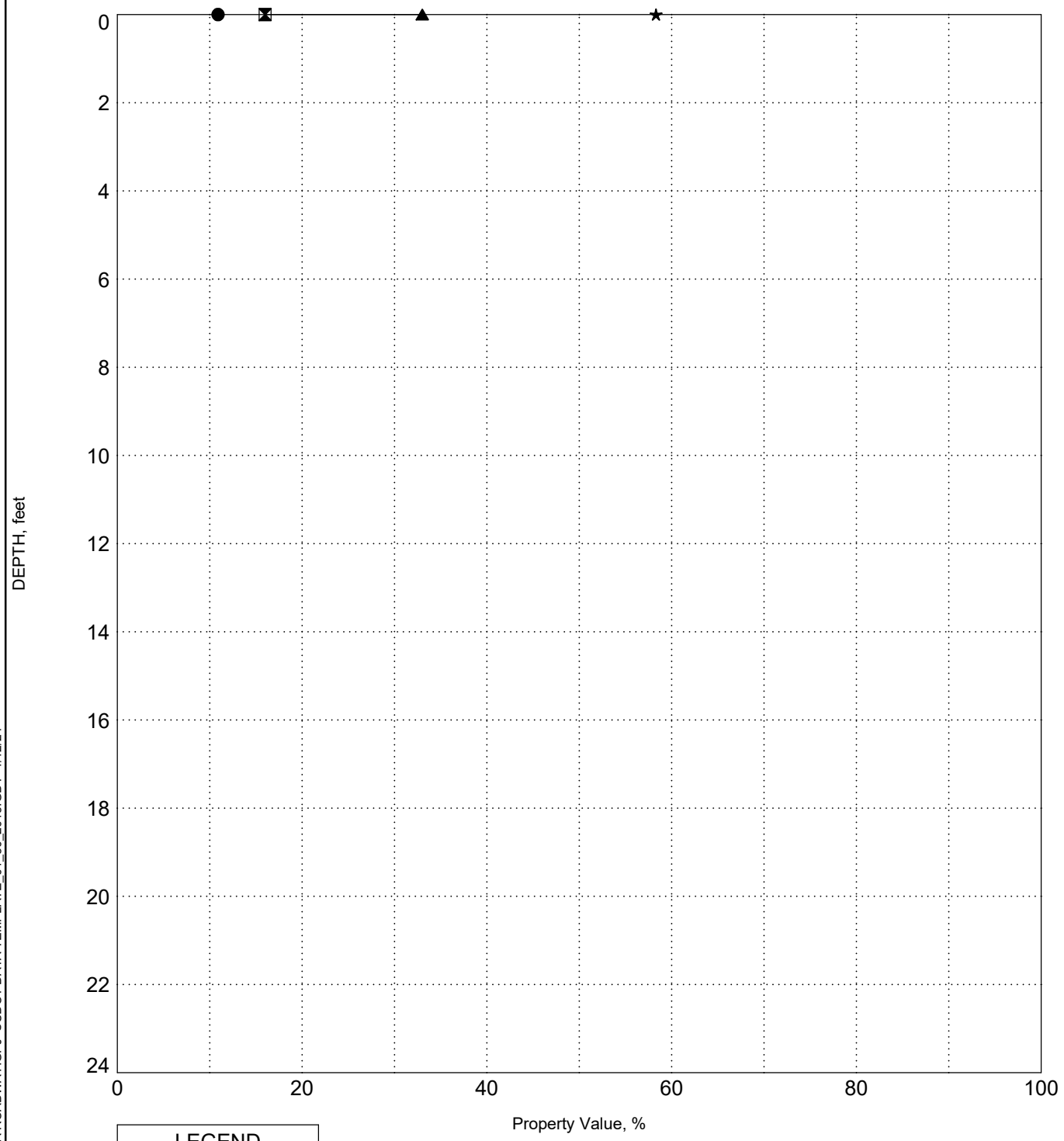
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB-12

SURFACE ELEVATION: 424.3



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

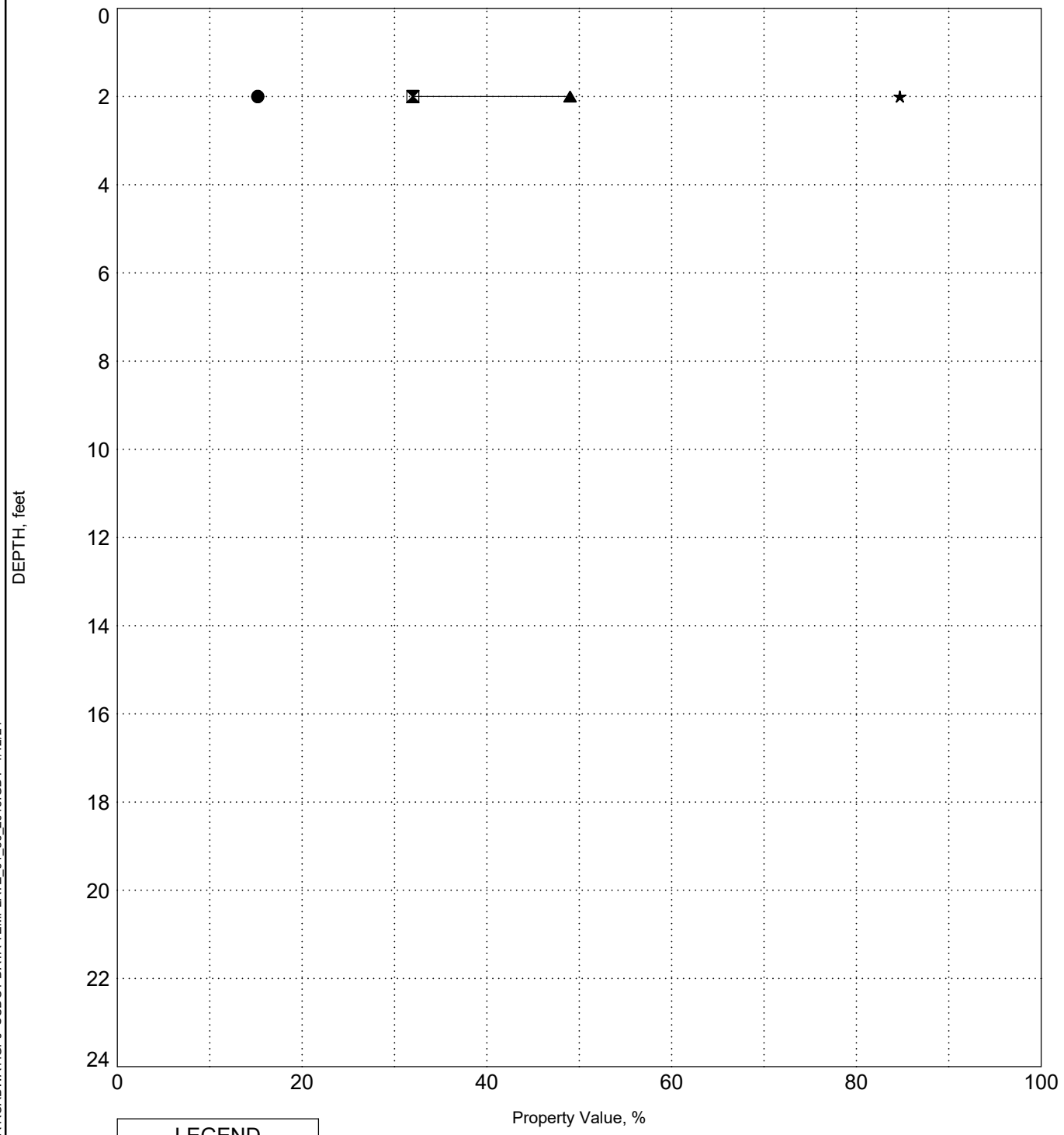
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB-13

SURFACE ELEVATION: 434.5



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

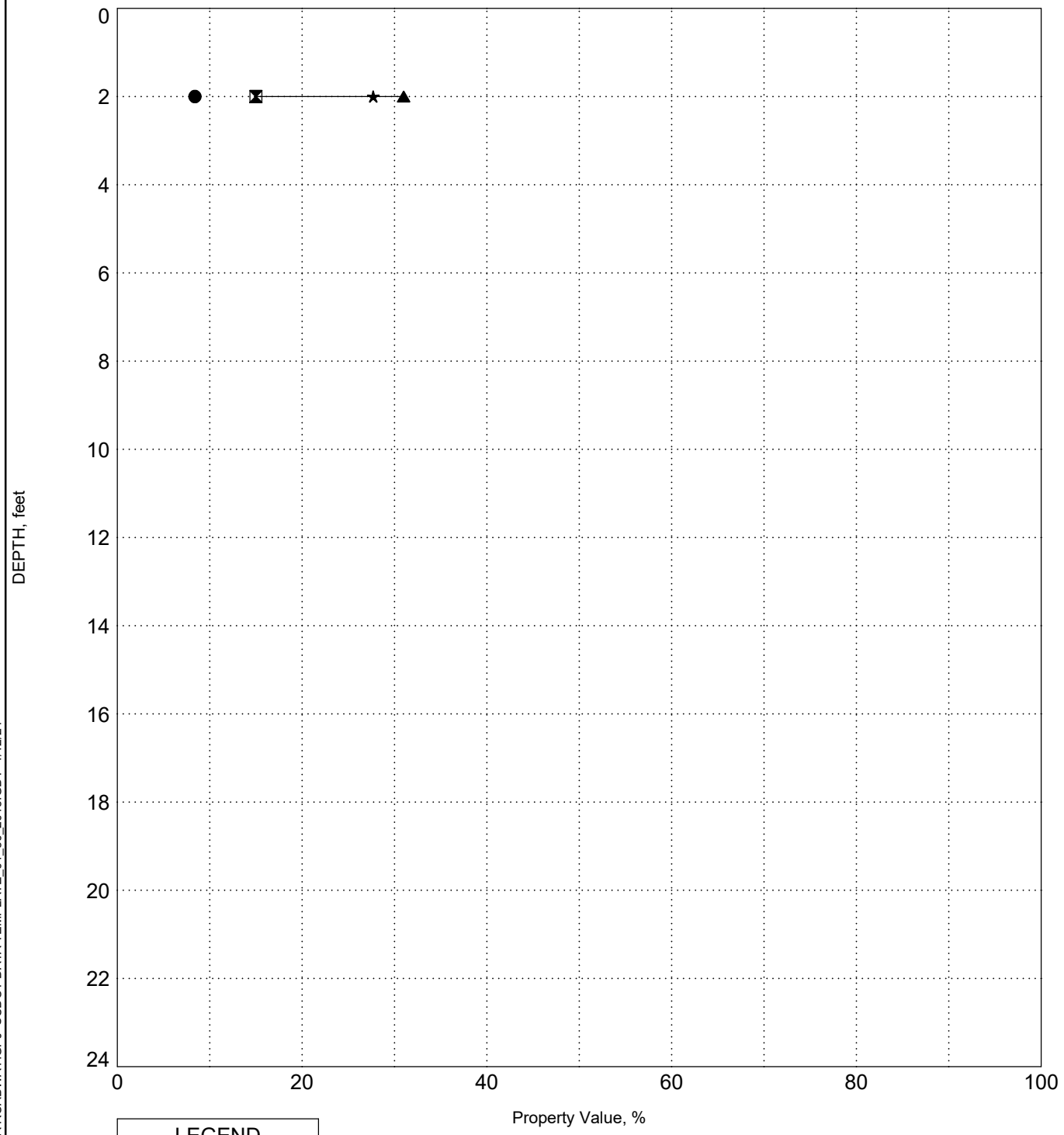
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB-14

SURFACE ELEVATION: 445.2



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

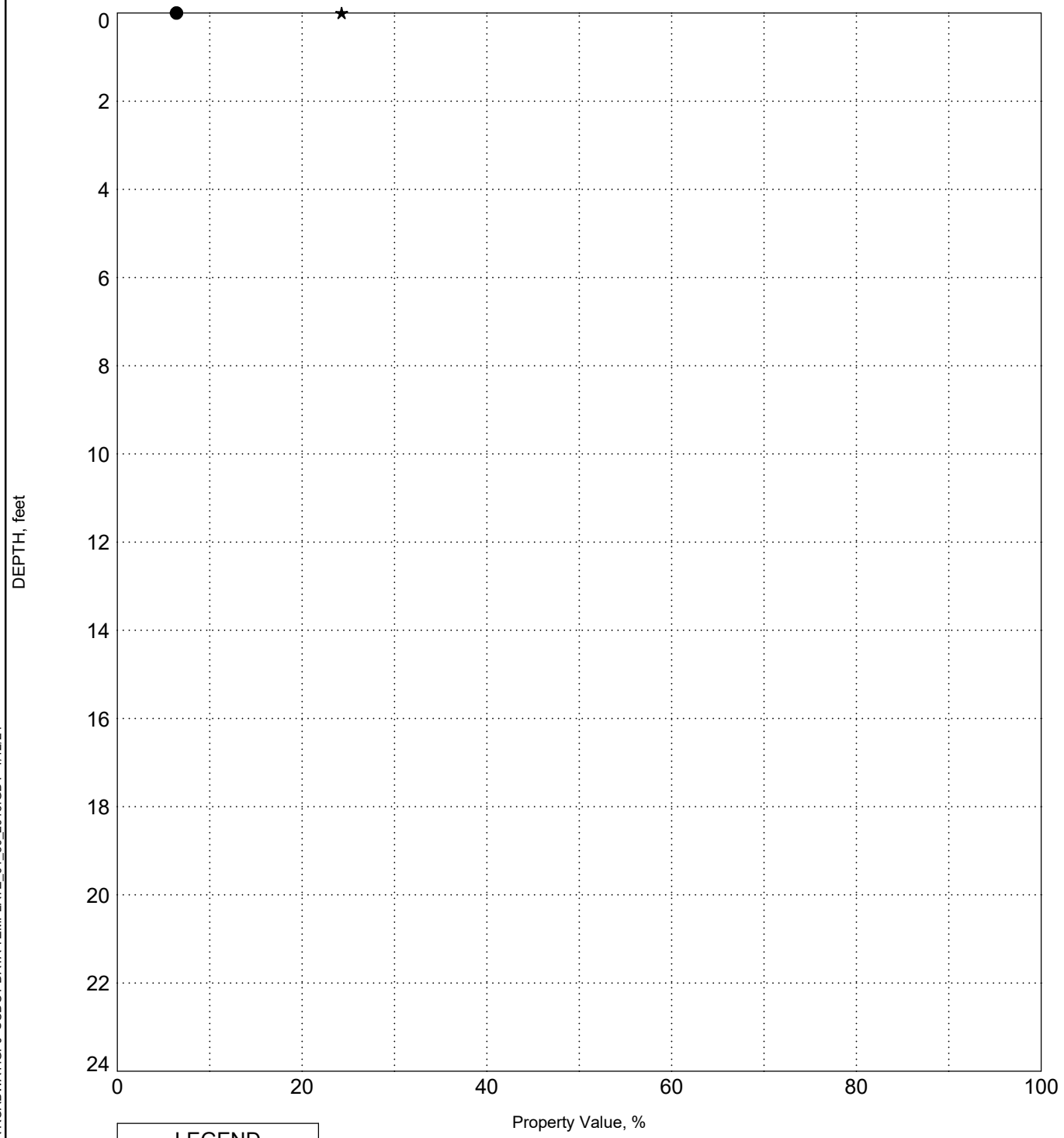
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB-15

SURFACE ELEVATION: 454.5



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

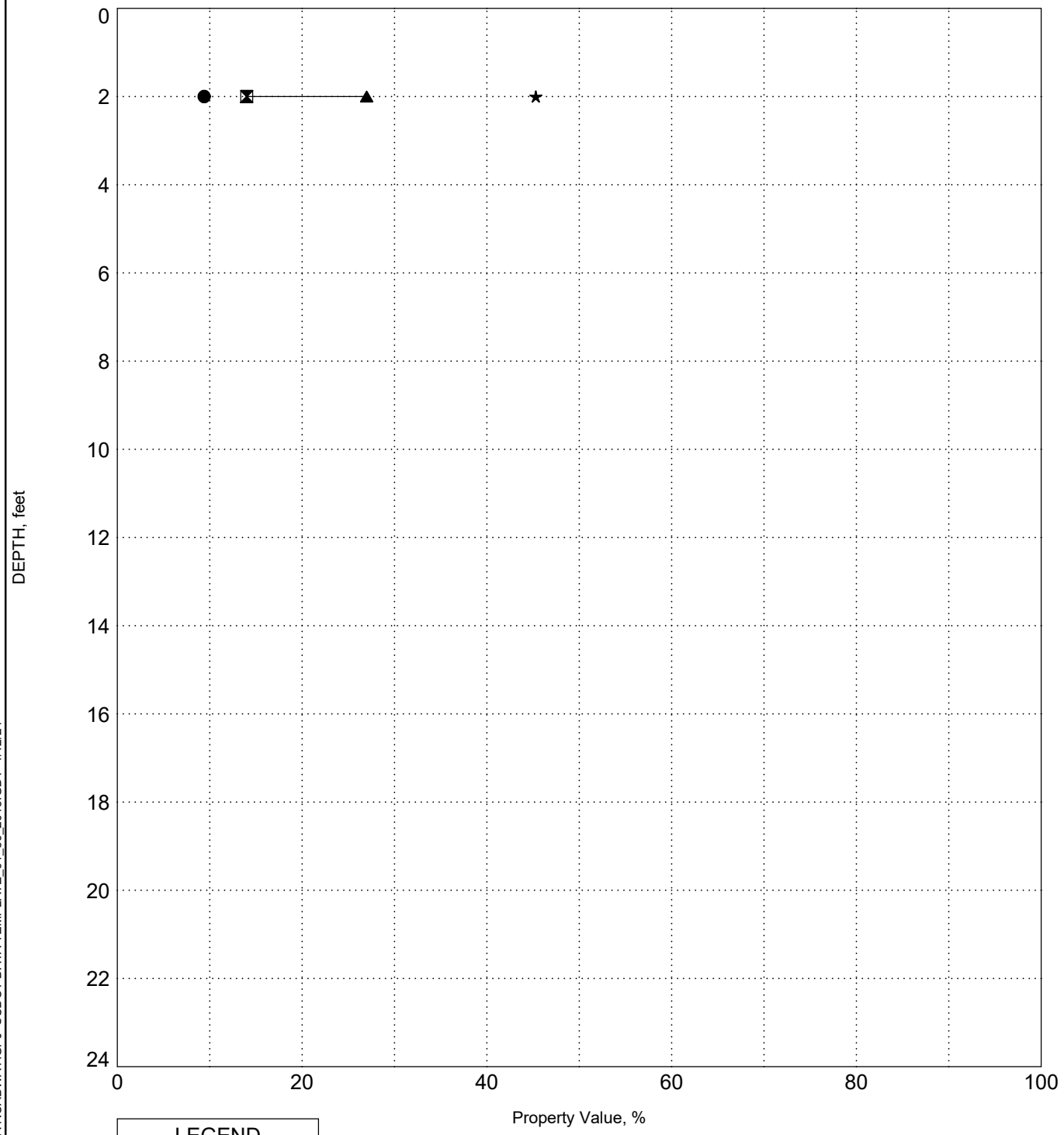
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB-16

SURFACE ELEVATION: 457.9



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

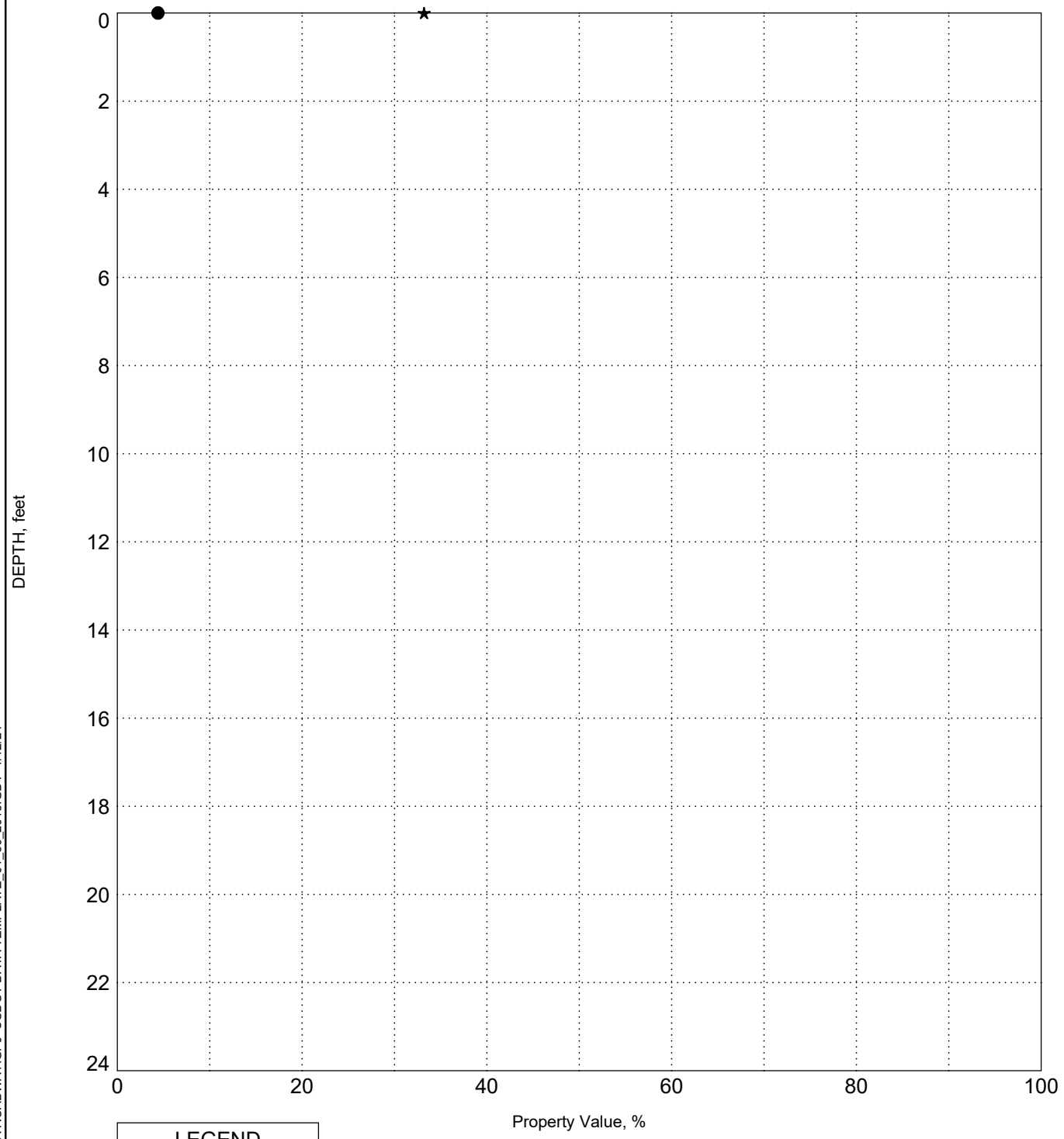
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB-17

SURFACE ELEVATION: 454.3



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

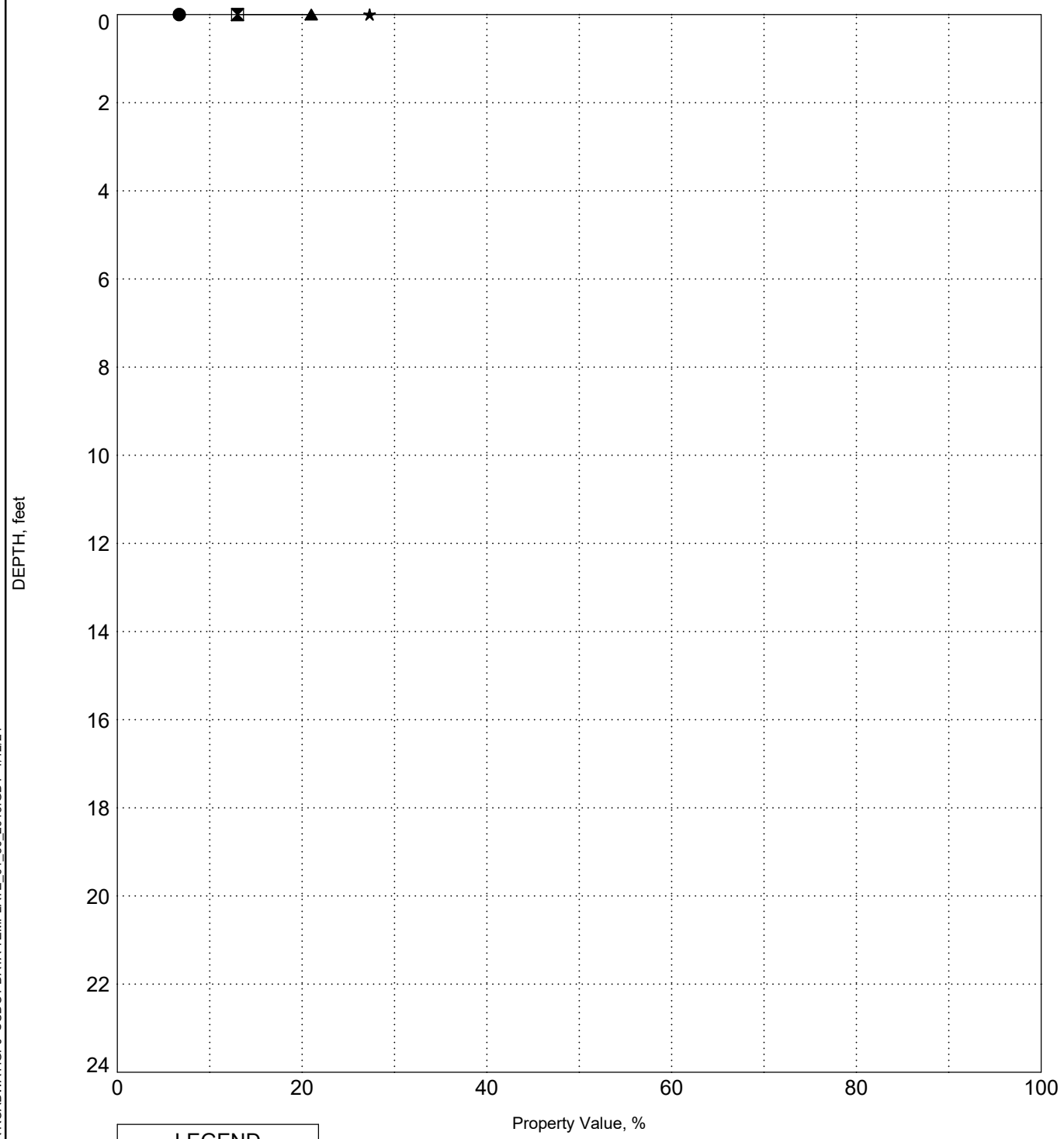
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB-18

SURFACE ELEVATION: 449.9



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

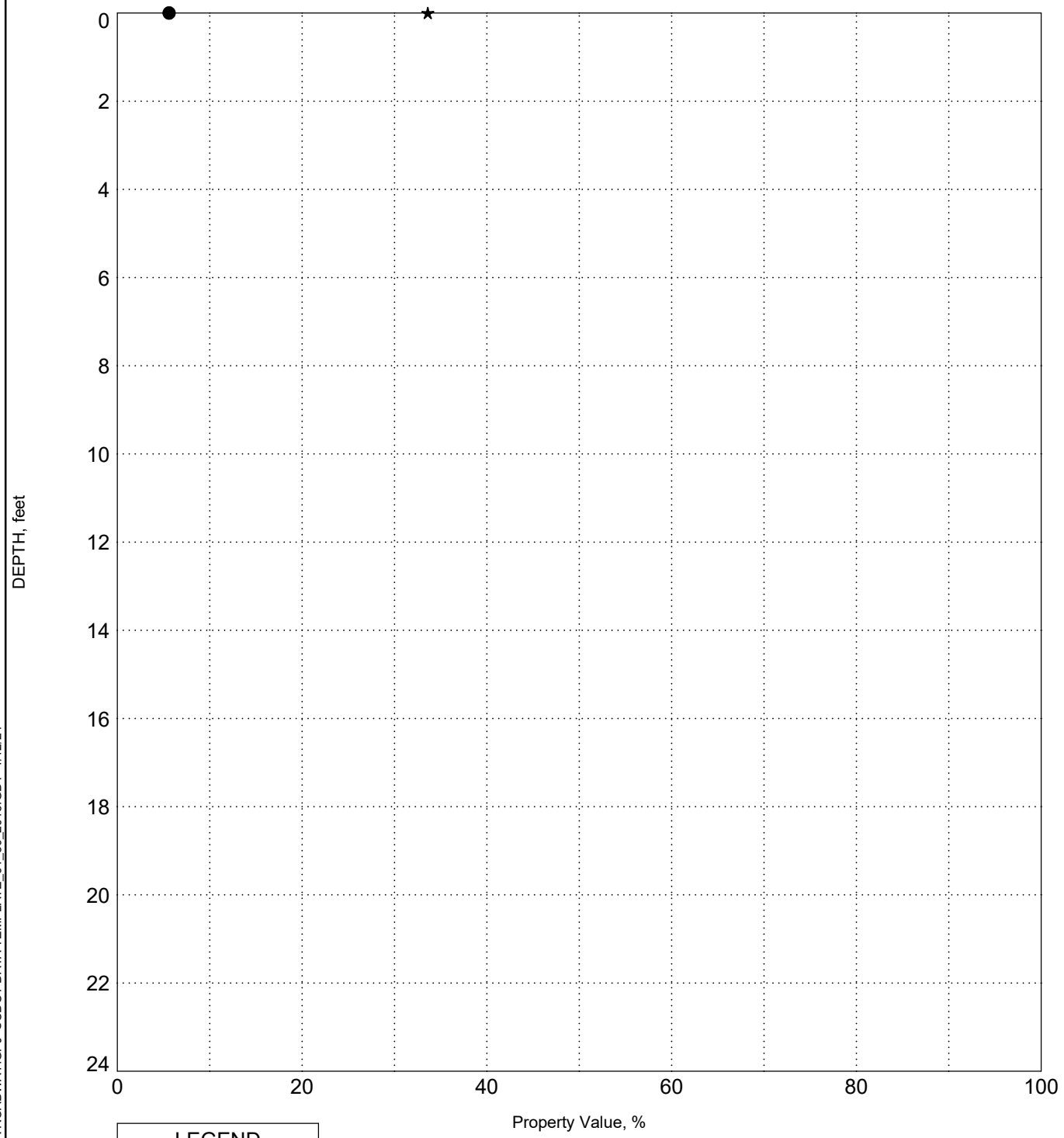
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB-19

SURFACE ELEVATION: 444.5



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

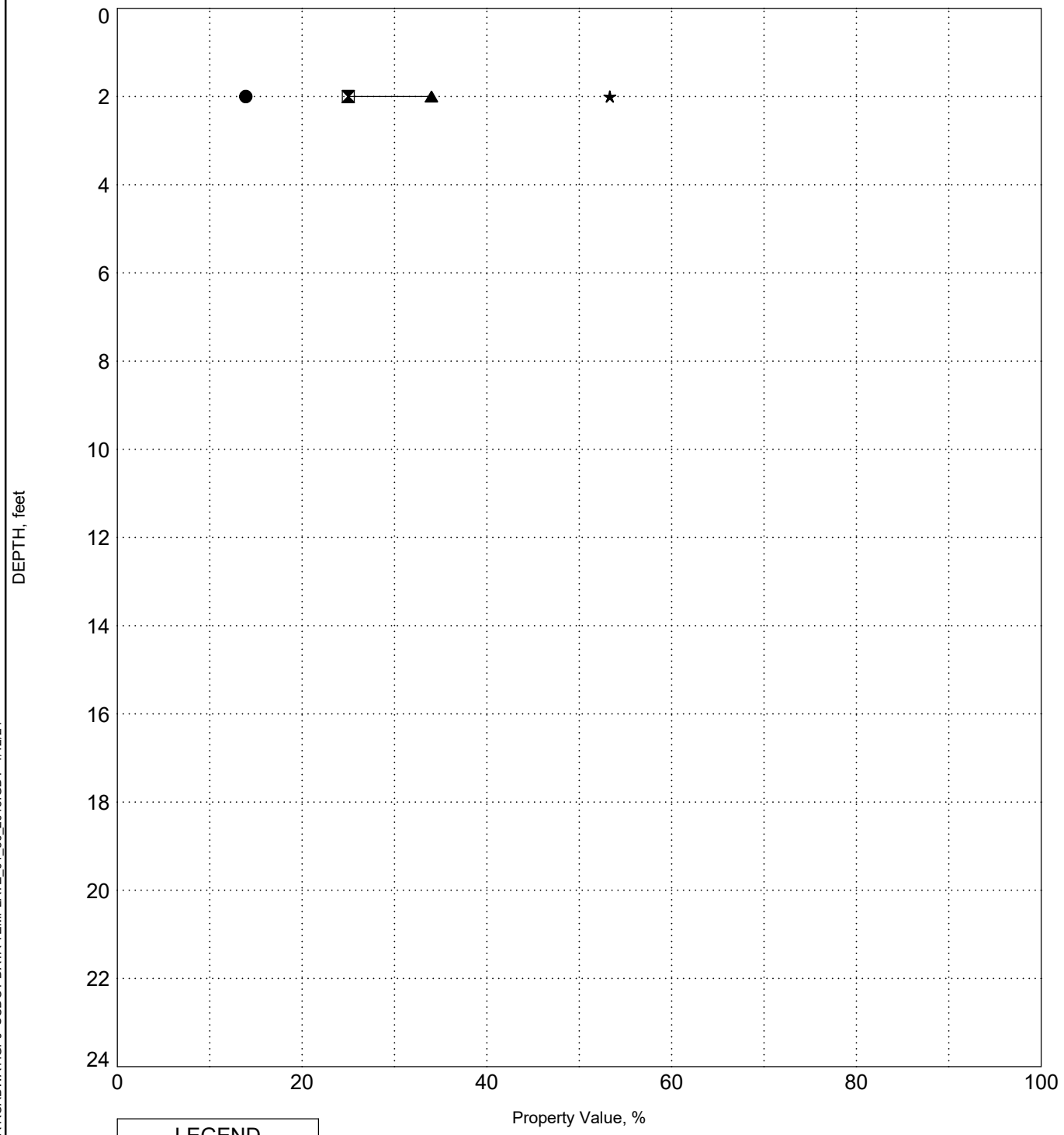
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB-20

SURFACE ELEVATION: 439.6



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

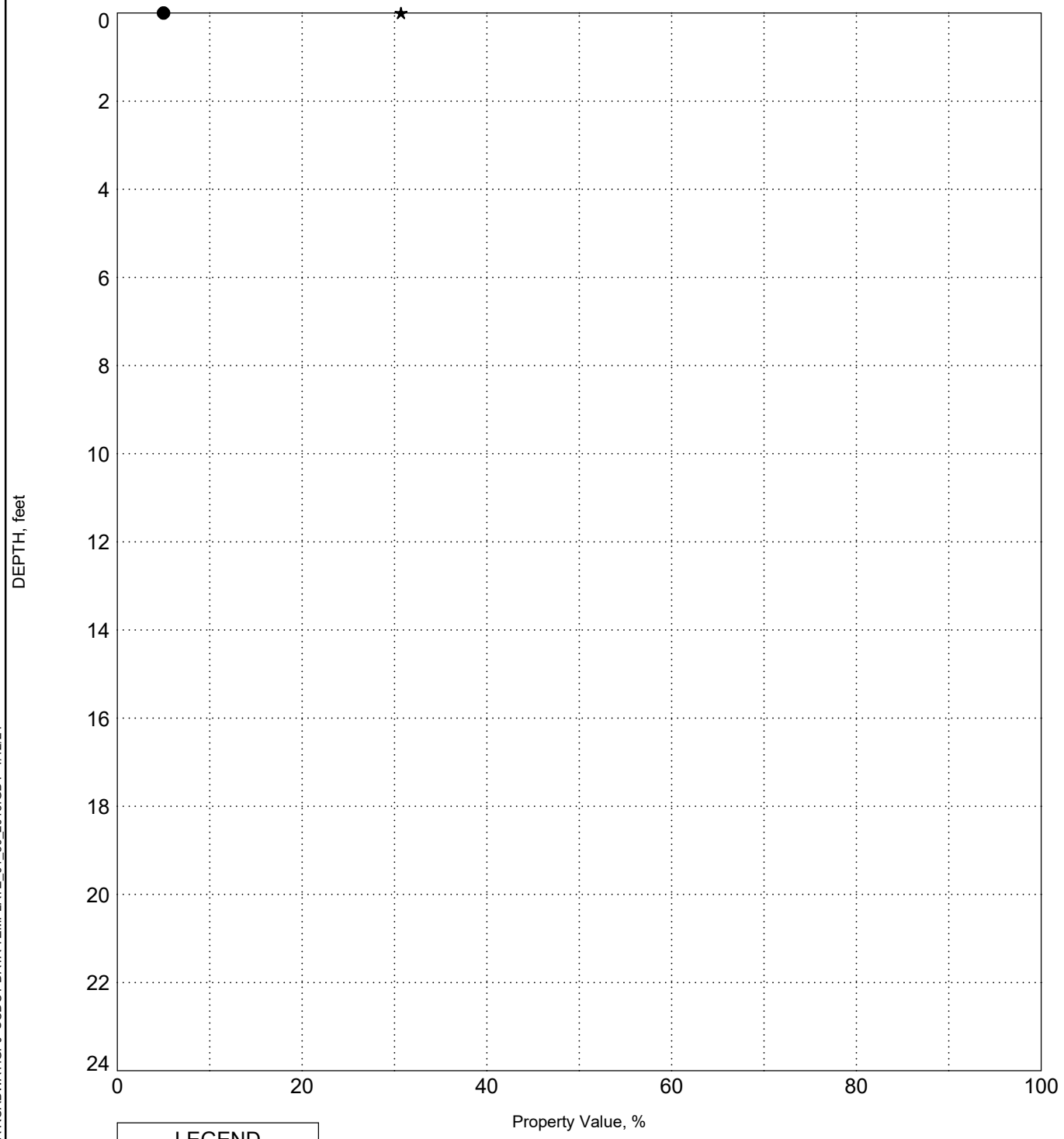
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB-21

SURFACE ELEVATION: 445.3



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

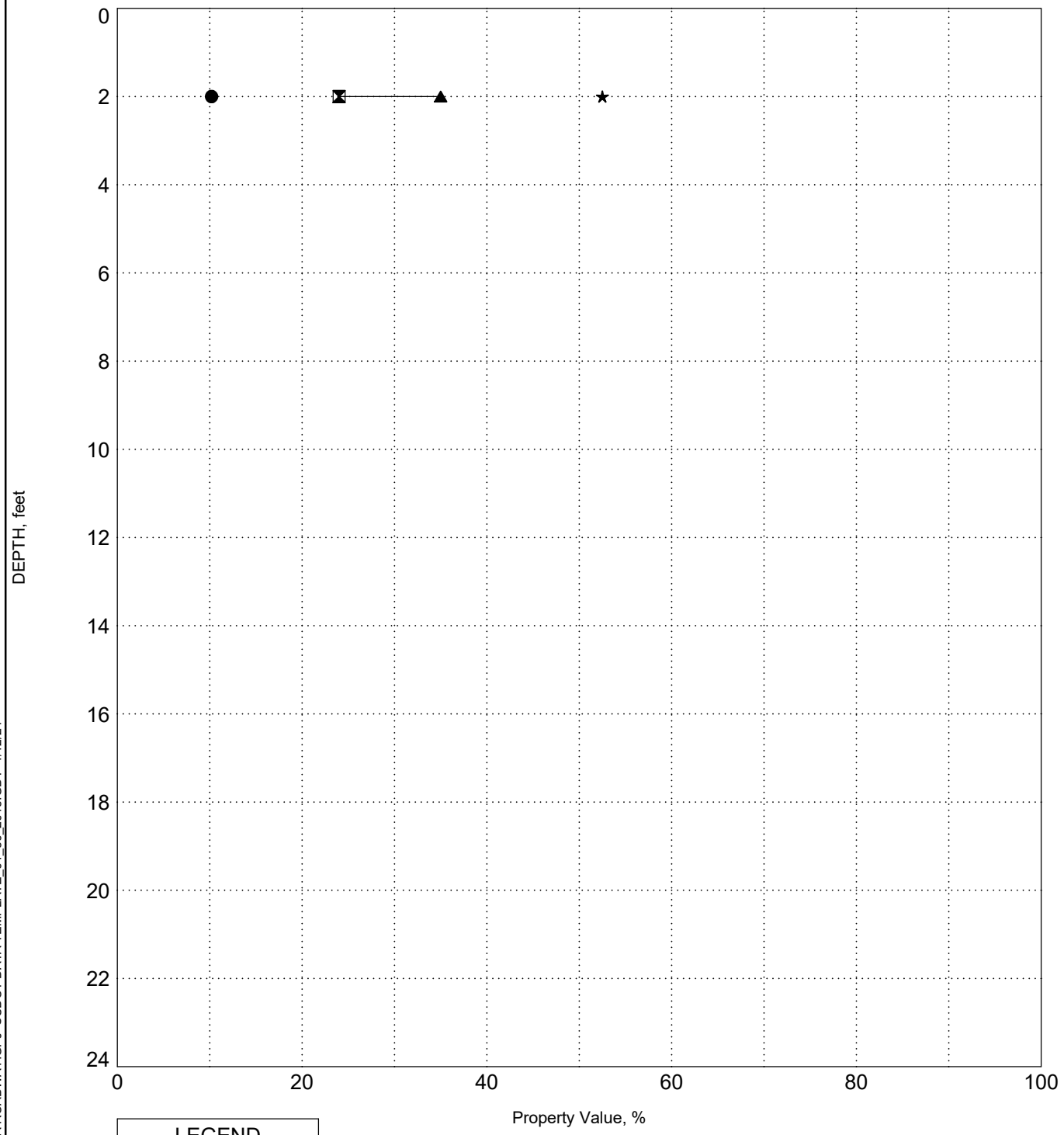
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB-22

SURFACE ELEVATION: 454.5



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

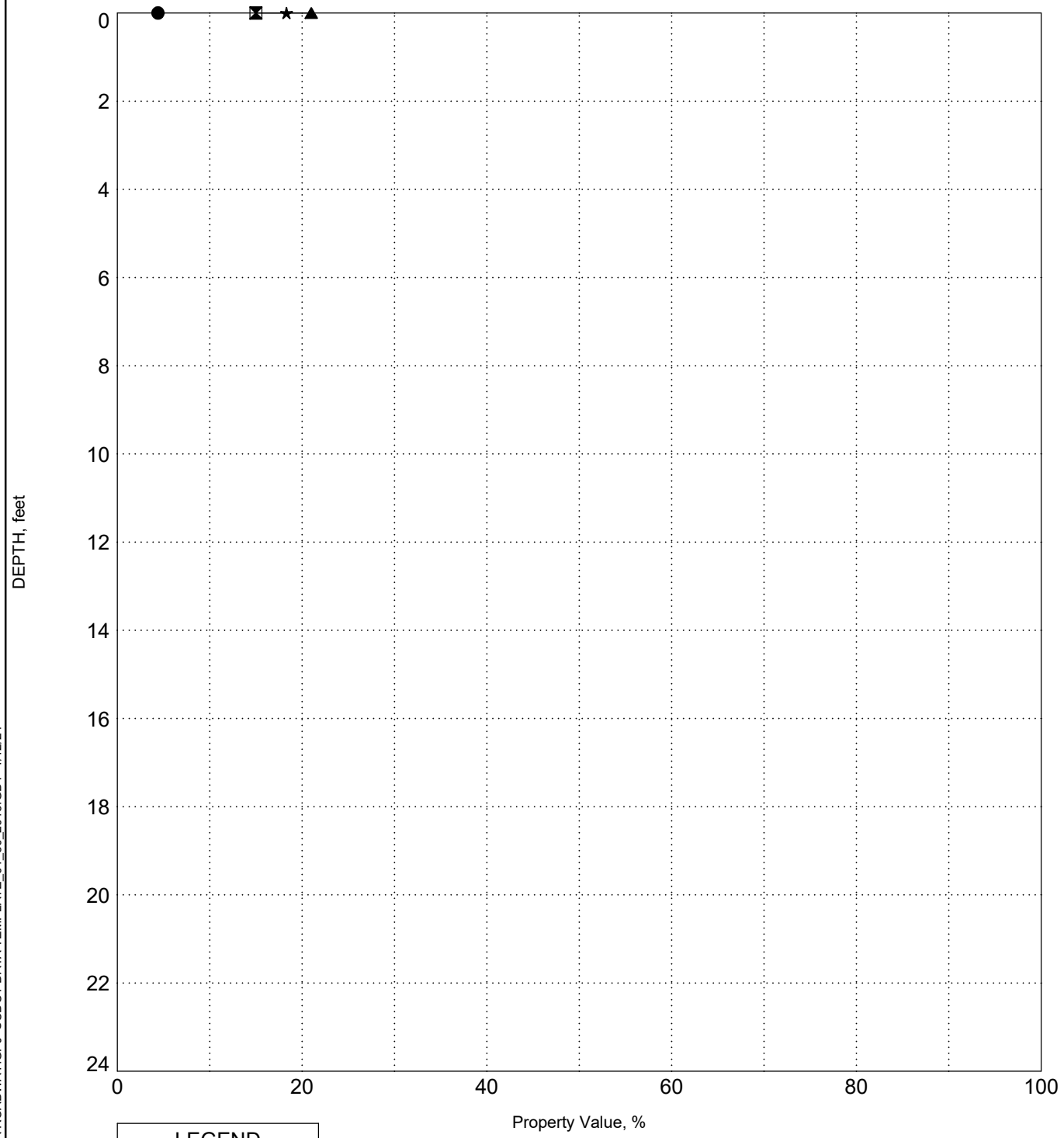
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB-23

SURFACE ELEVATION: 465.4



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

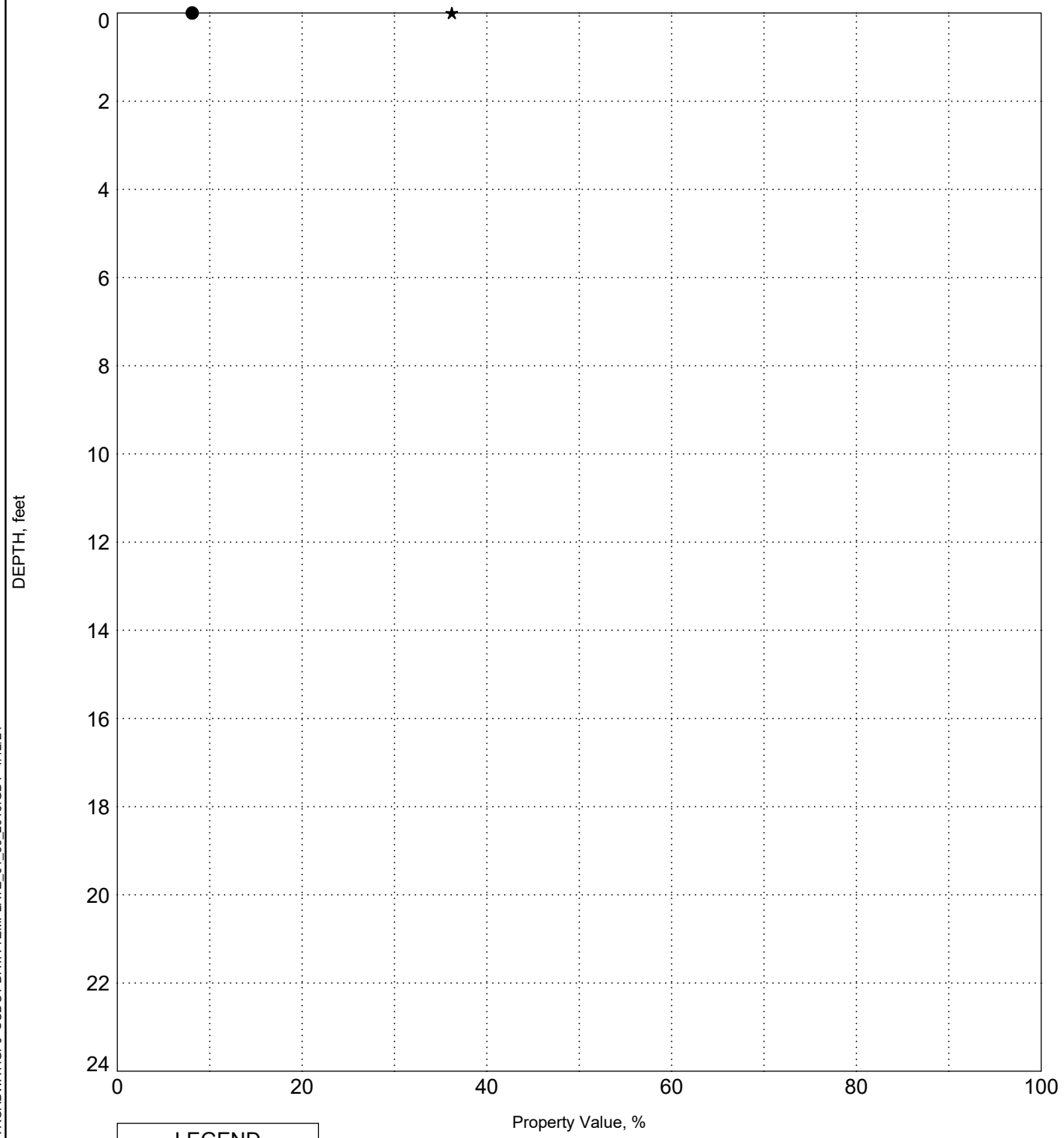
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB-24

SURFACE ELEVATION: 473.4



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

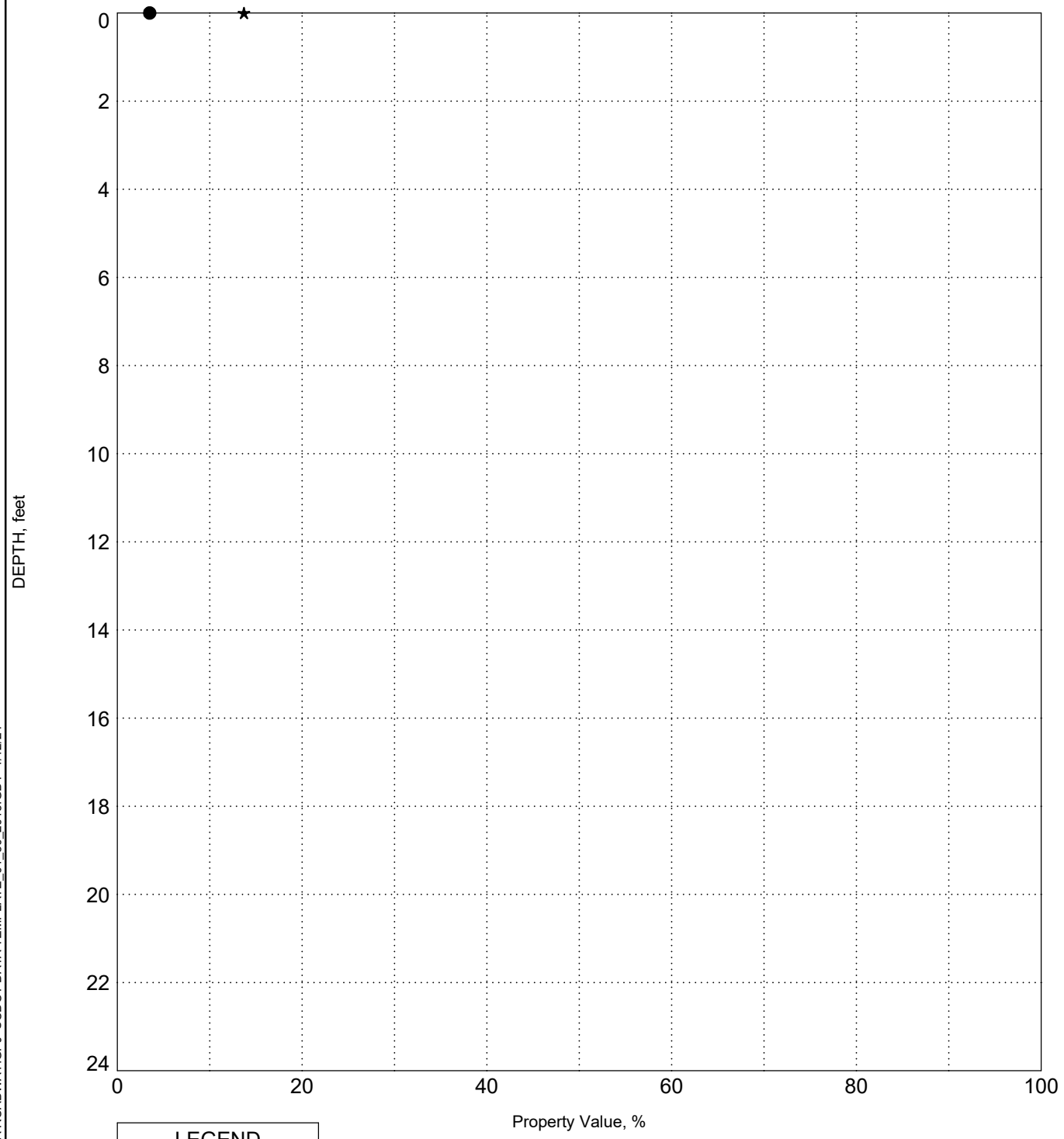
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB-25

SURFACE ELEVATION: 485.0



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

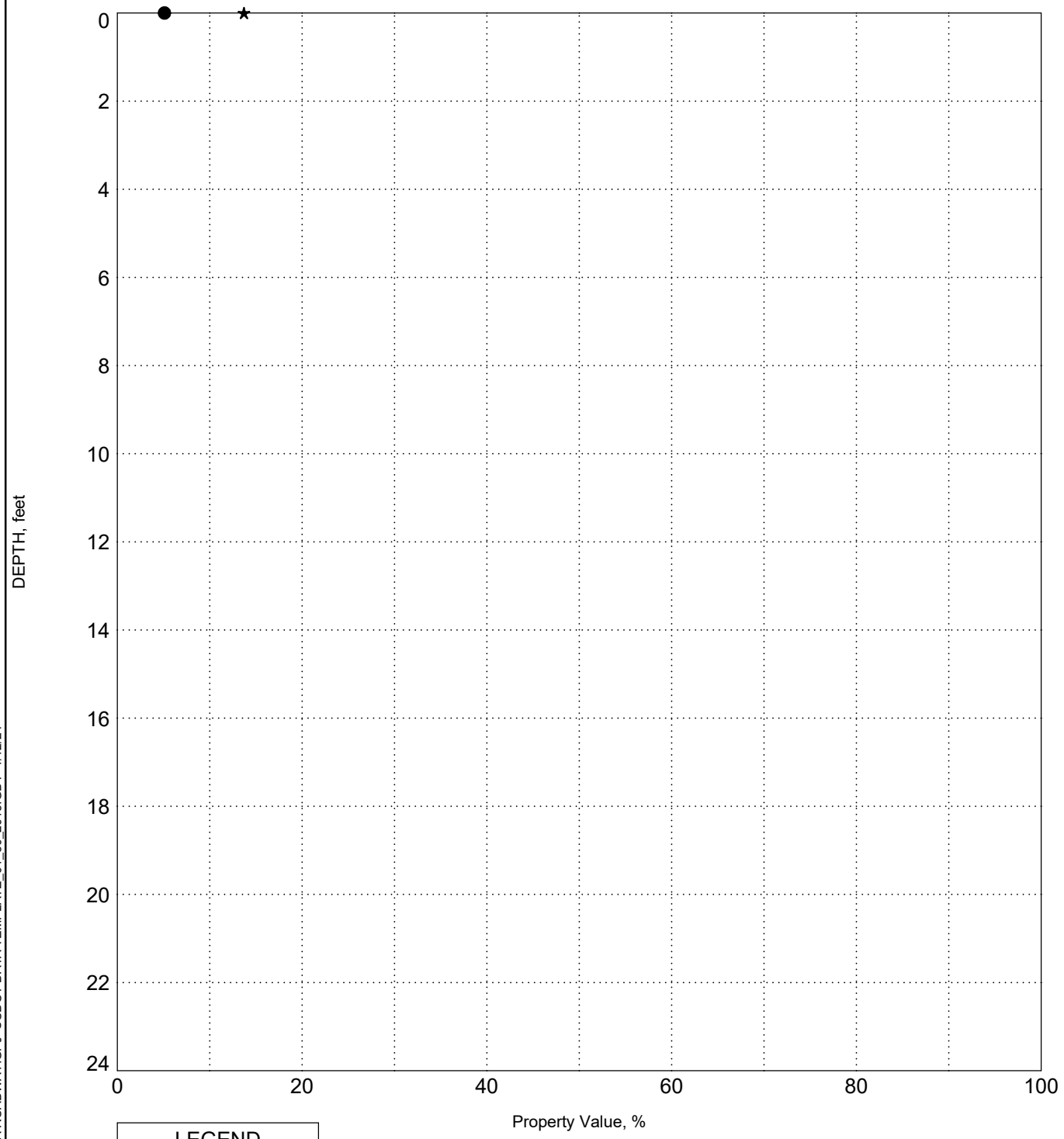
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB-26

SURFACE ELEVATION: 492.3



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

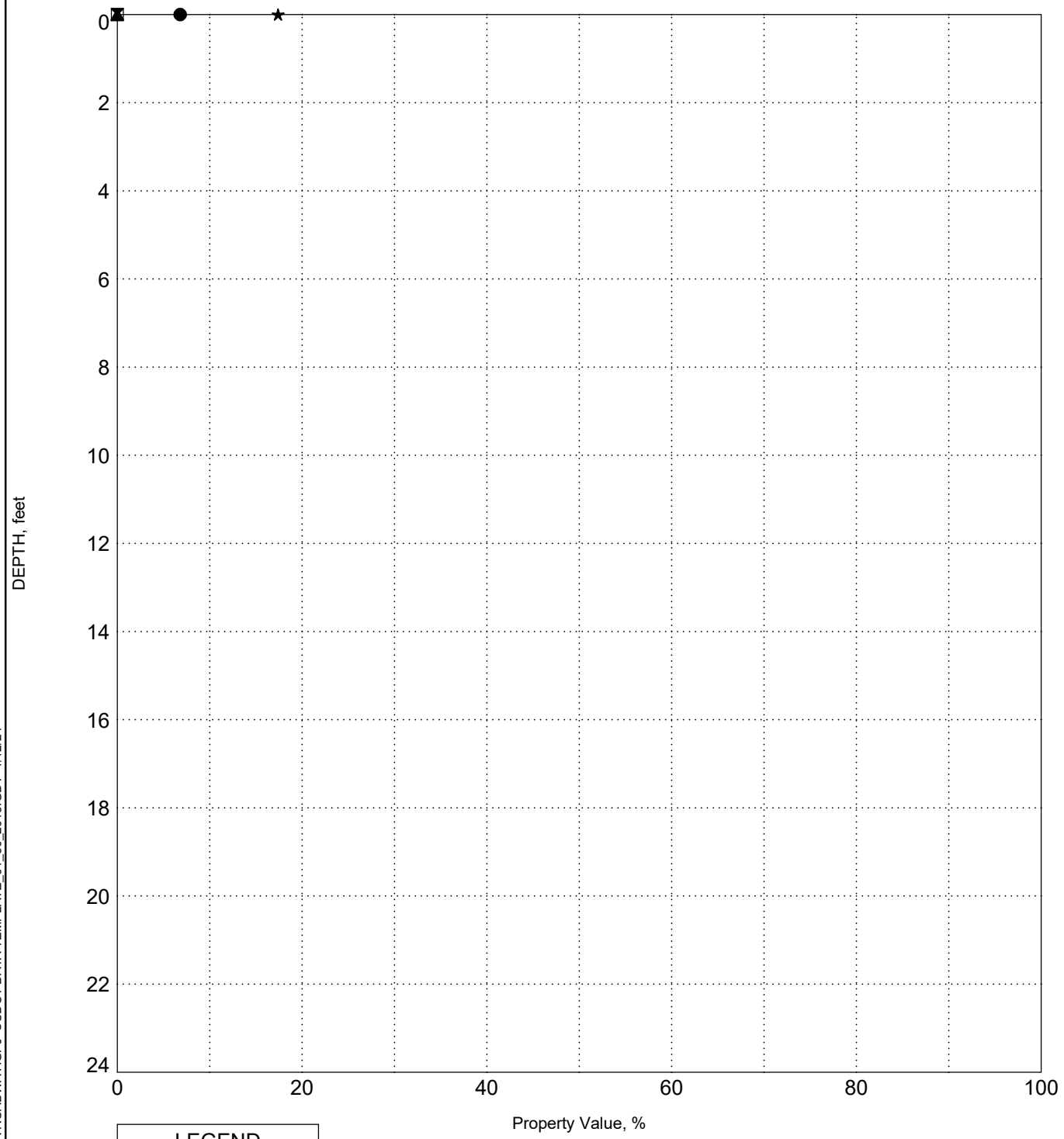
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB-27

SURFACE ELEVATION: 496.7



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

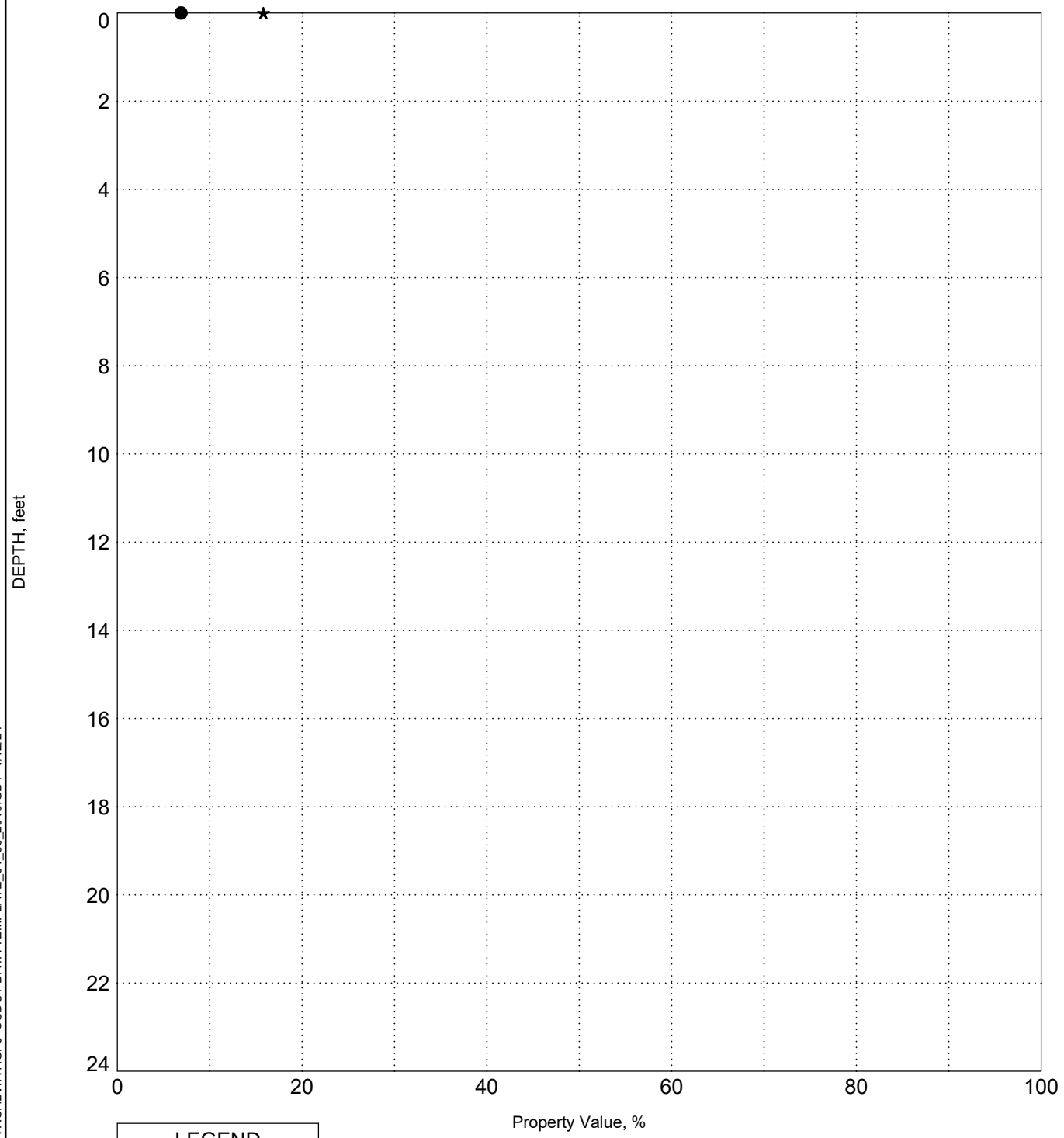
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB-28

SURFACE ELEVATION: 500.5



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

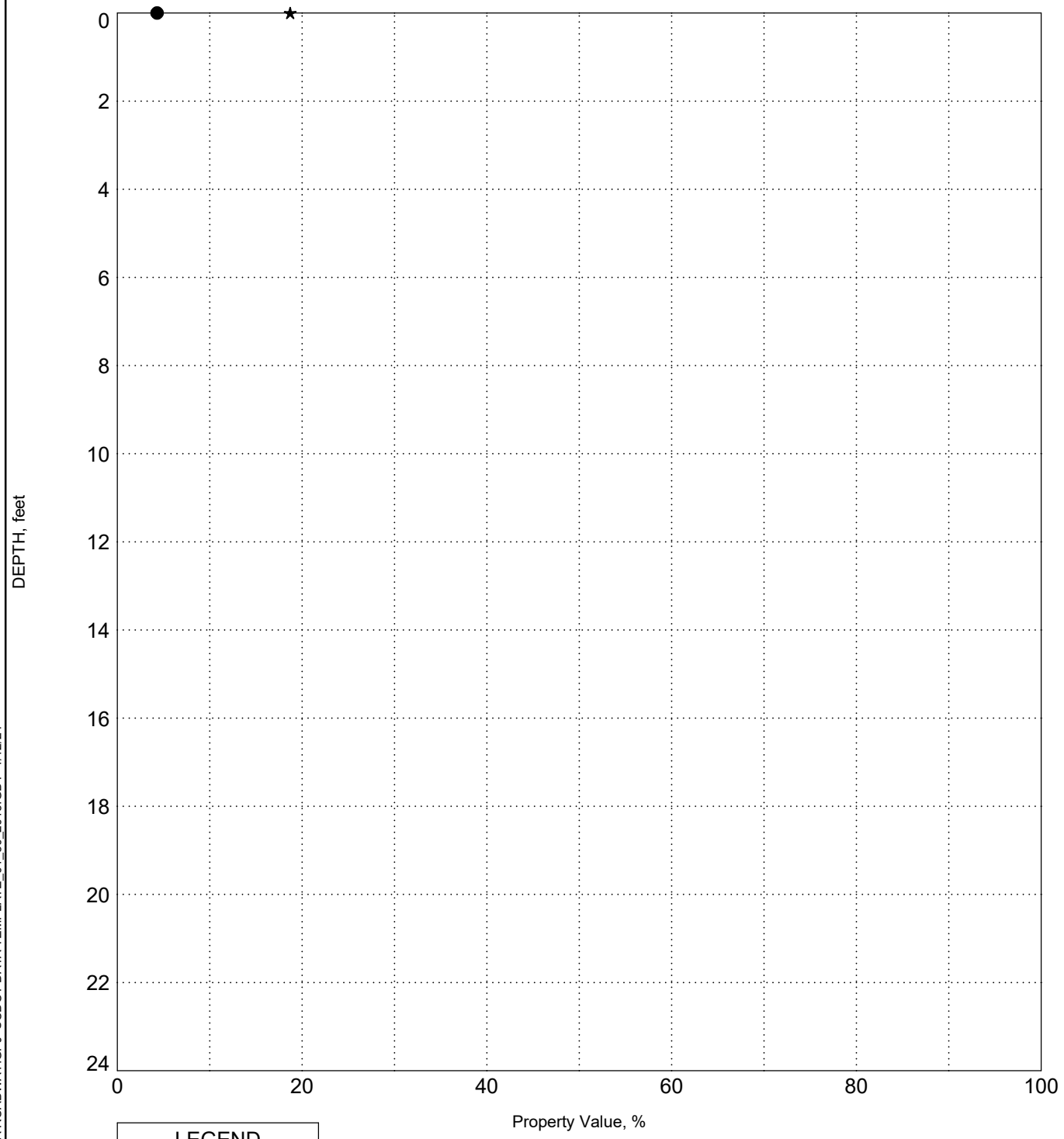
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB-29

SURFACE ELEVATION: 504.0



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

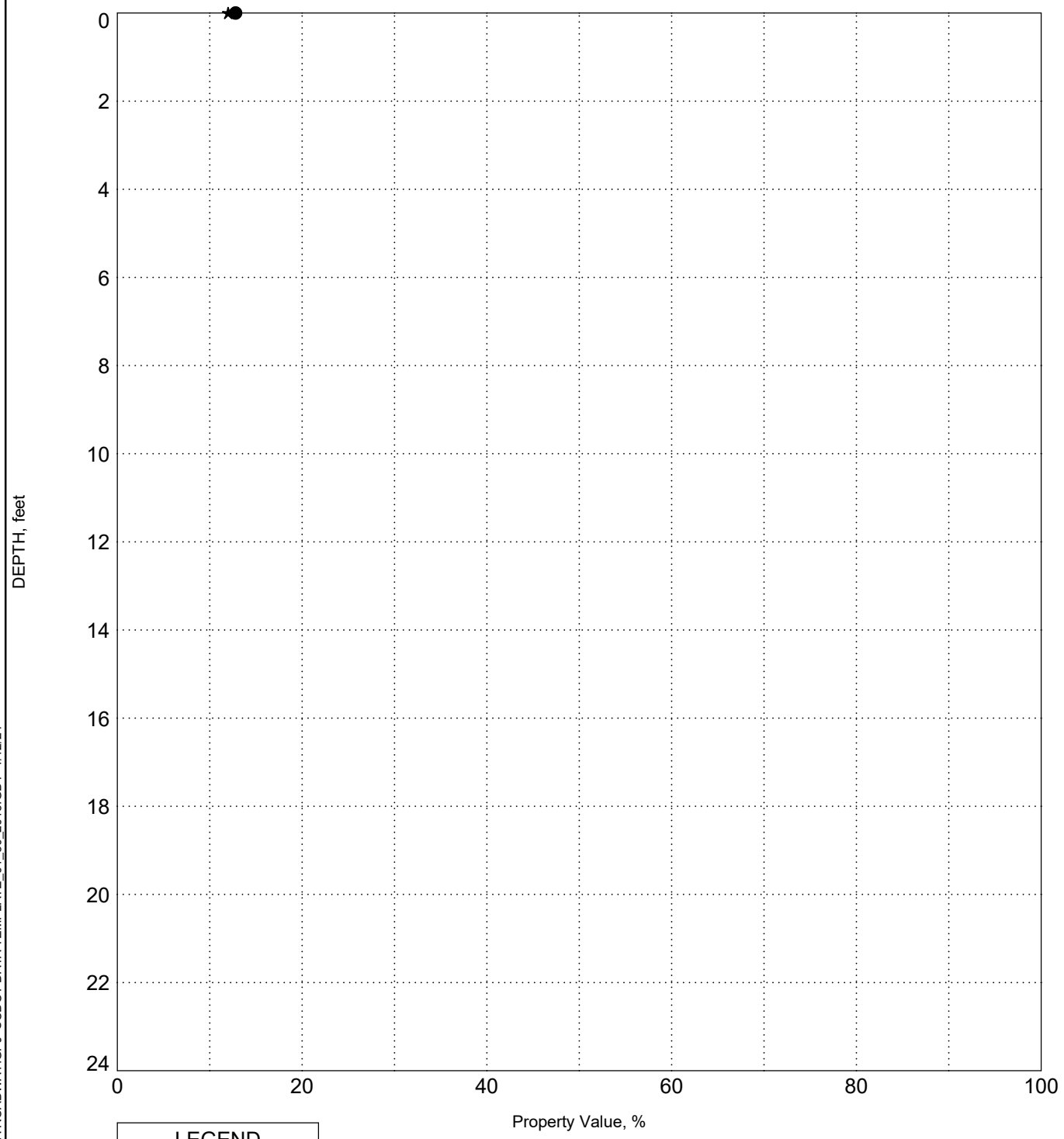
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB-30

SURFACE ELEVATION: 510.9



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

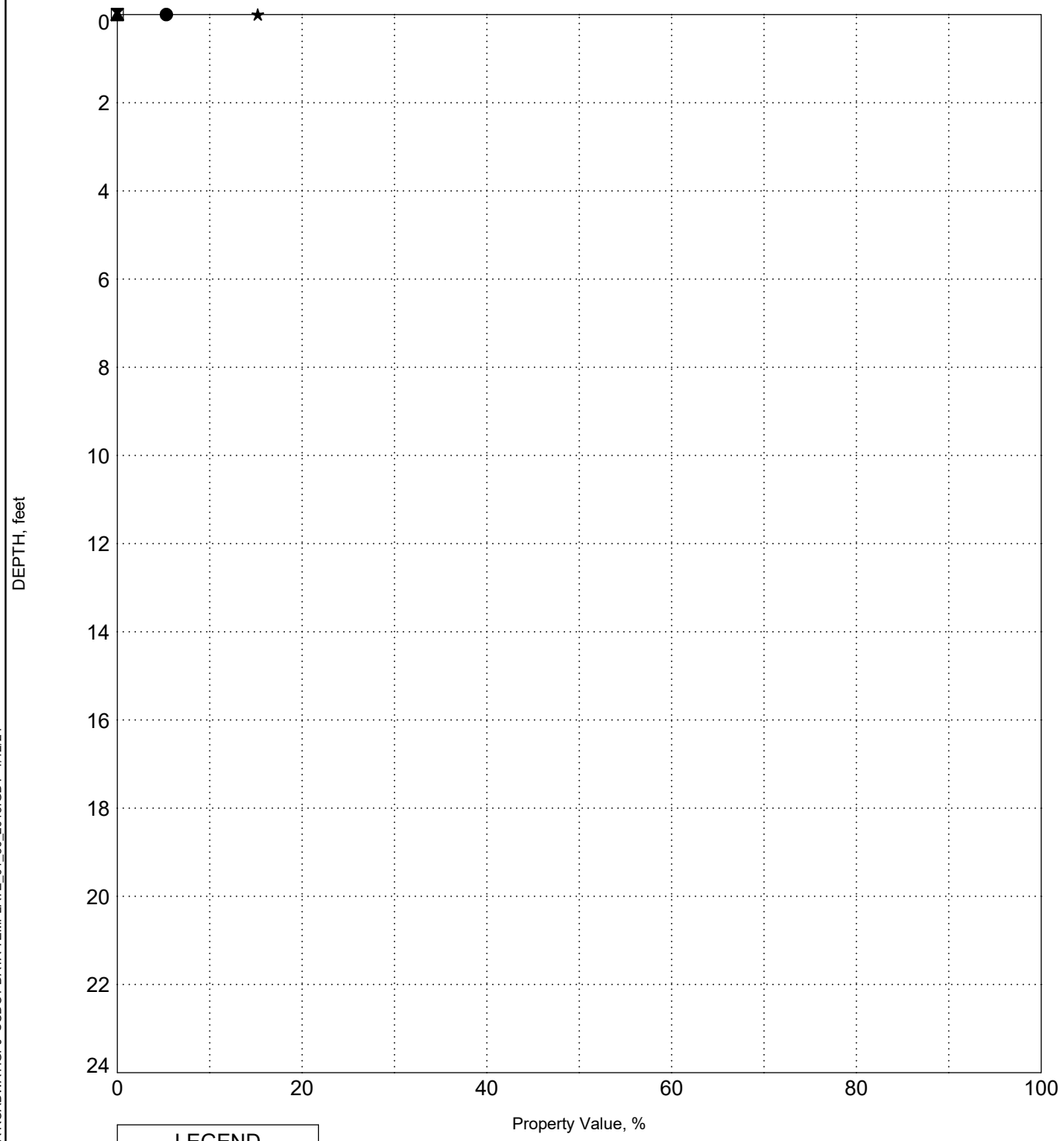
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB-31

SURFACE ELEVATION: 511.1



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

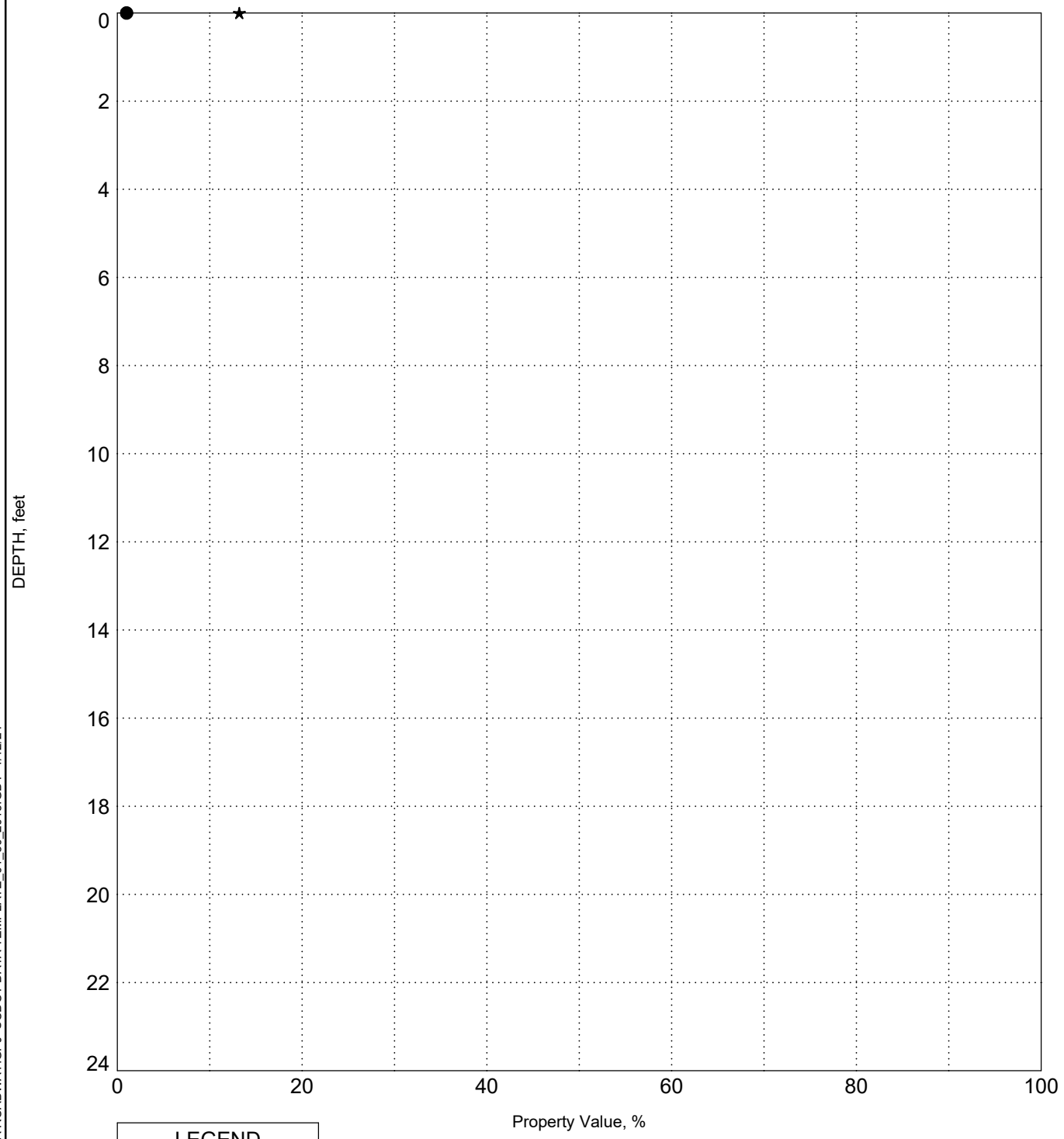
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING NB-32

SURFACE ELEVATION: 516.2



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

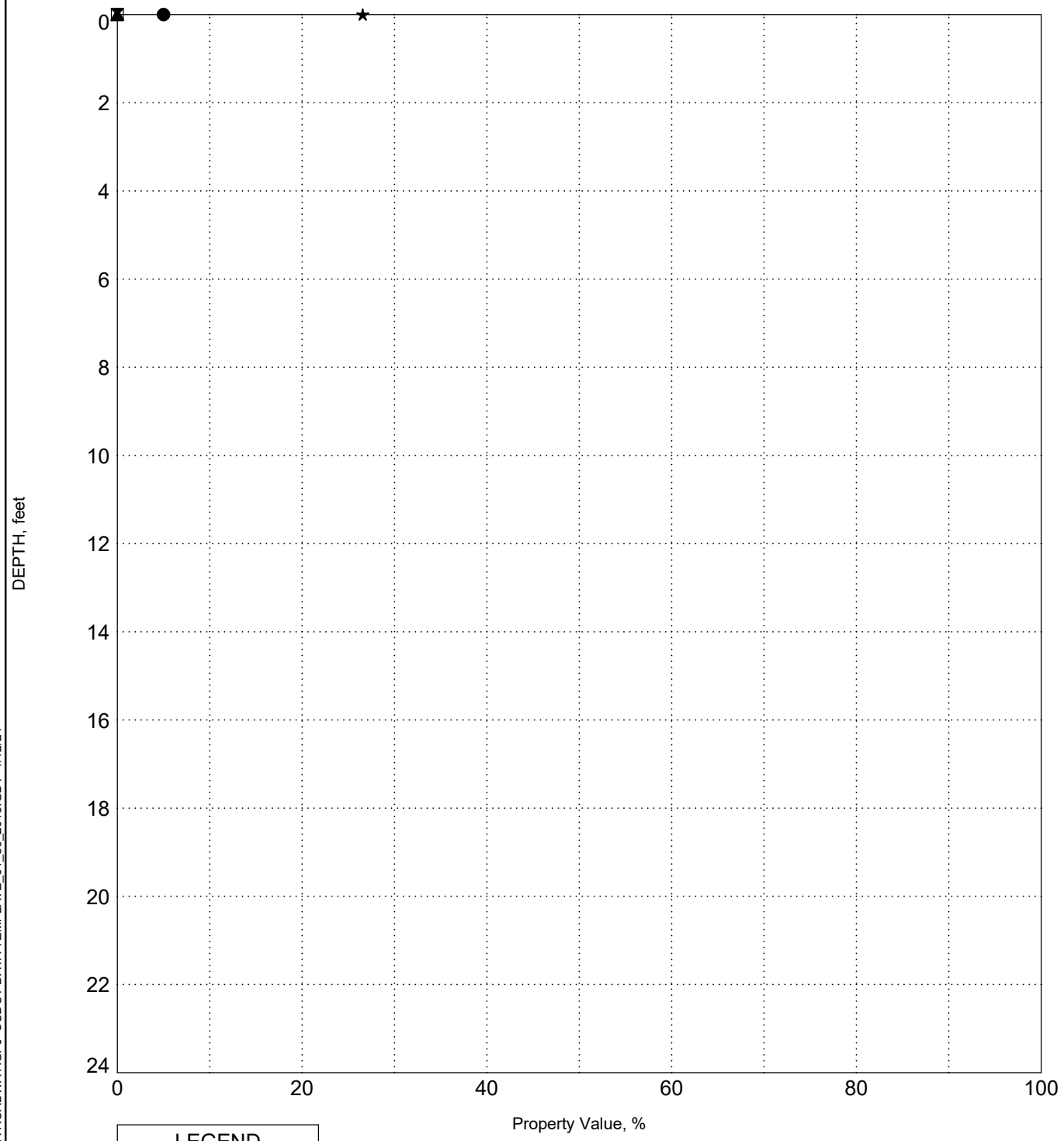
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING R- 1

SURFACE ELEVATION: 448.3



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

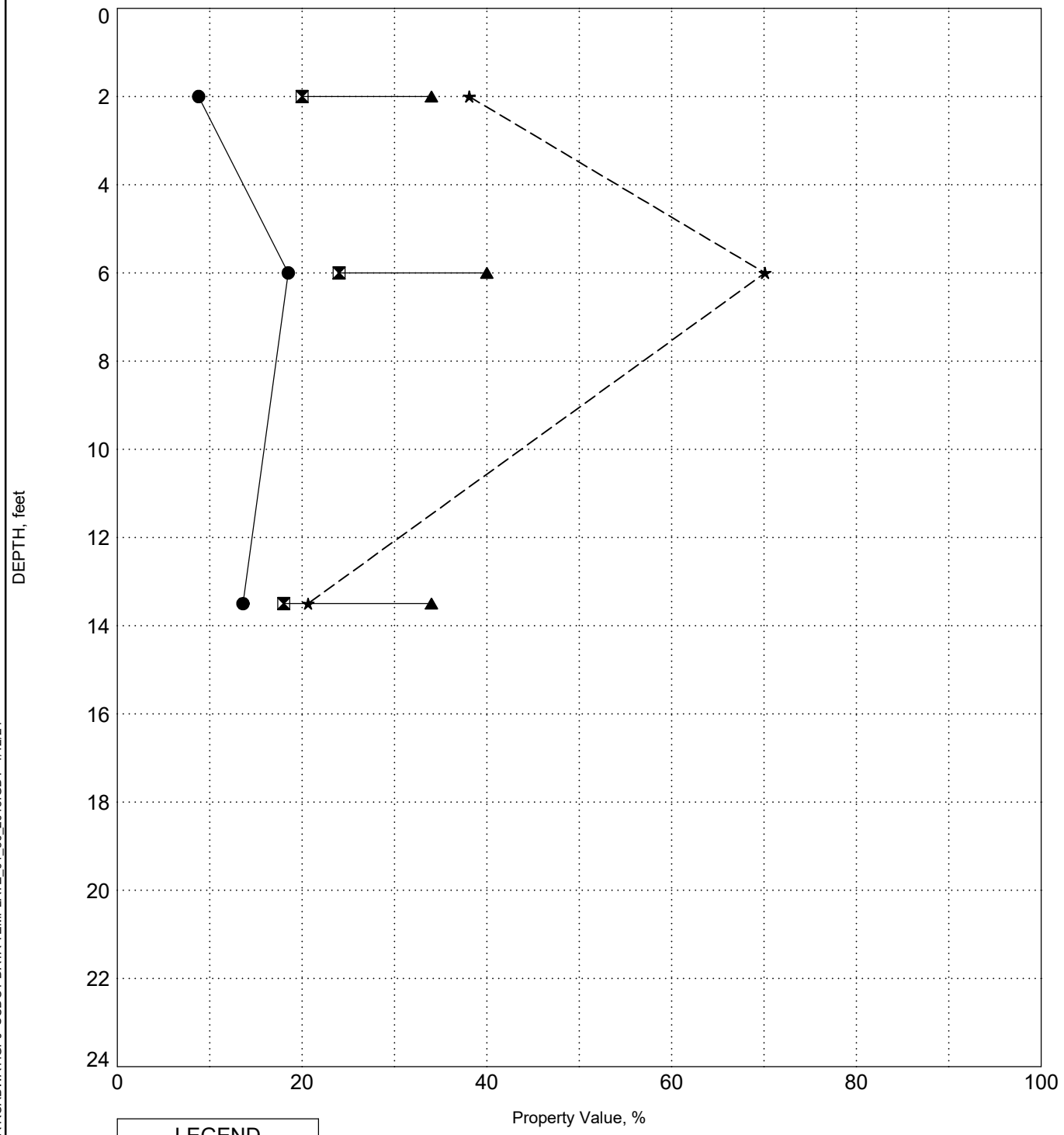
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING R- 2

SURFACE ELEVATION: 451.1



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

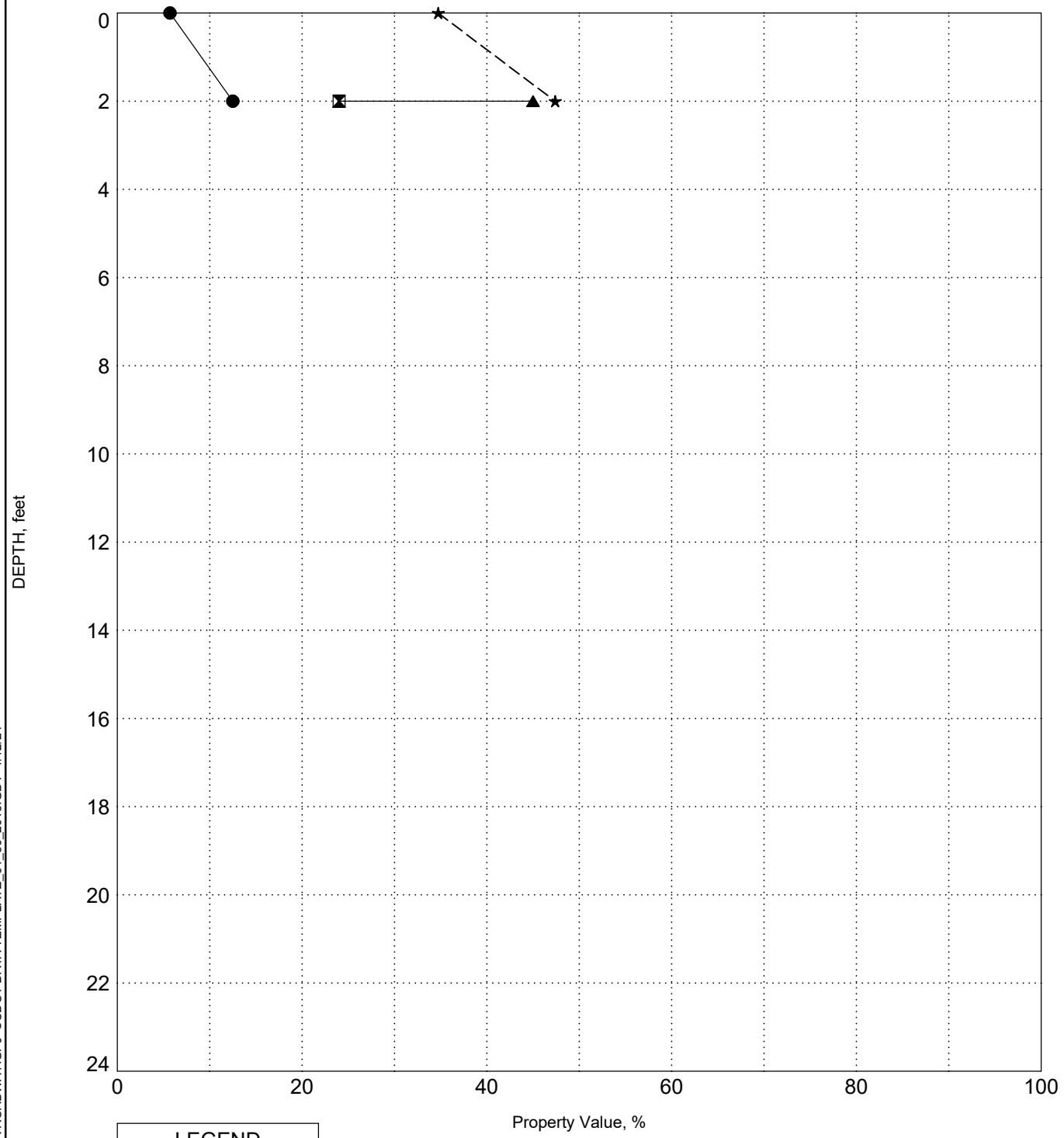
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING R- 3

SURFACE ELEVATION: 458.6



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

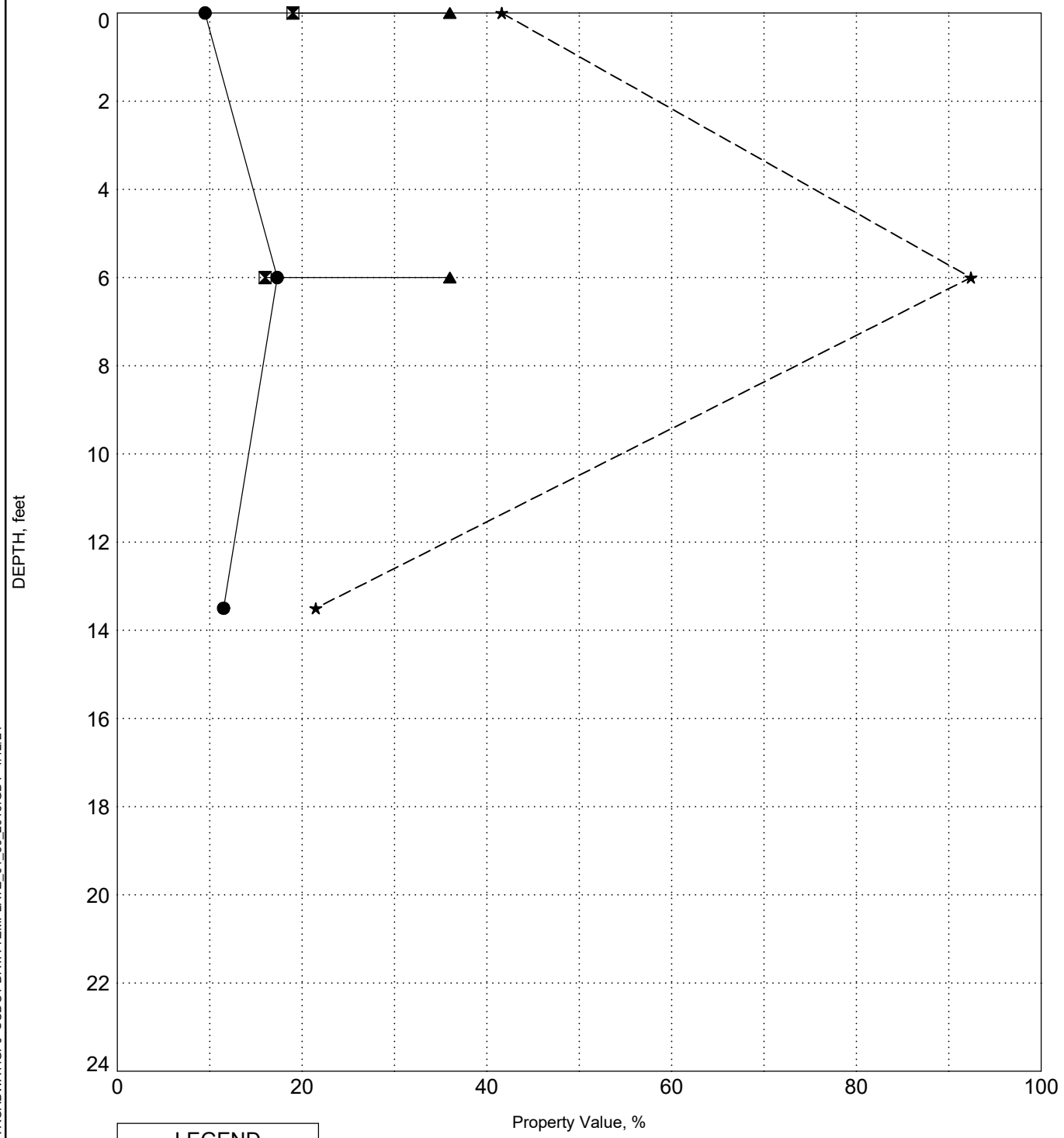
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING R- 4

SURFACE ELEVATION: 465.3



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

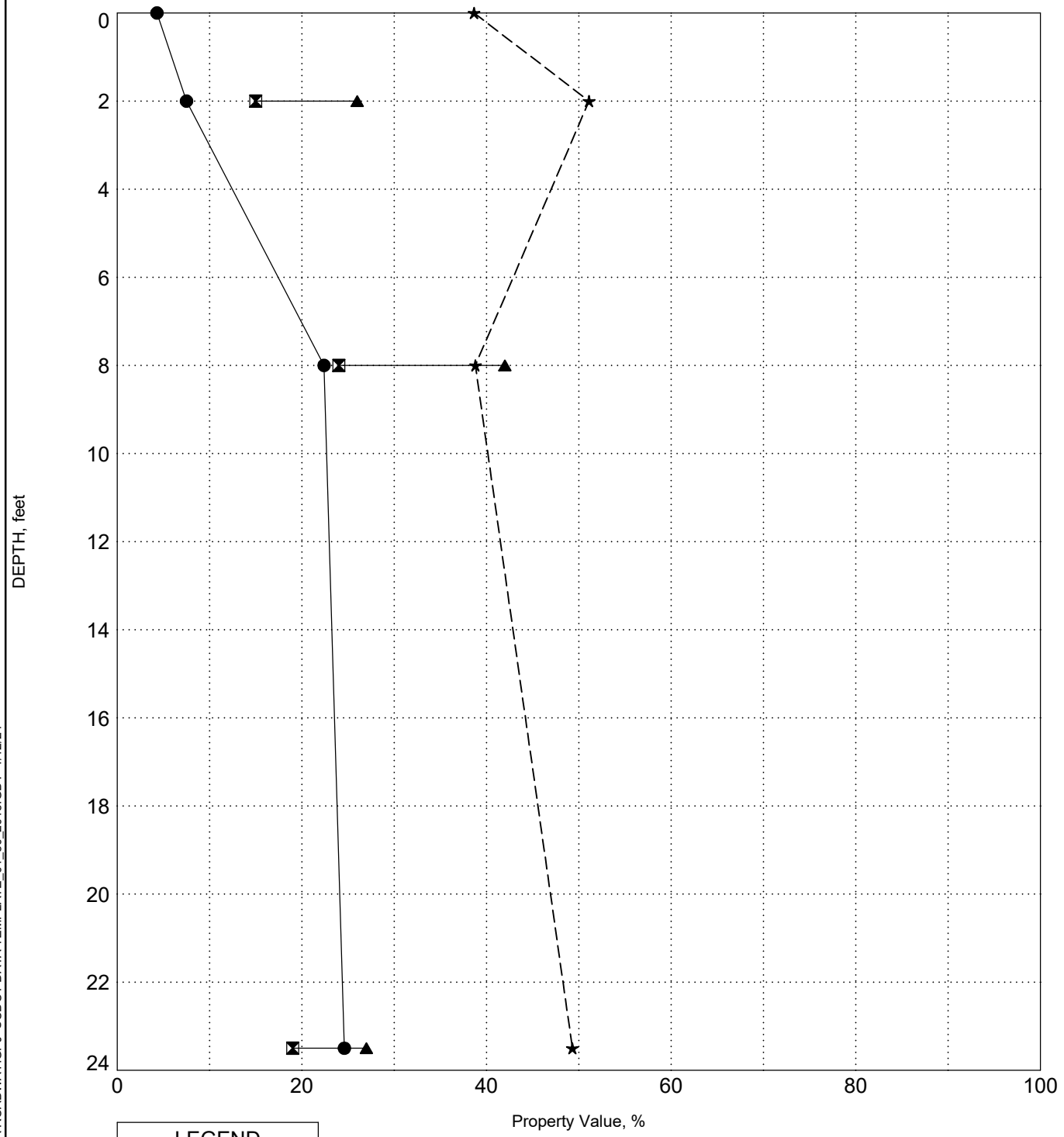
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING R- 5

SURFACE ELEVATION: 456.3



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

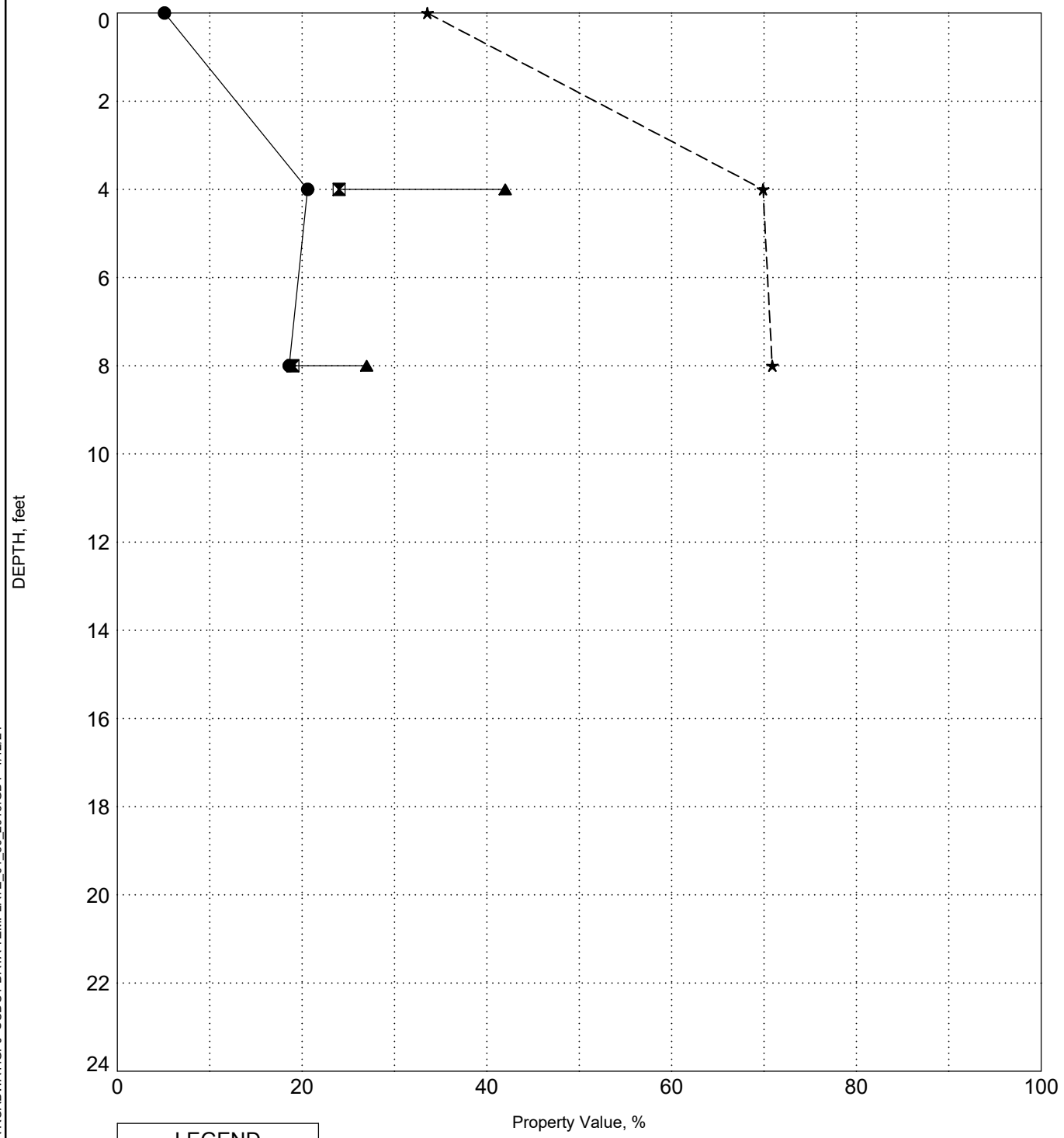
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING R- 6

SURFACE ELEVATION: 463.2



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

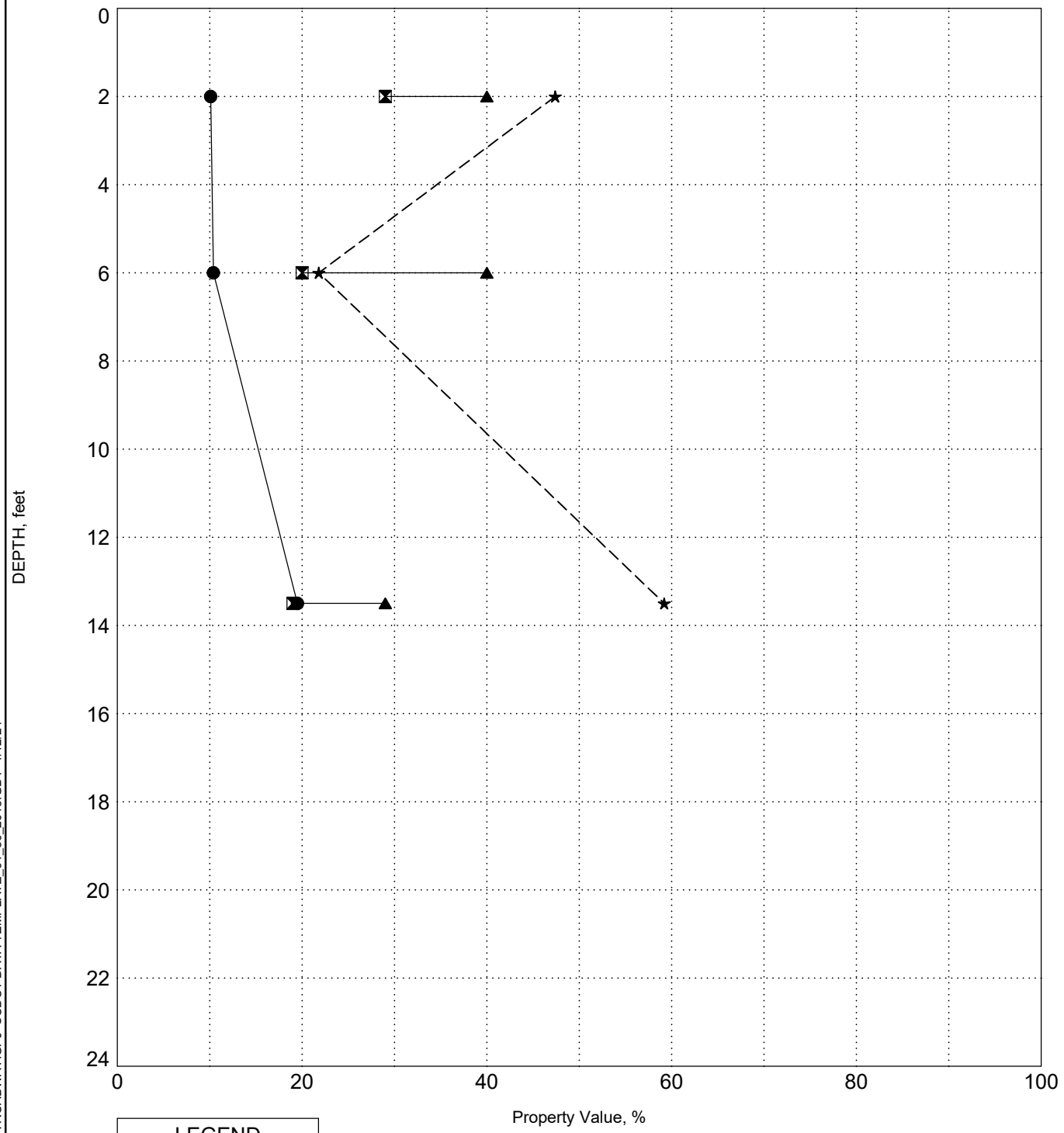
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING R- 7

SURFACE ELEVATION: 453.5



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

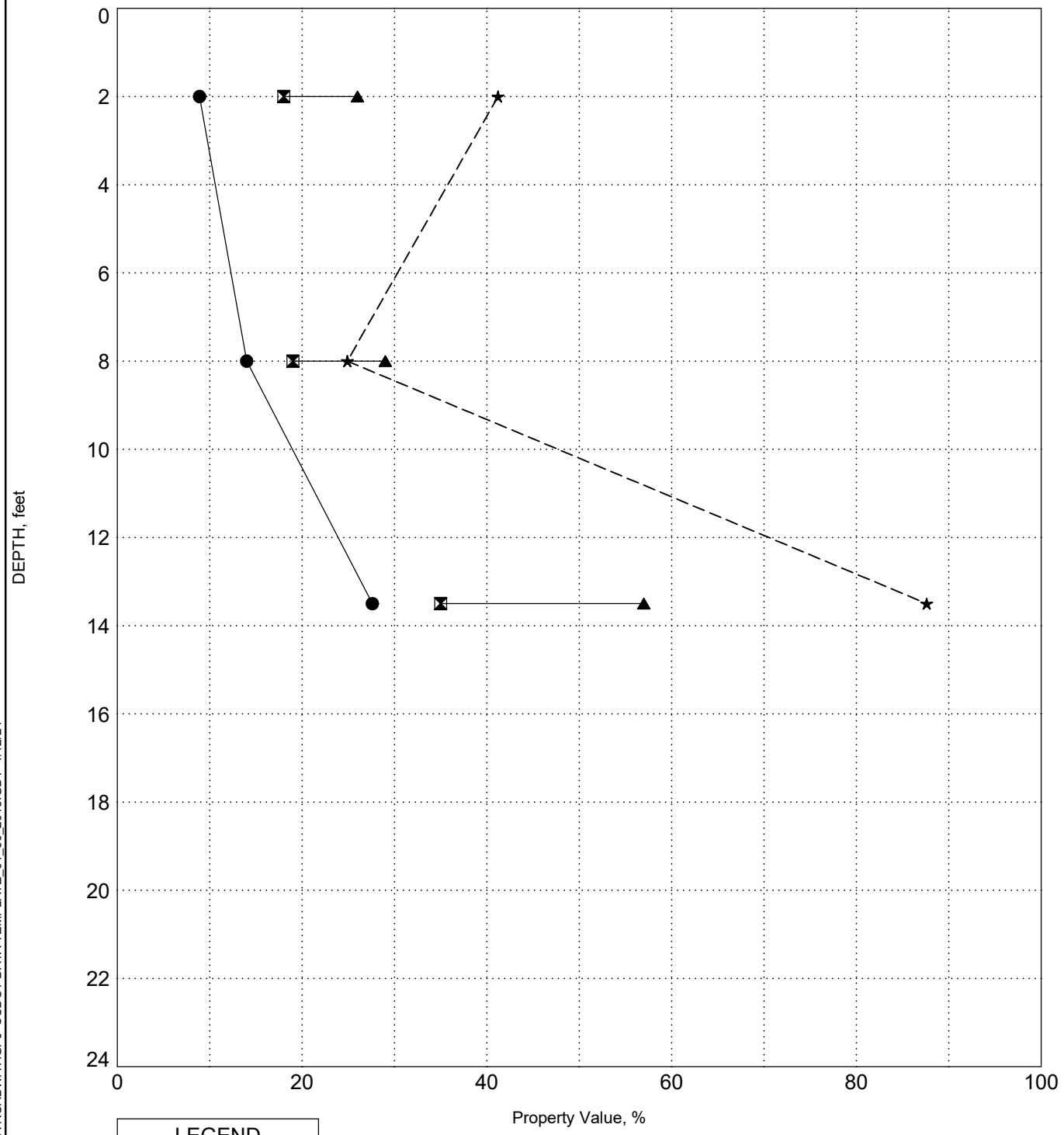
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING R- 8

SURFACE ELEVATION: 459.8



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

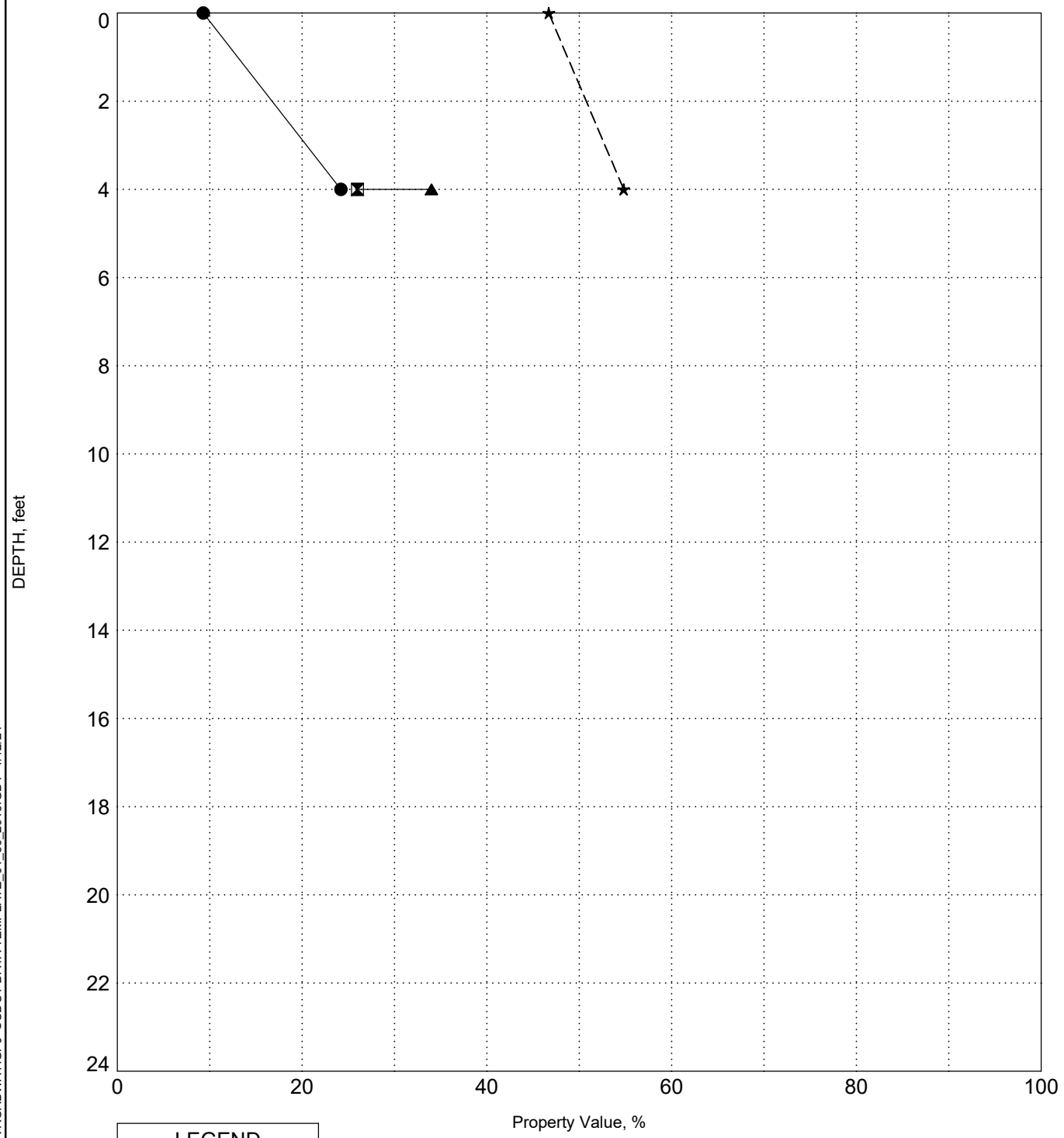
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING R- 9

SURFACE ELEVATION: 440.1



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

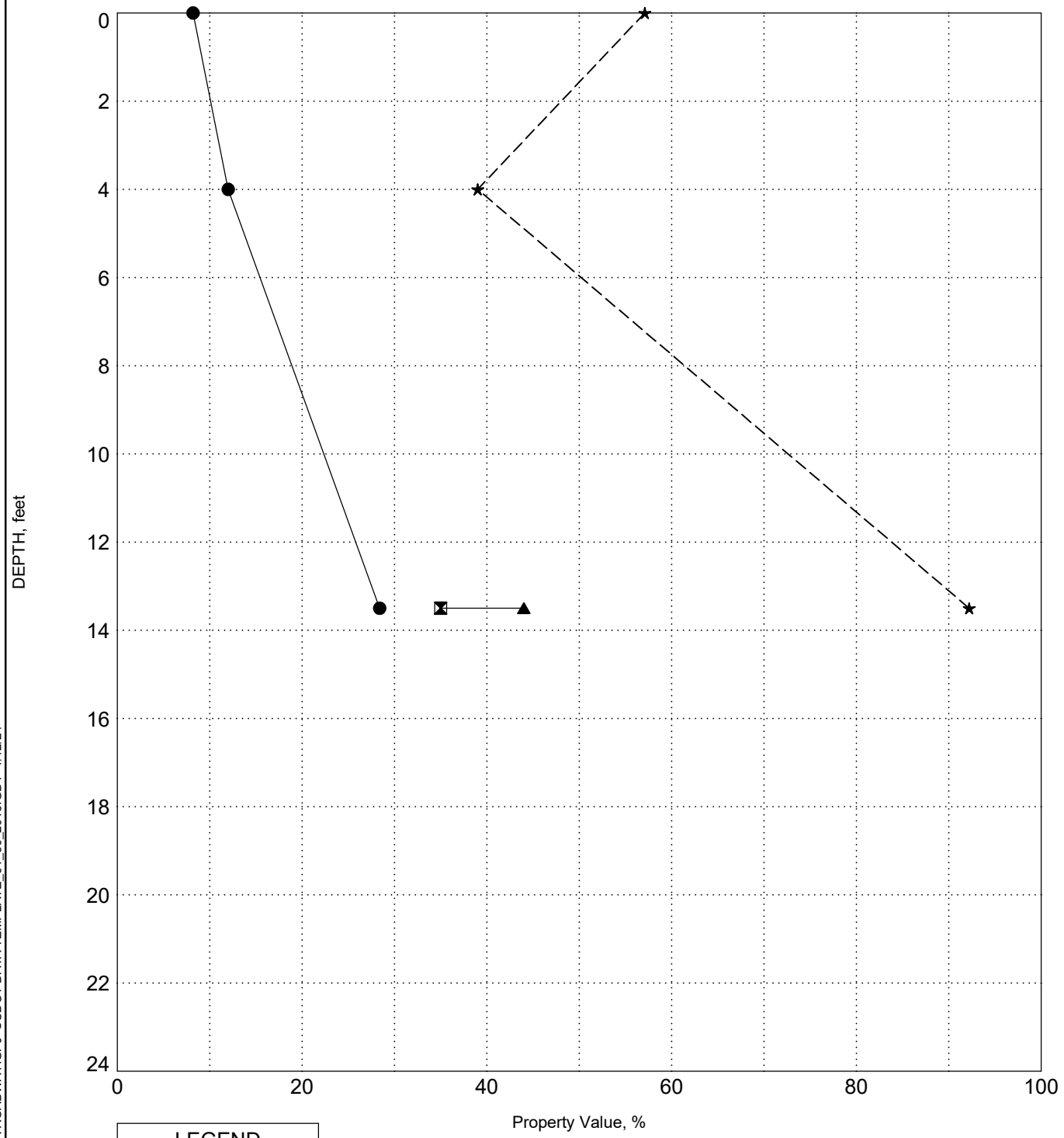
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING R-10

SURFACE ELEVATION: 447.5



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

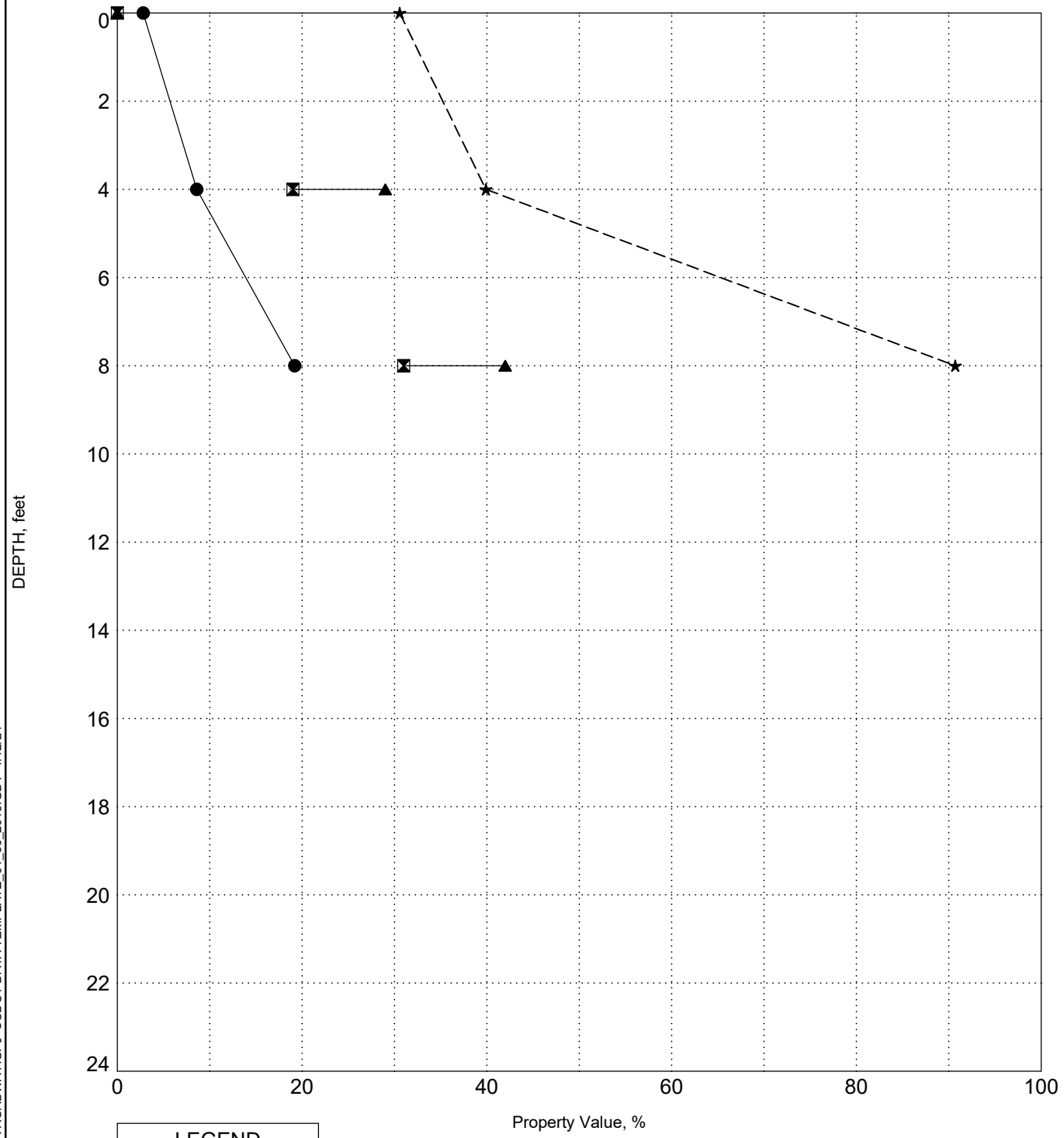
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING R-11

SURFACE ELEVATION: 455.6



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

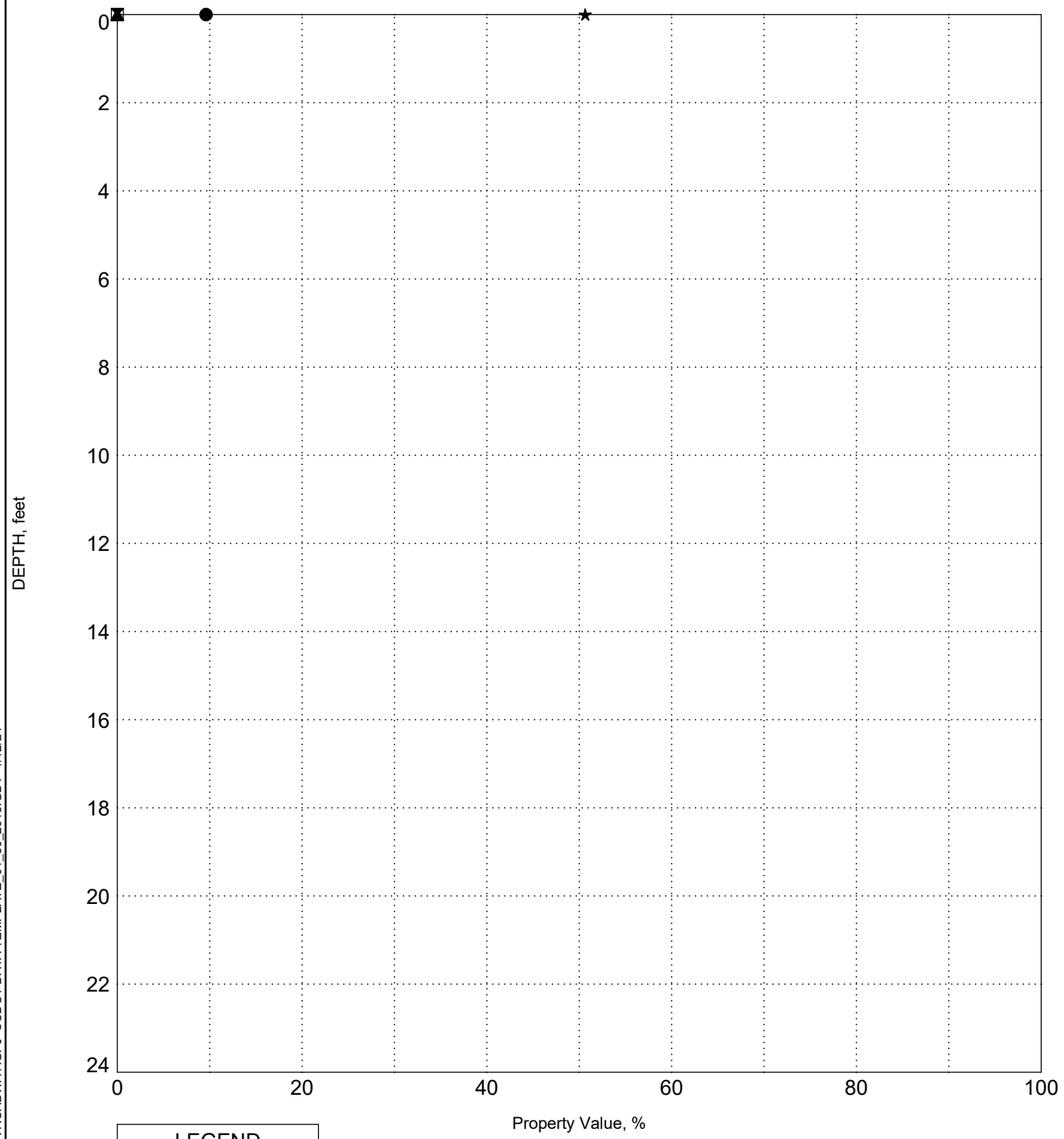
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING R-12

SURFACE ELEVATION: 431.9



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

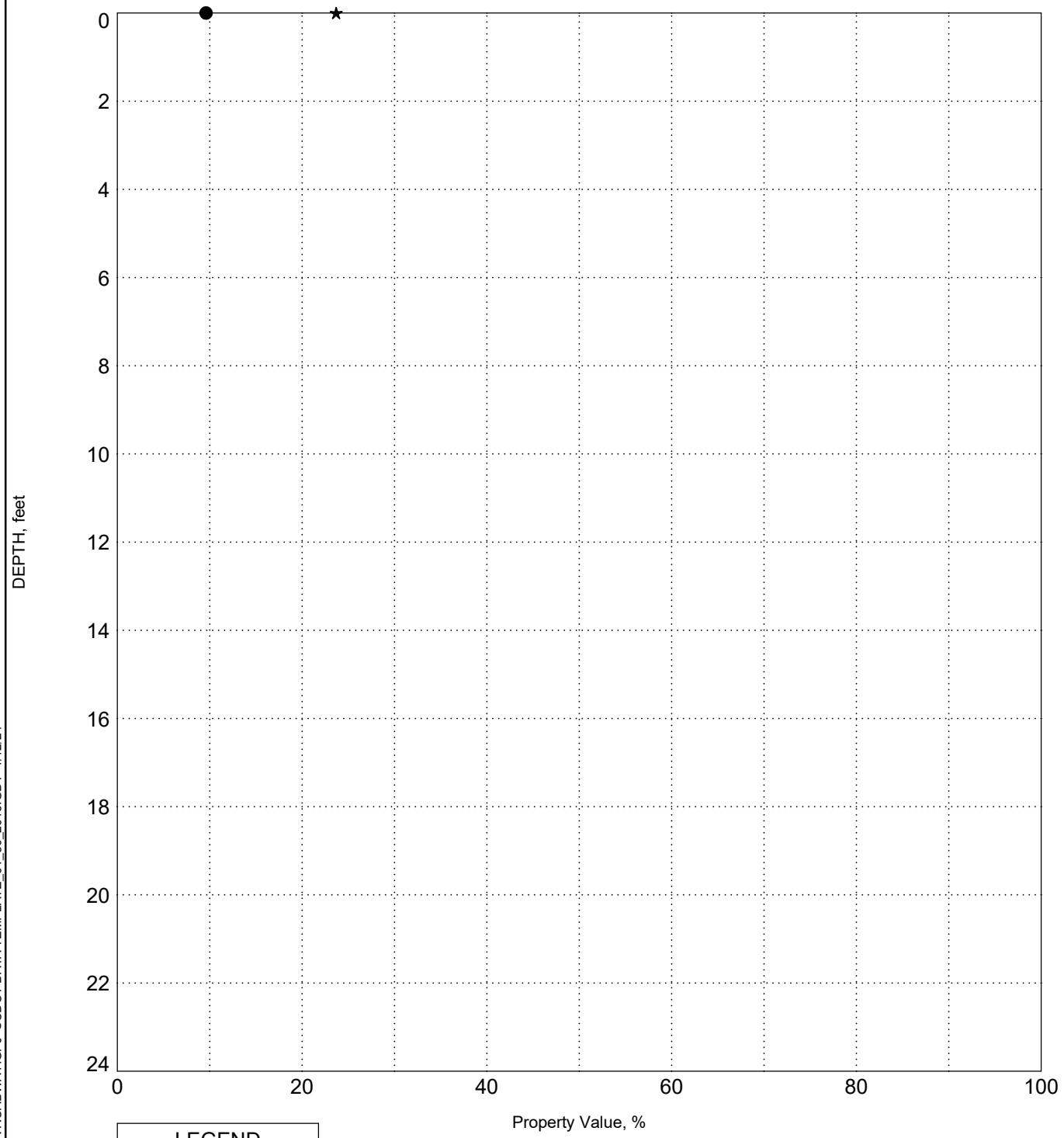
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING SB-12

SURFACE ELEVATION: 445.0



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

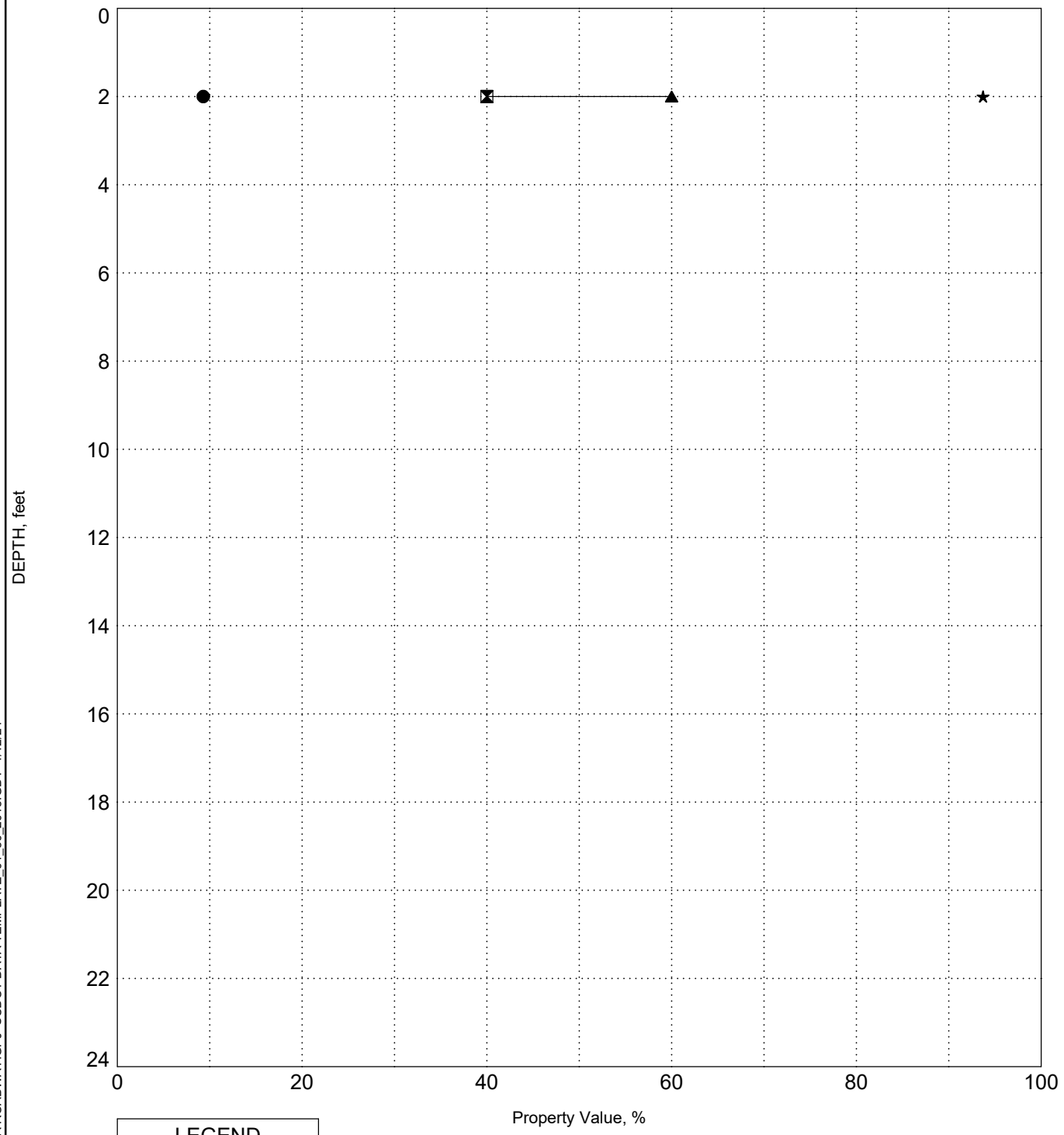
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING SB-13

SURFACE ELEVATION: 440.9



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

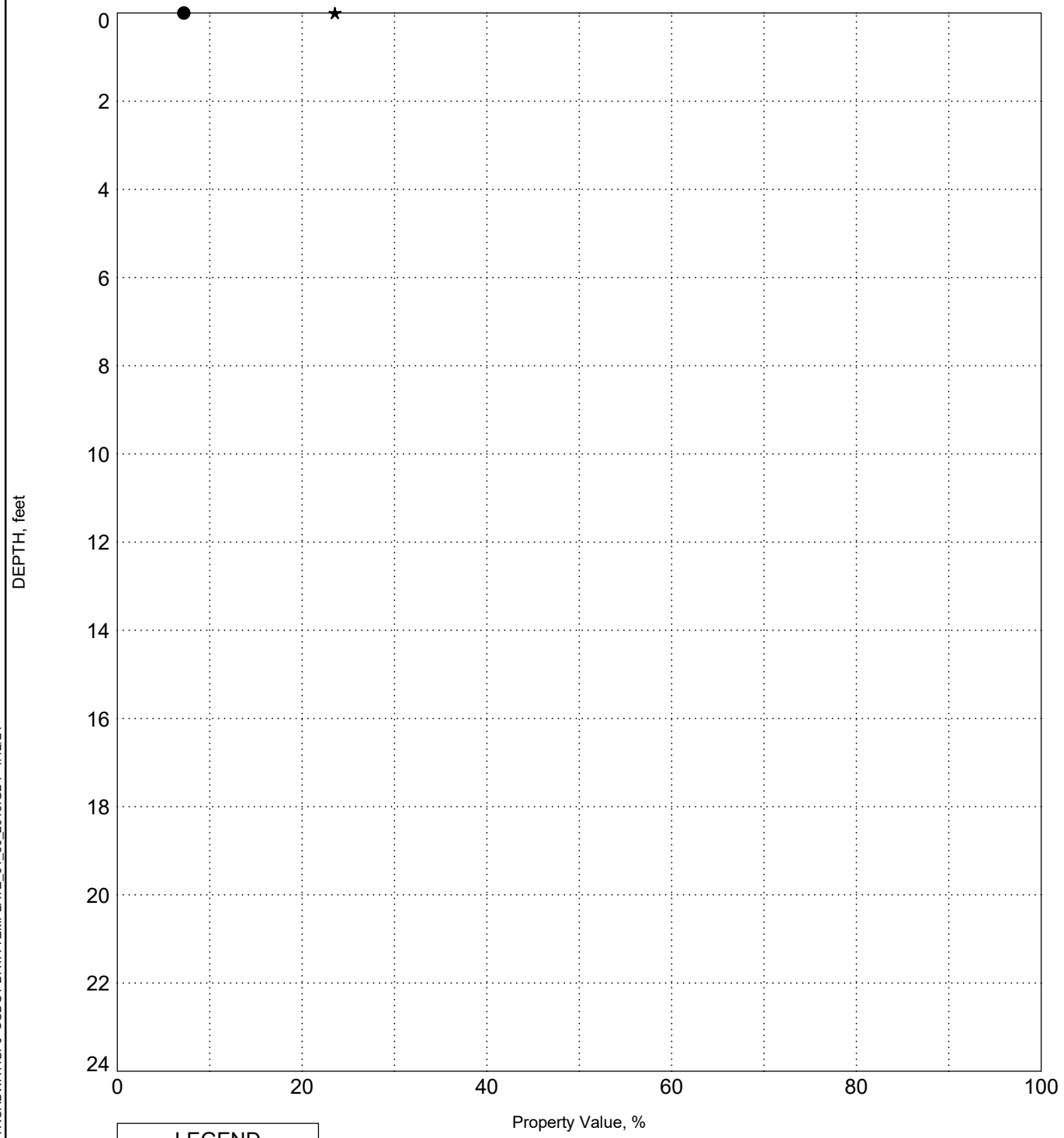
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING SB-14

SURFACE ELEVATION: 447.1



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

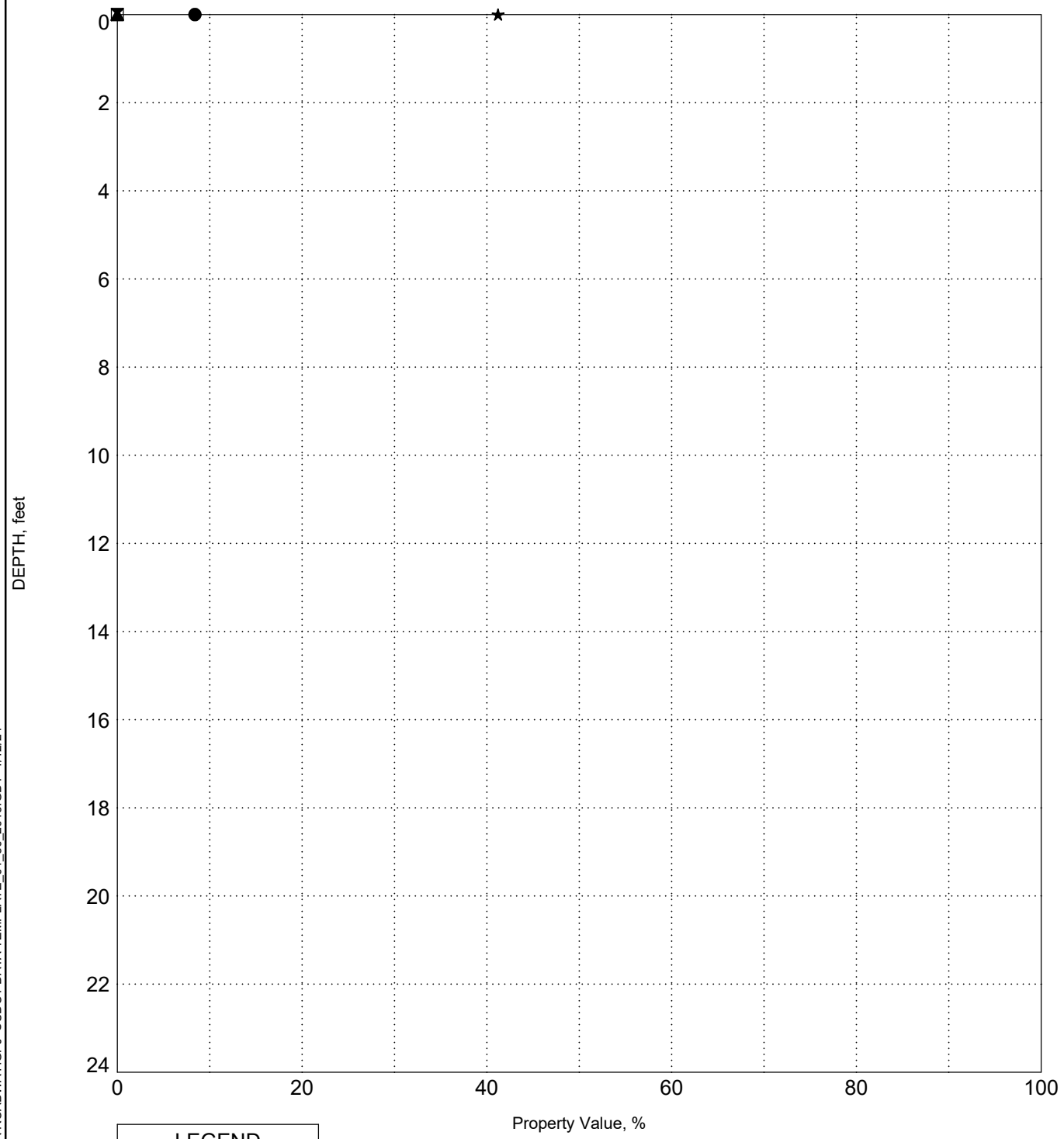
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING SB-15

SURFACE ELEVATION: 449.9



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

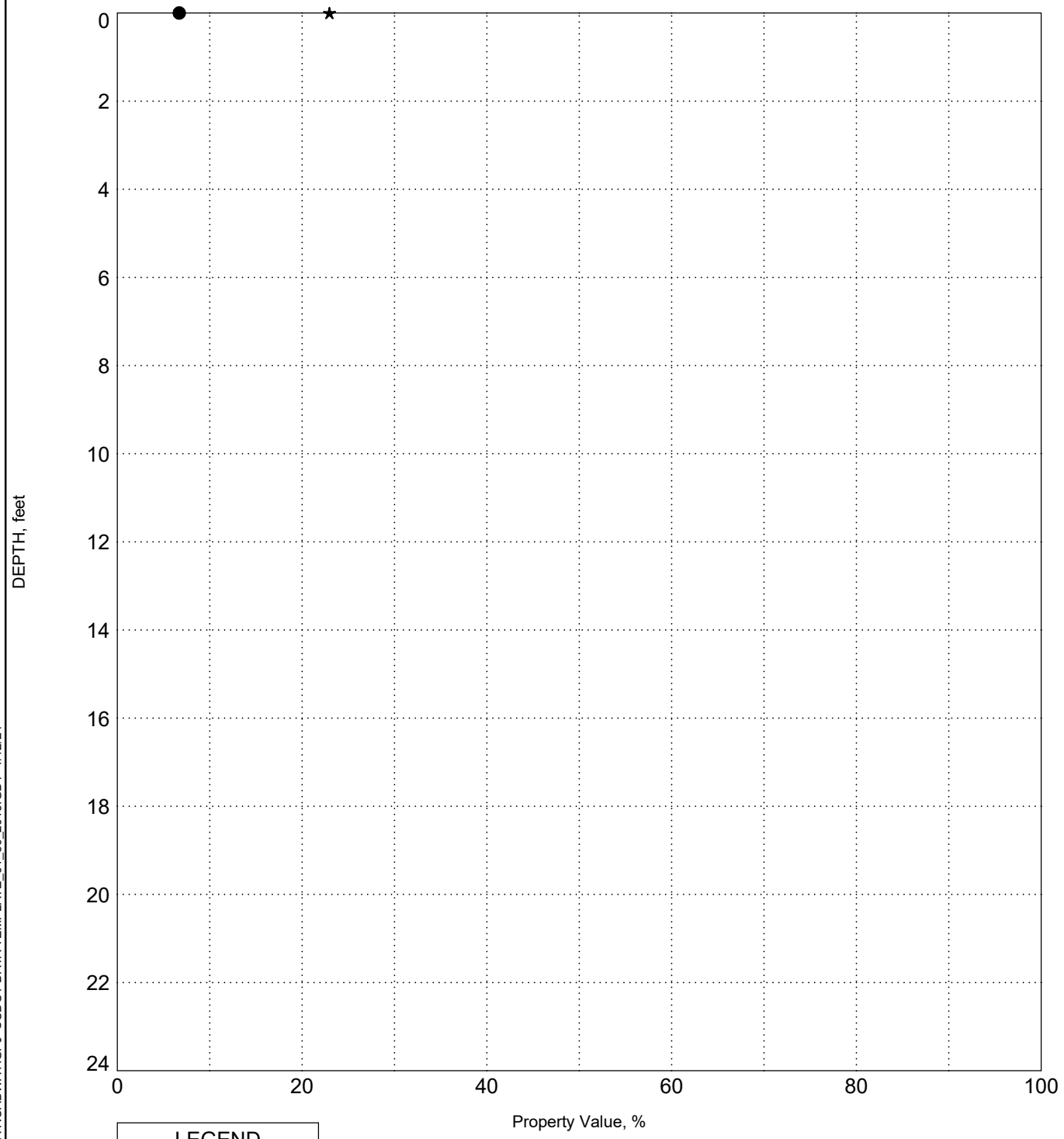
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING SB-16

SURFACE ELEVATION: 456.0



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

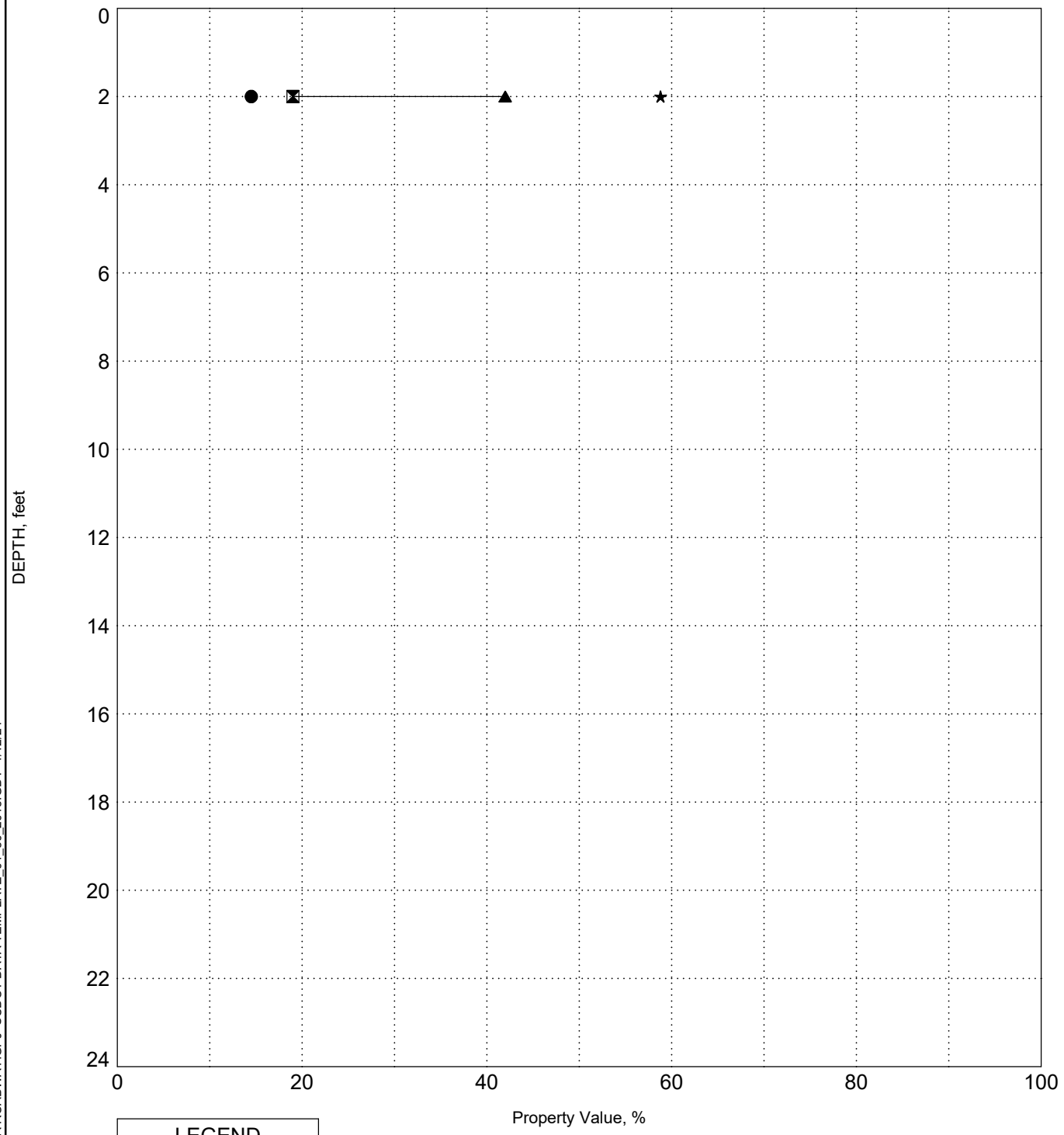
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING SB-17

SURFACE ELEVATION: 458.1



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

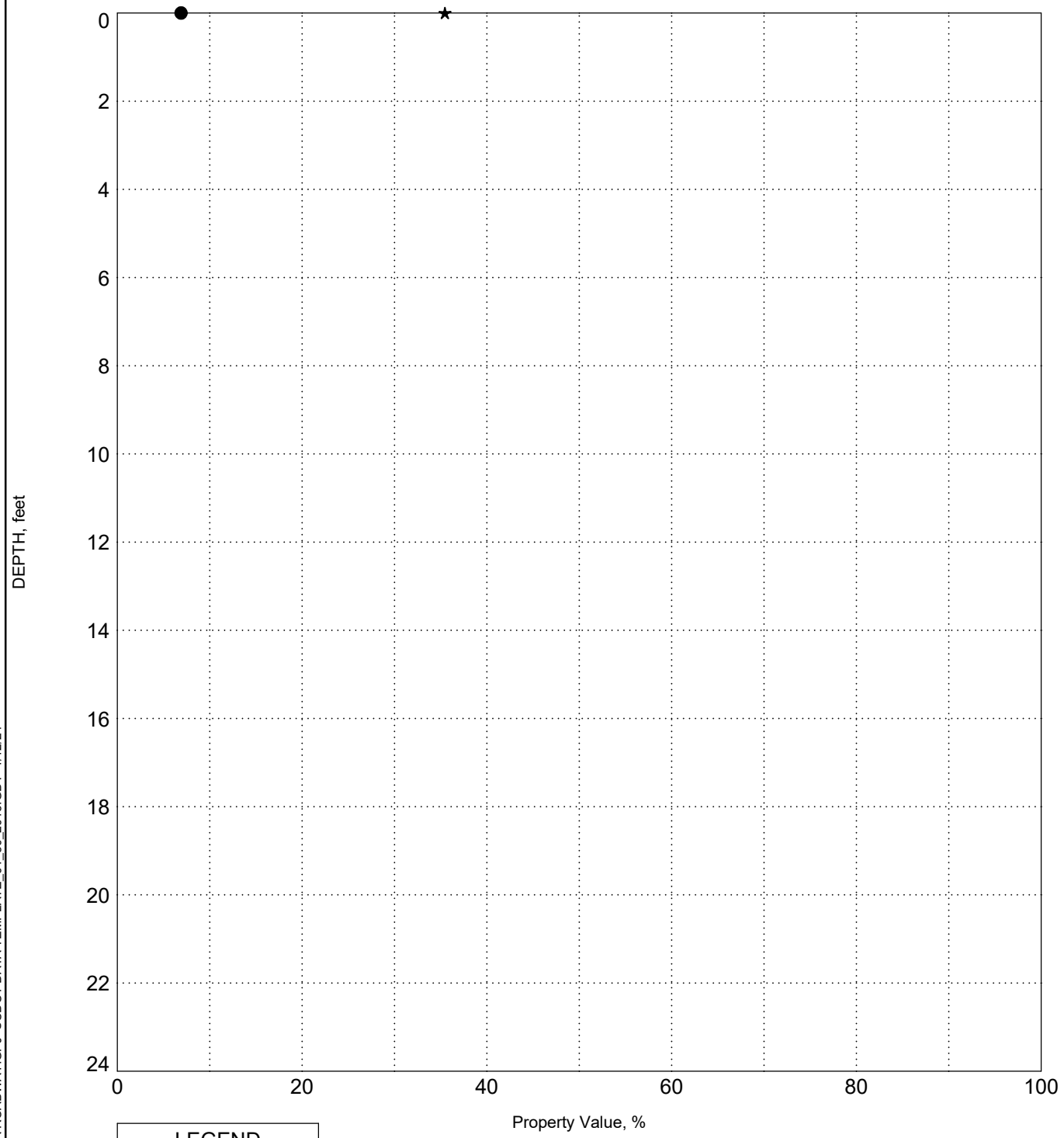
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING SB-18

SURFACE ELEVATION: 454.3



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

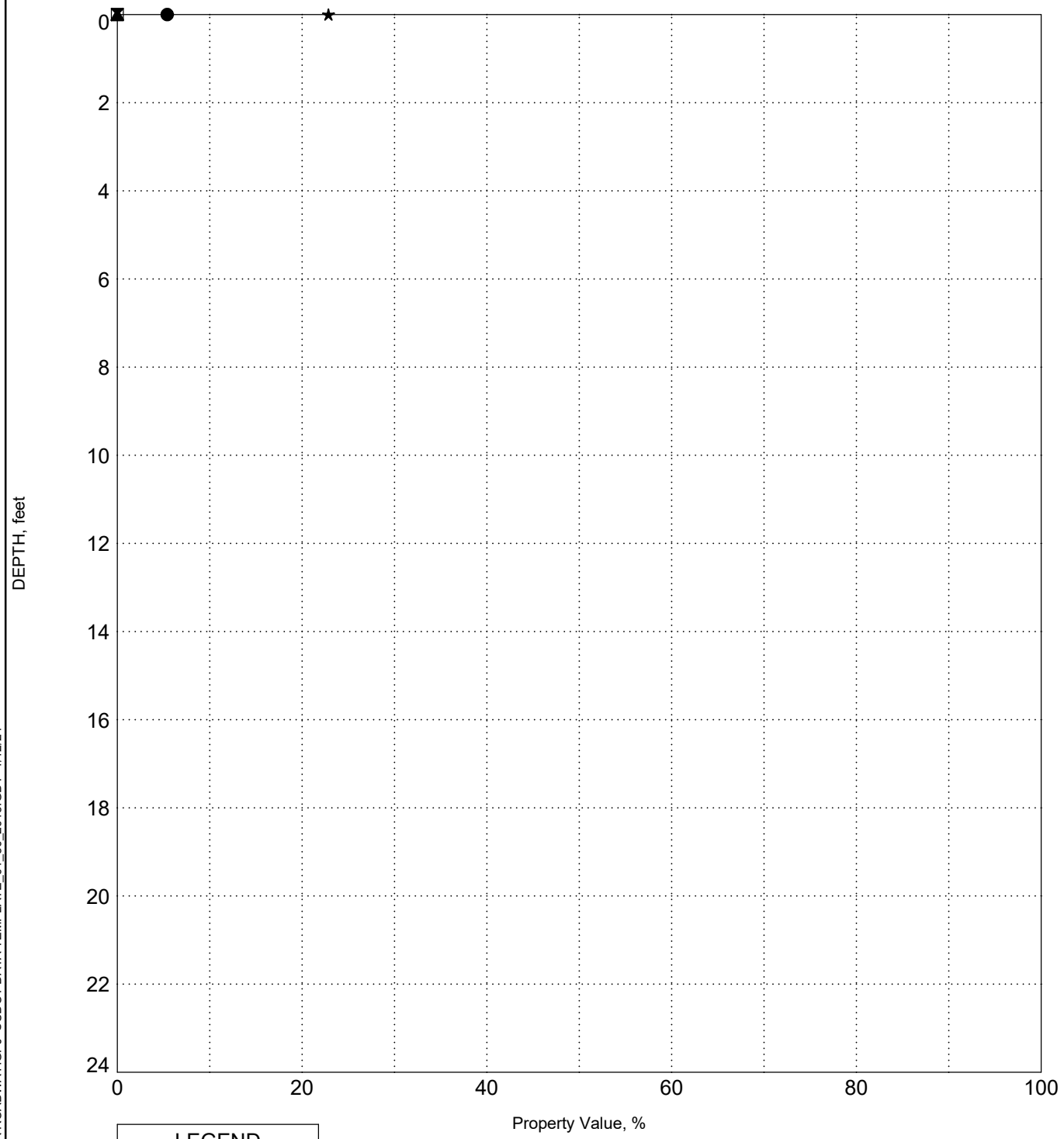
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING SB-19

SURFACE ELEVATION: 443.8



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

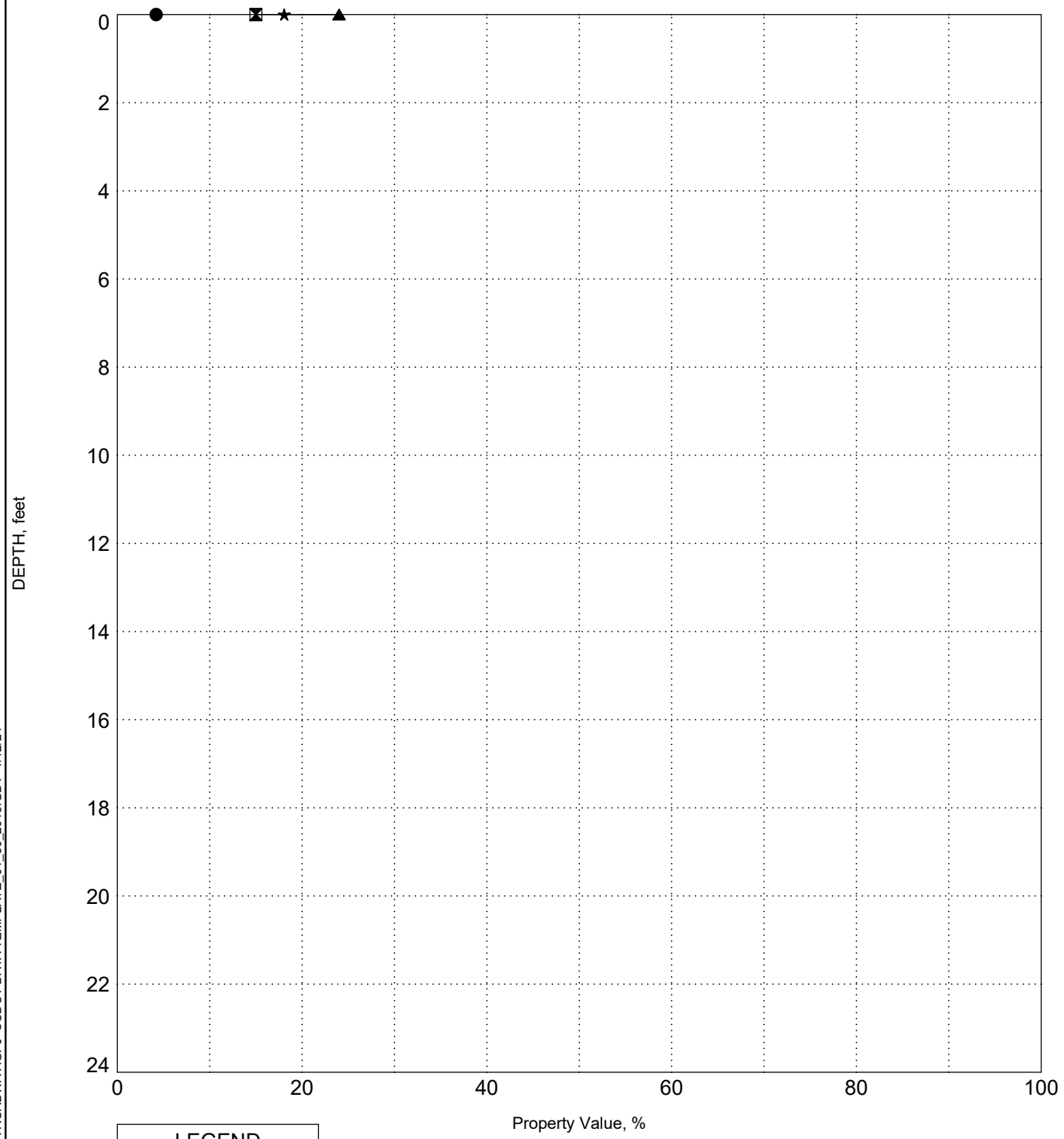
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING SB-20

SURFACE ELEVATION: 432.6



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

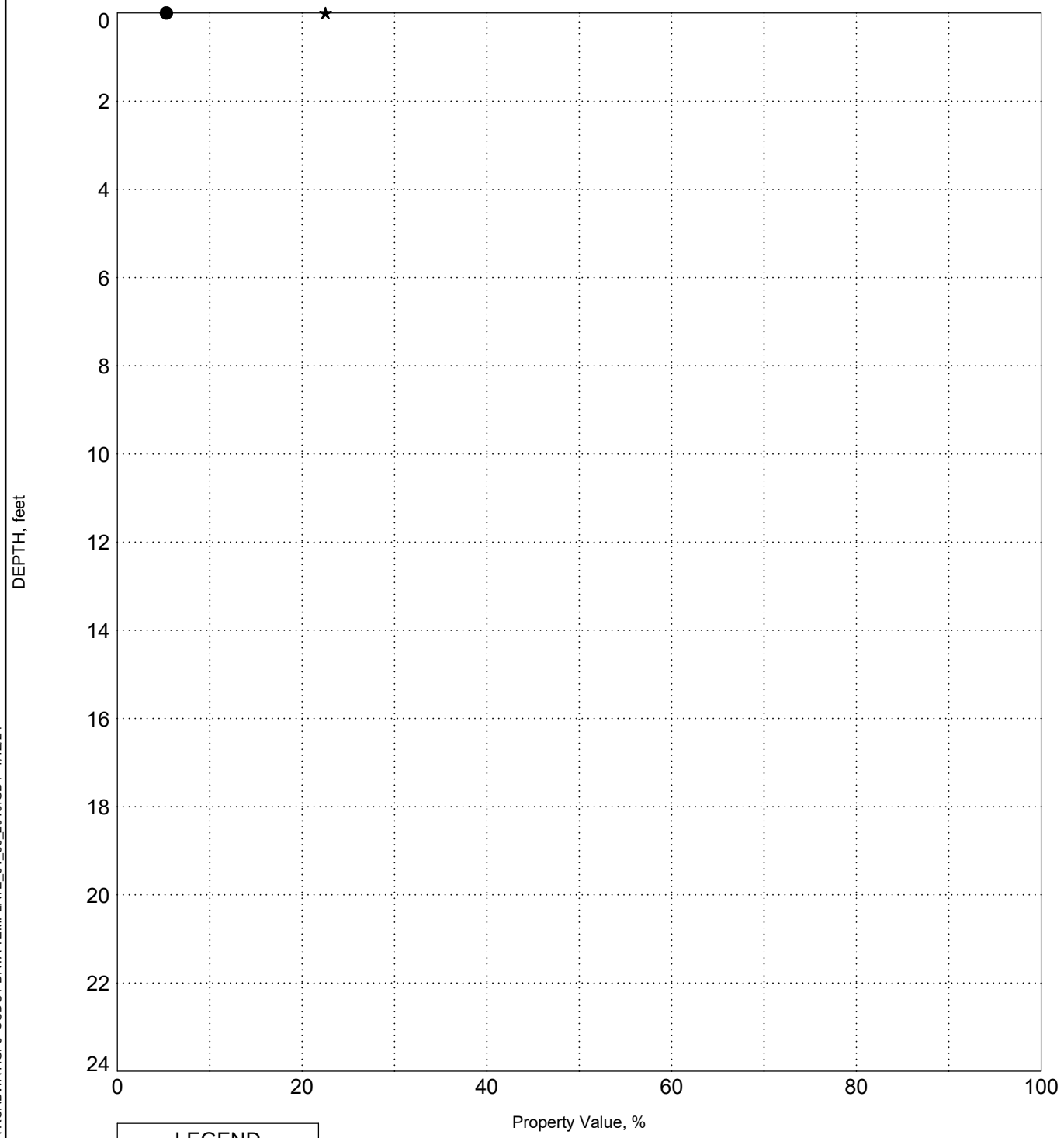
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING SB-21

SURFACE ELEVATION: 423.4



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

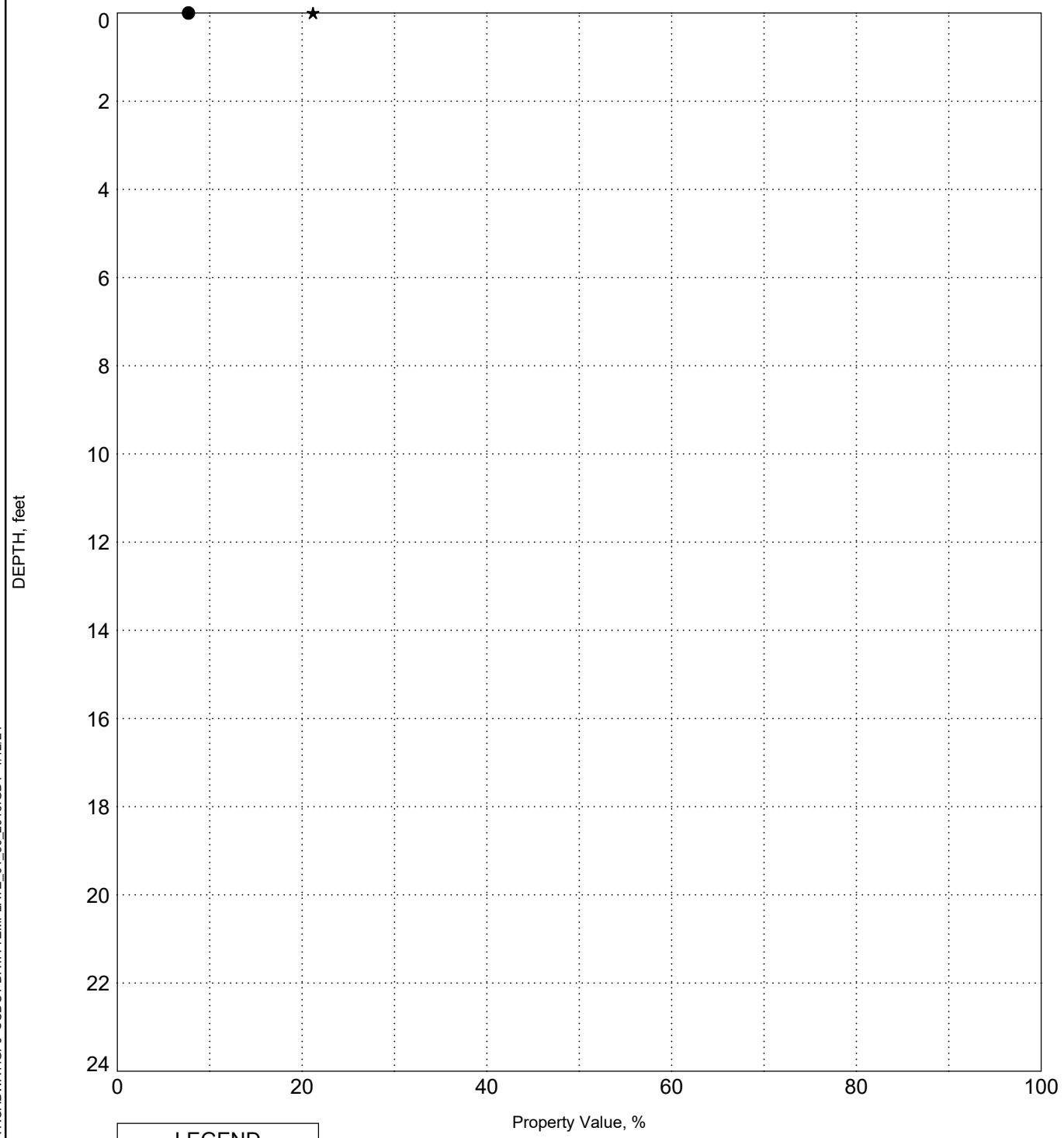
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING SB-22

SURFACE ELEVATION: 422.0



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

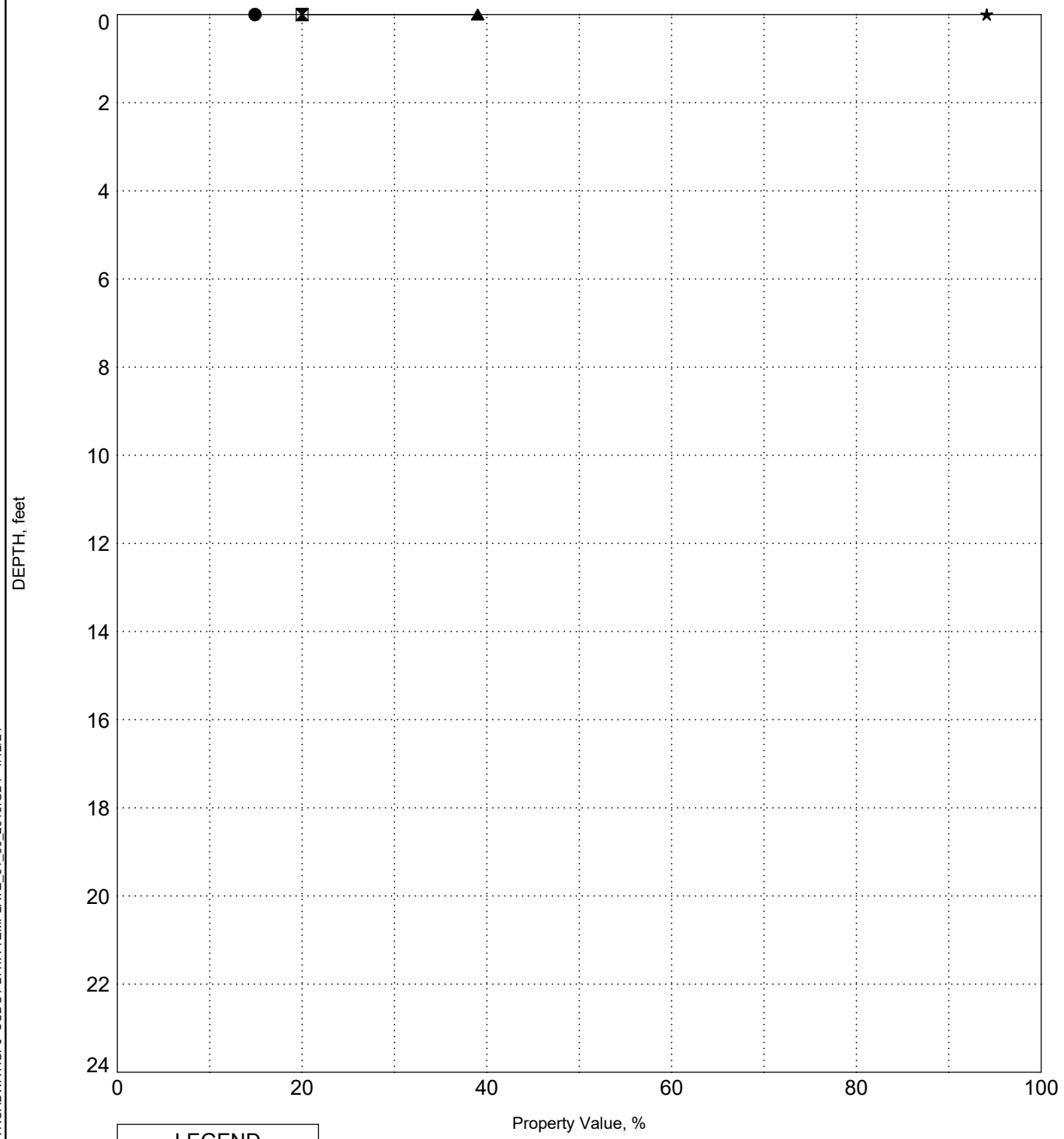
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING SB-23

SURFACE ELEVATION: 425.9



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

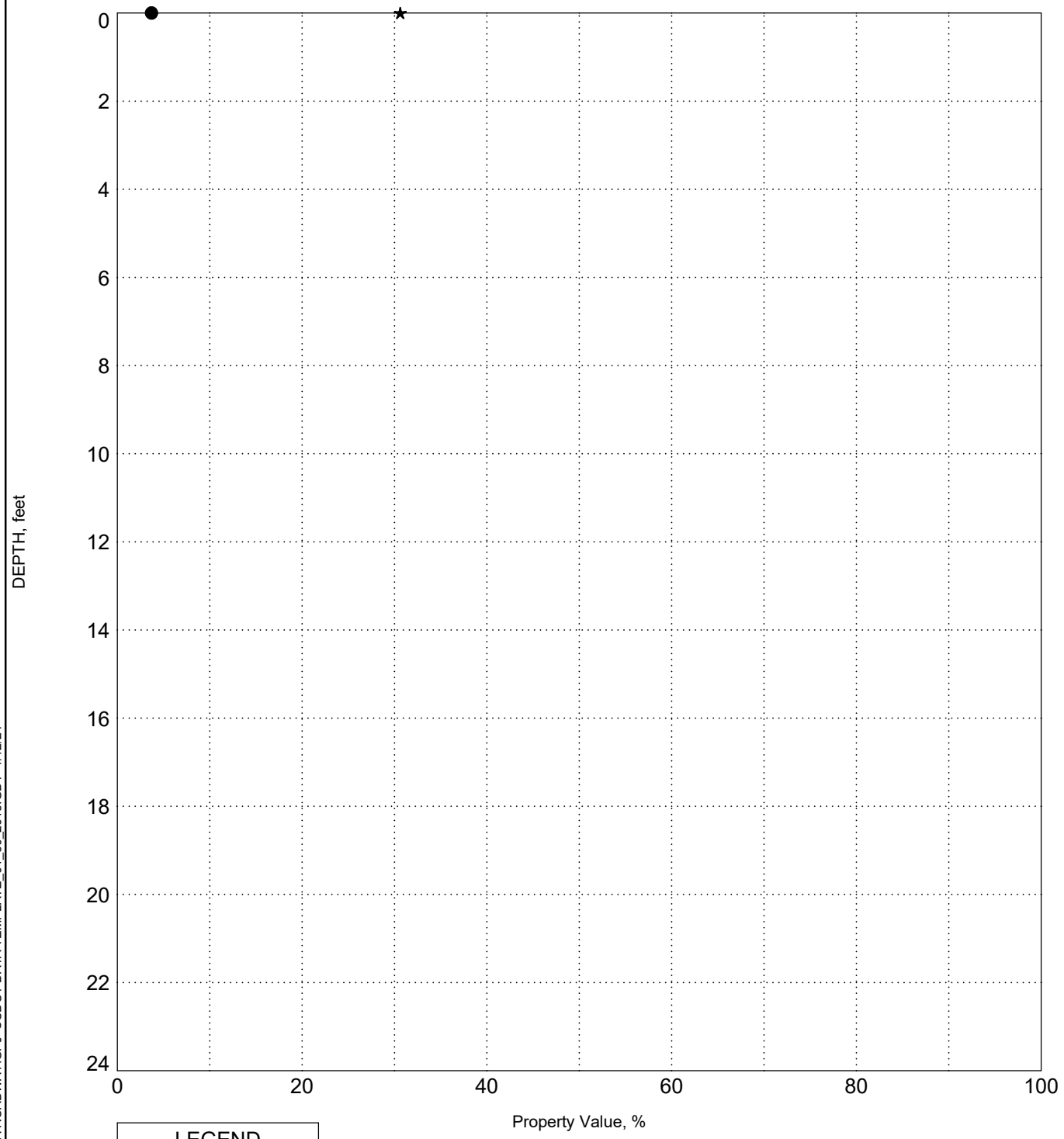
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING SB-24

SURFACE ELEVATION: 432.8



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

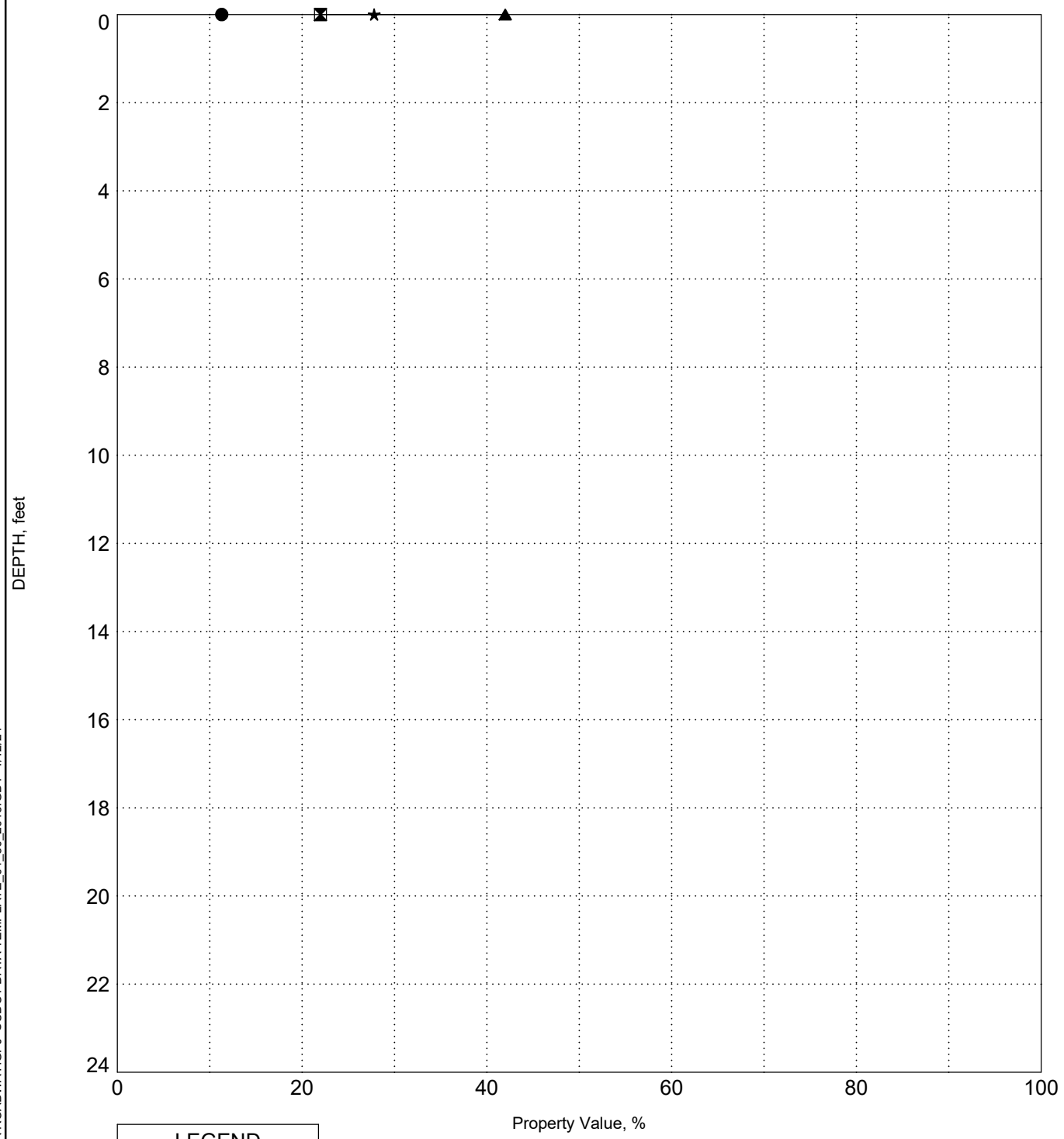
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING SB-25

SURFACE ELEVATION: 435.0



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

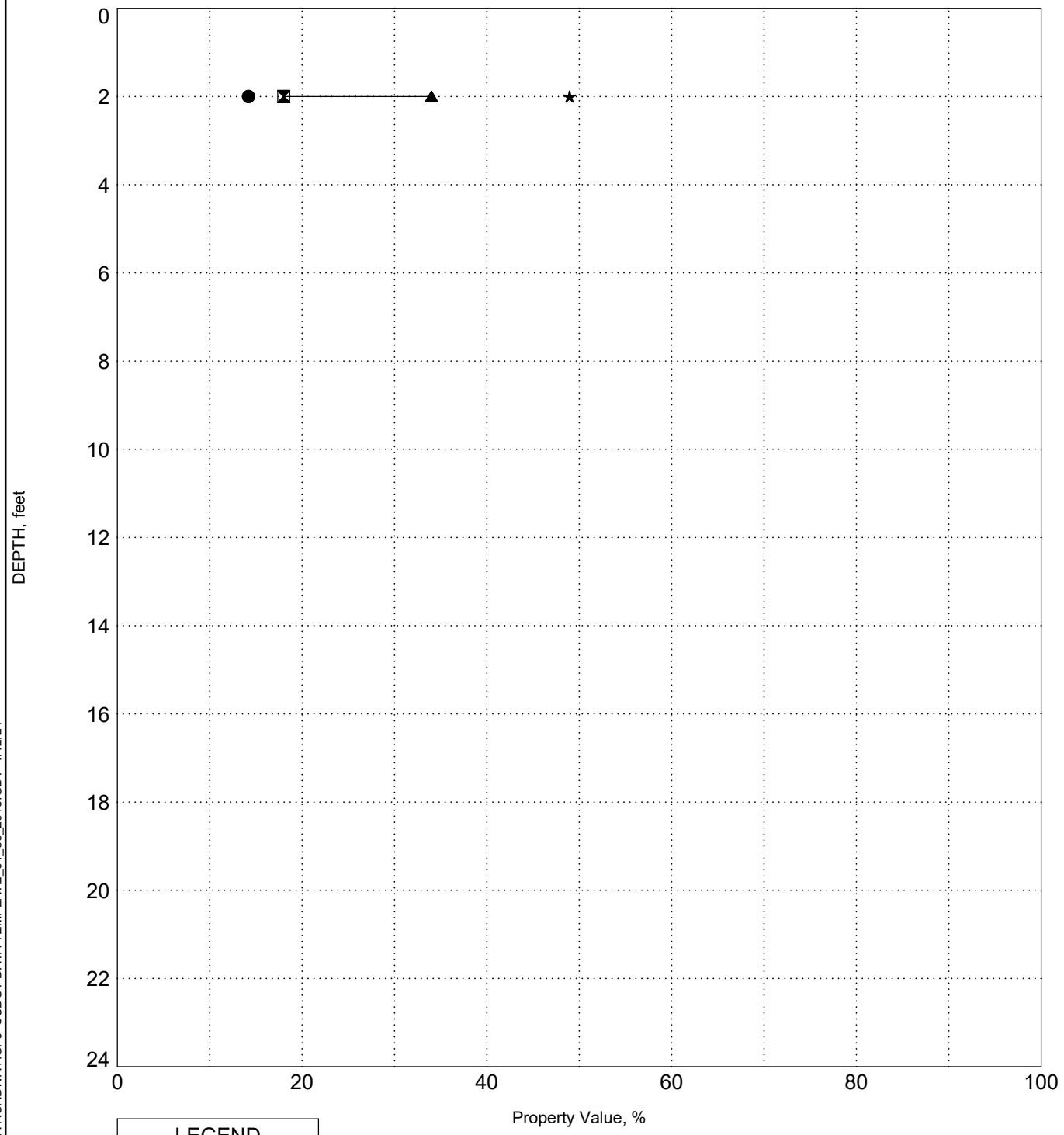
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING SB-26

SURFACE ELEVATION: 442.0



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

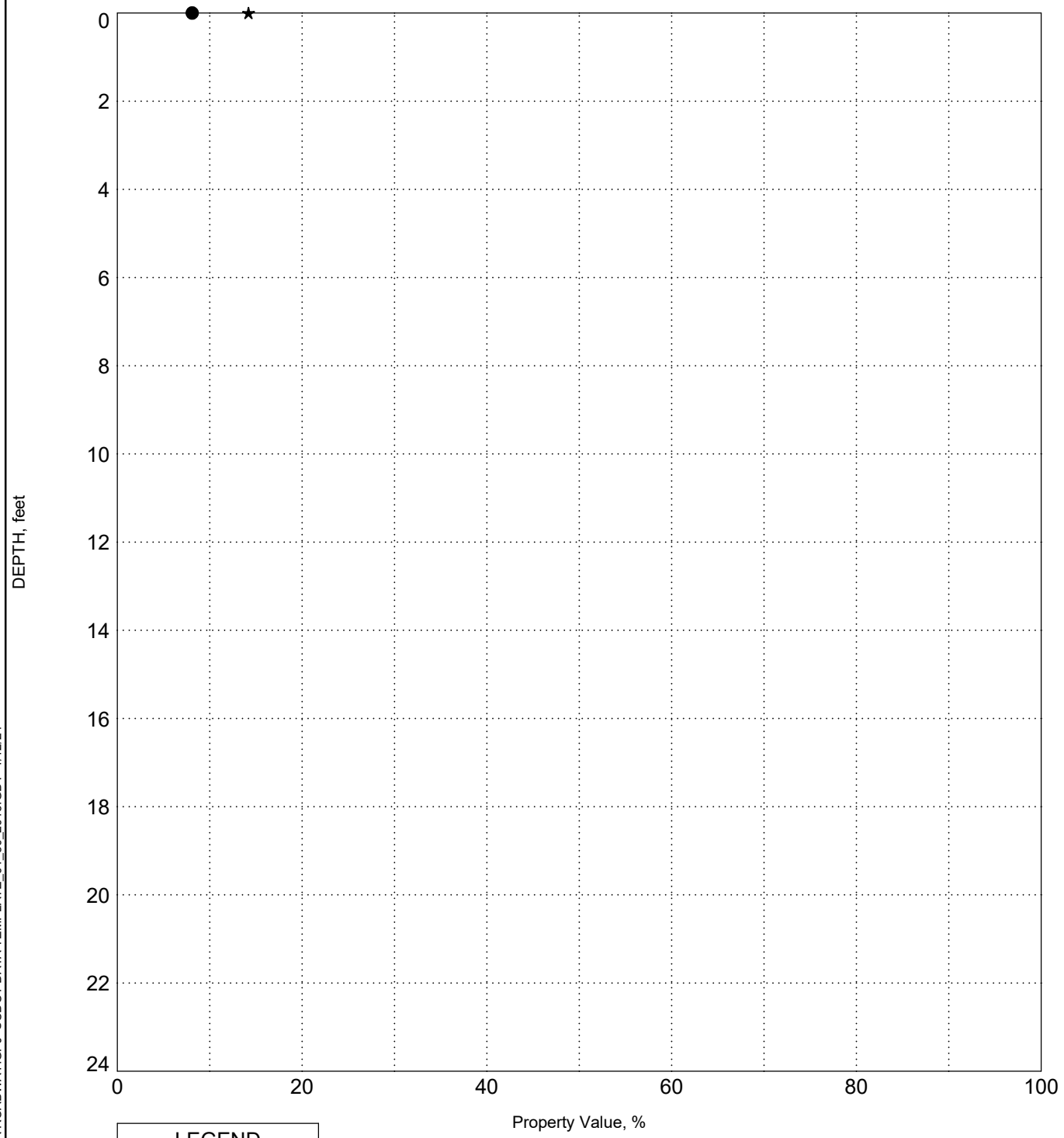
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING SB-27

SURFACE ELEVATION: 440.2



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

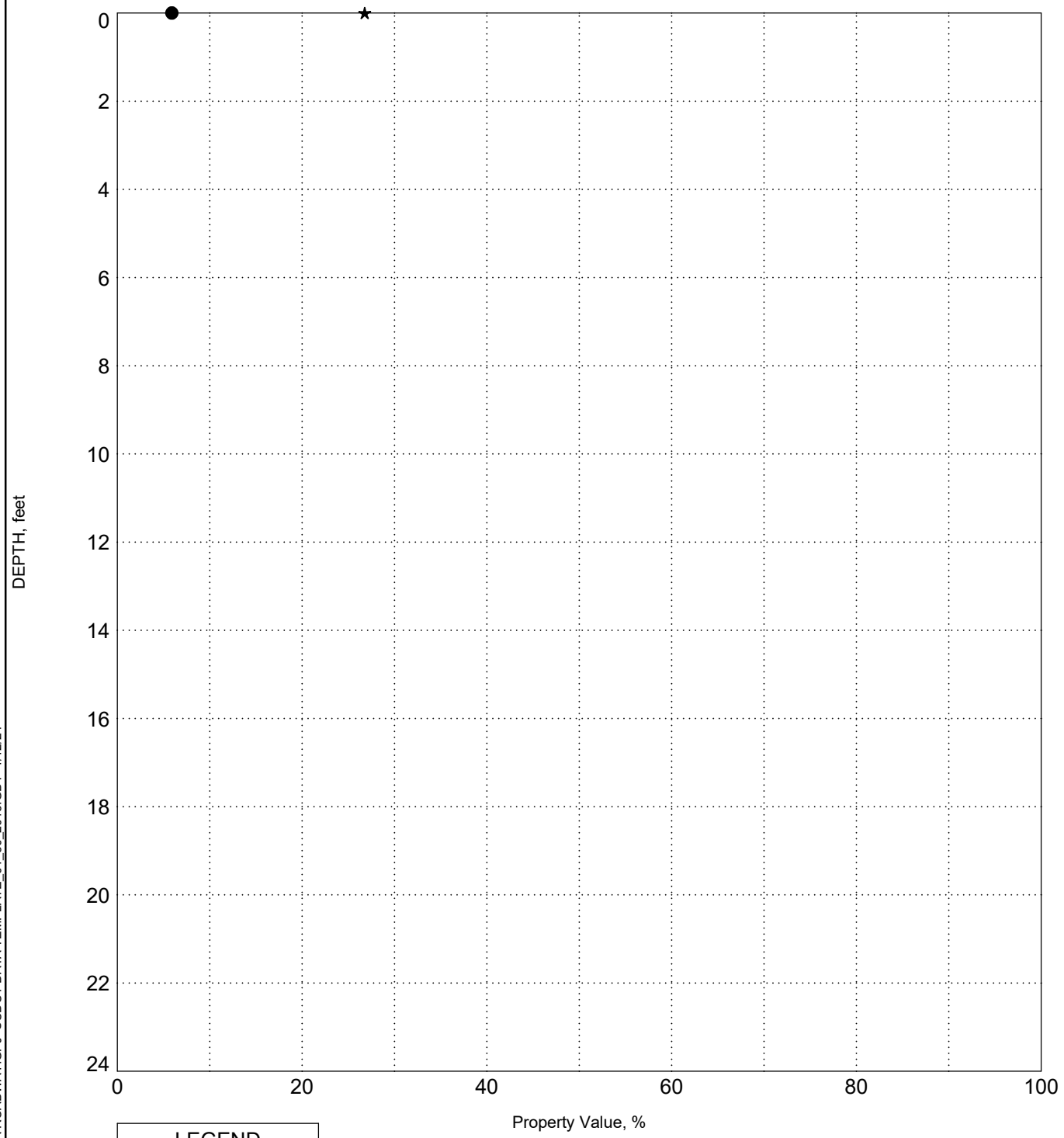
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING SB-28

SURFACE ELEVATION: 440.7



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

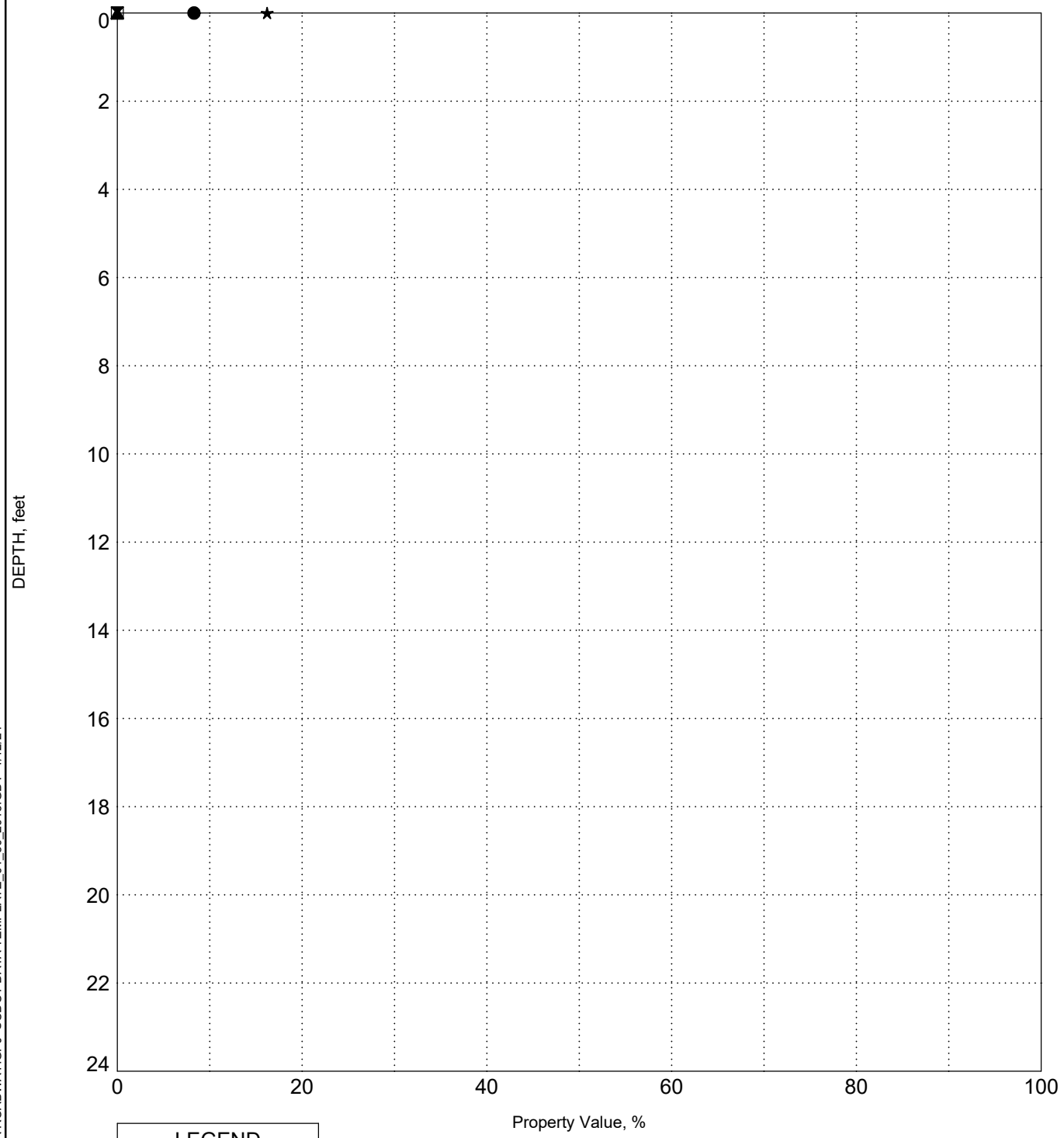
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING SB-29

SURFACE ELEVATION: 436.3



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

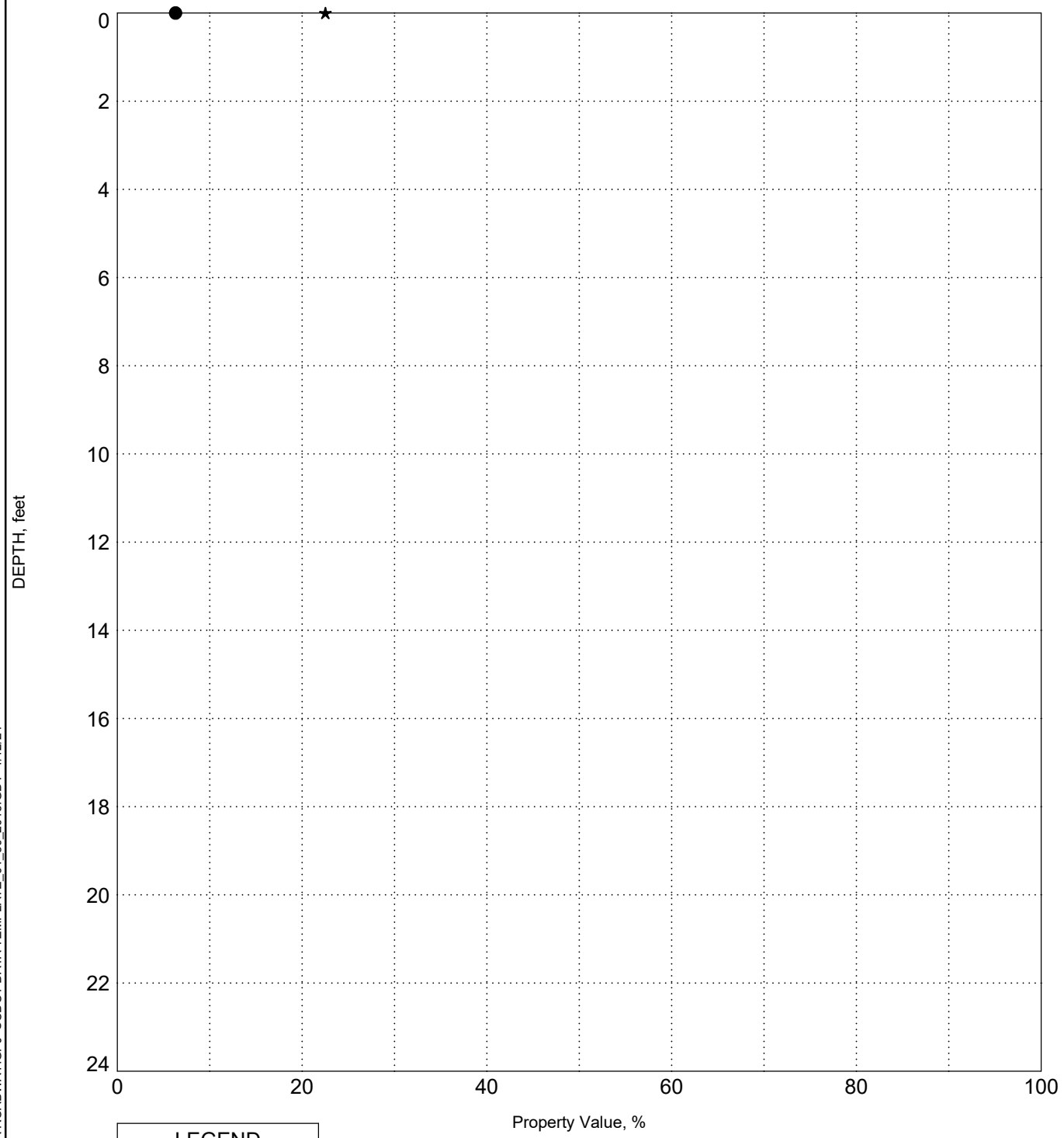
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING SB-30

SURFACE ELEVATION: 434.8



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

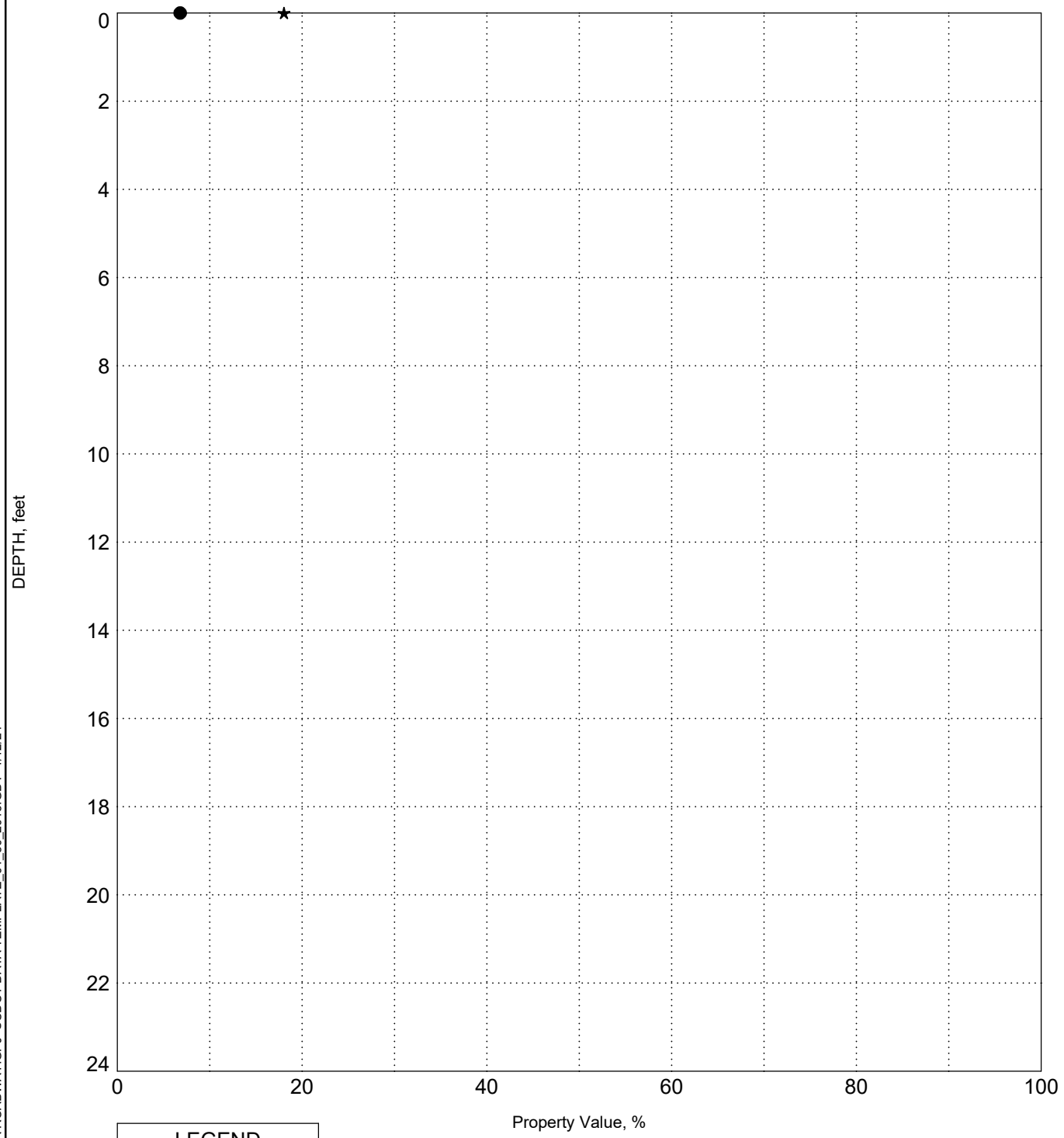
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING SB-31

SURFACE ELEVATION: 432.7



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

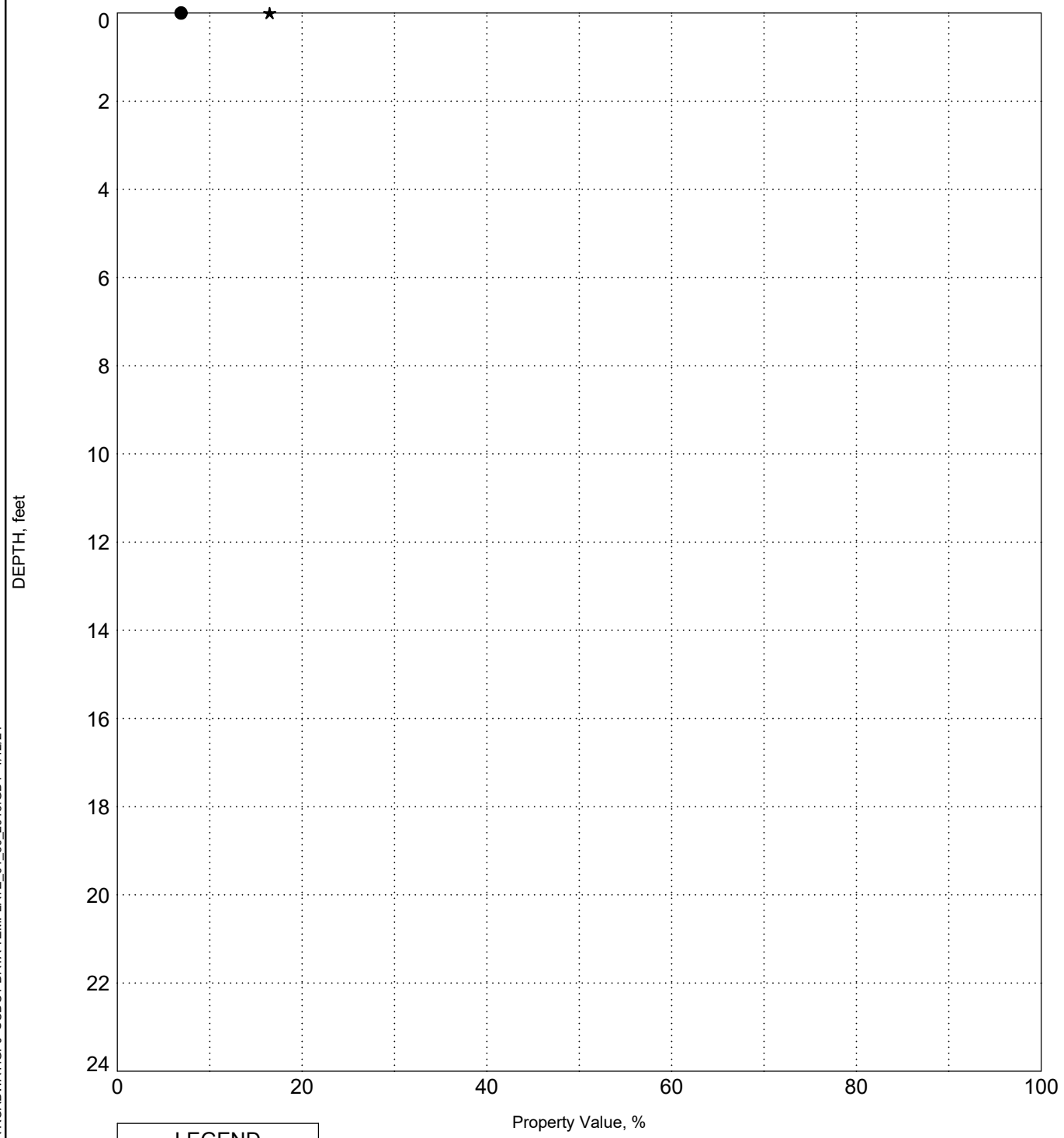
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING SB-32

SURFACE ELEVATION: 431.2



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

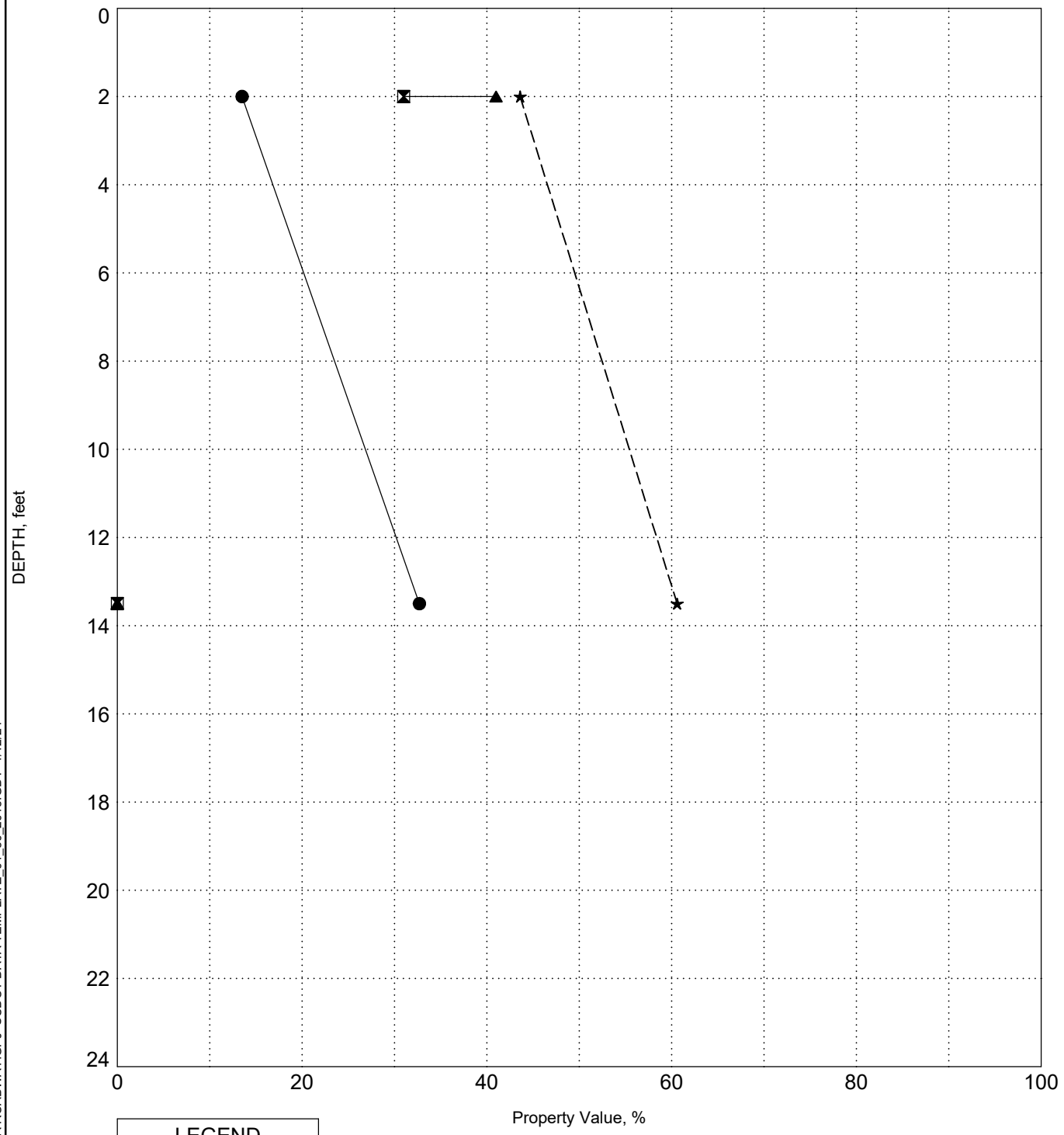
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-35

SURFACE ELEVATION: 443.8



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

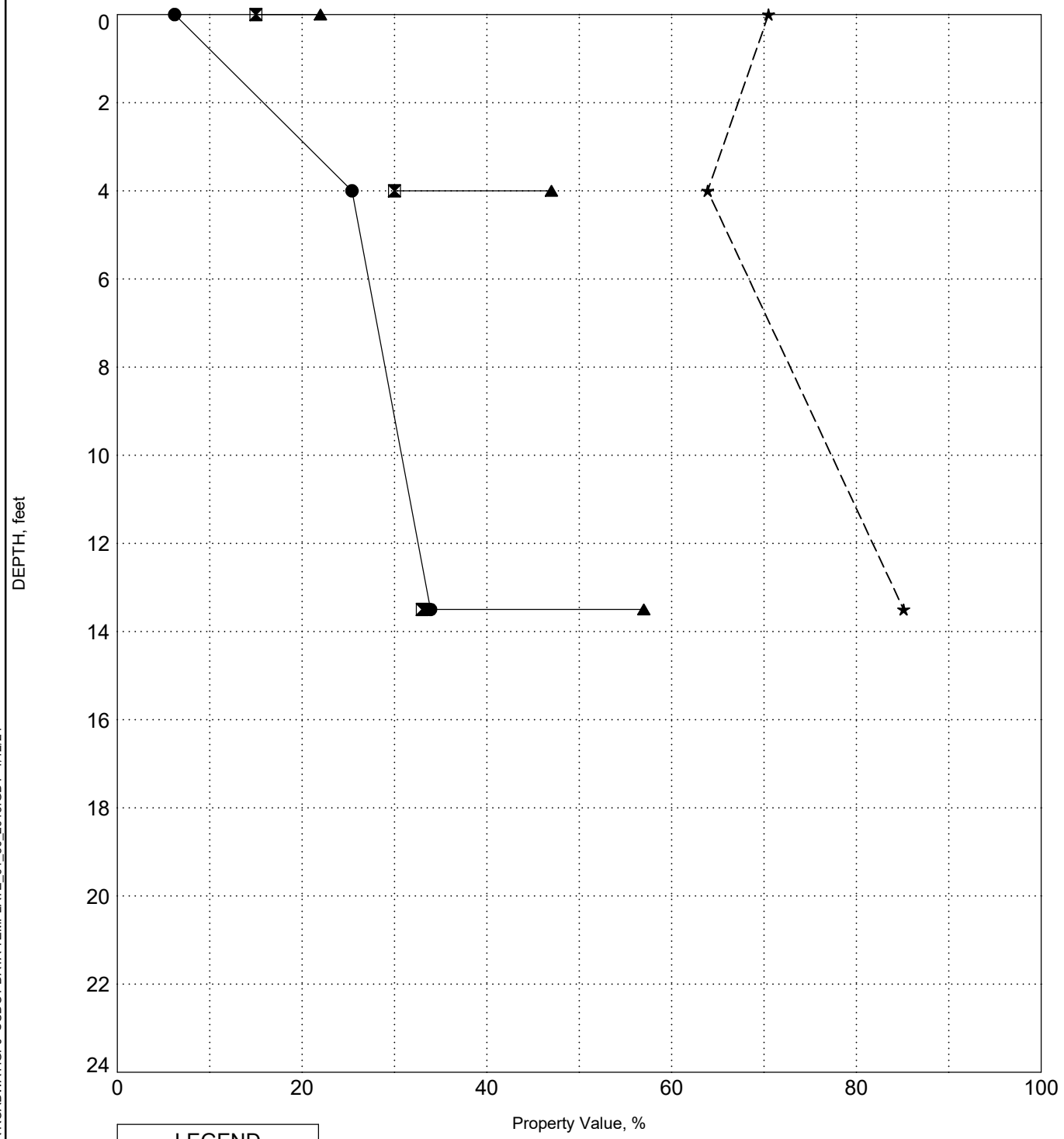
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-36

SURFACE ELEVATION: 445.4



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

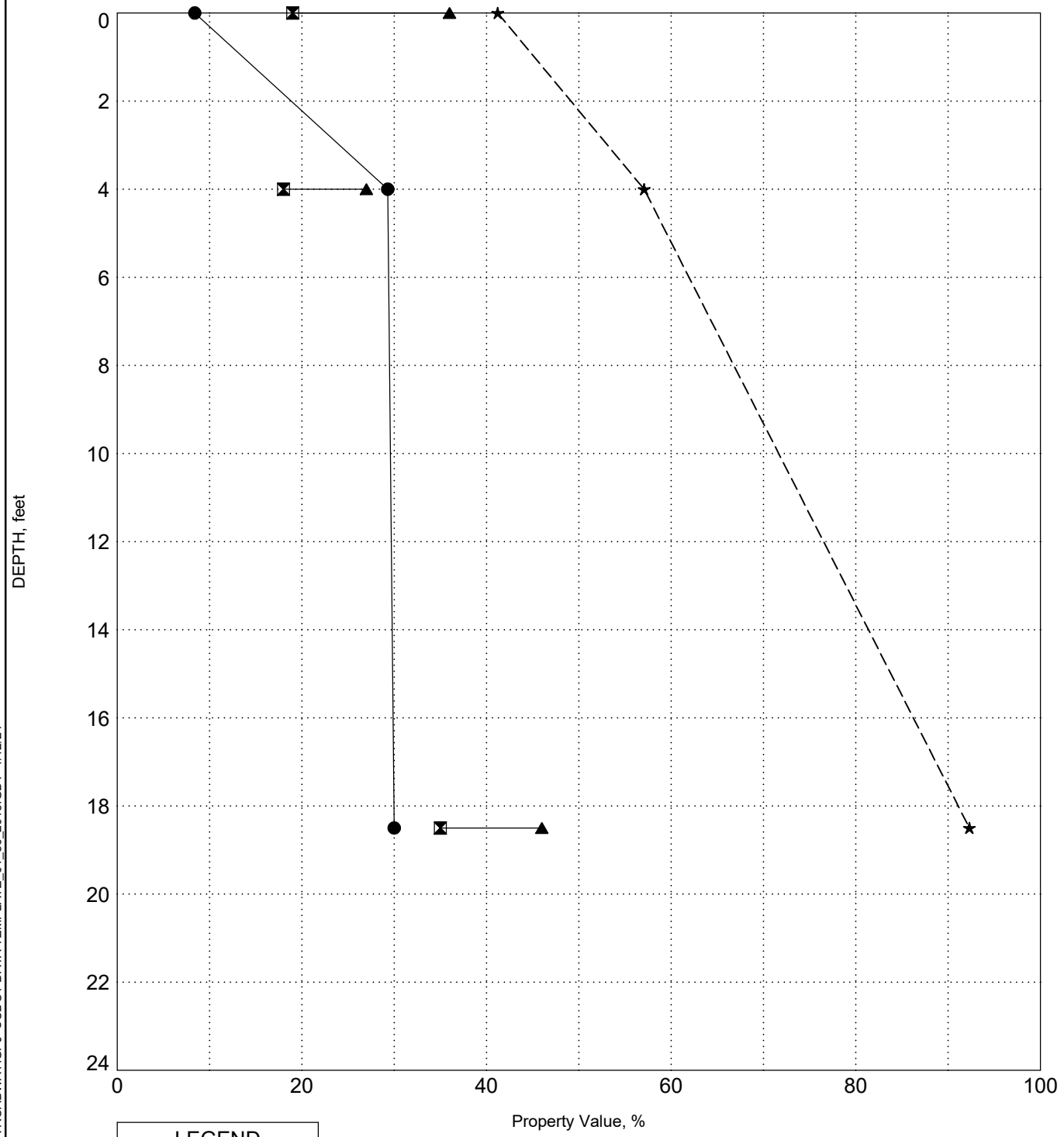
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-37

SURFACE ELEVATION: 443.8



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

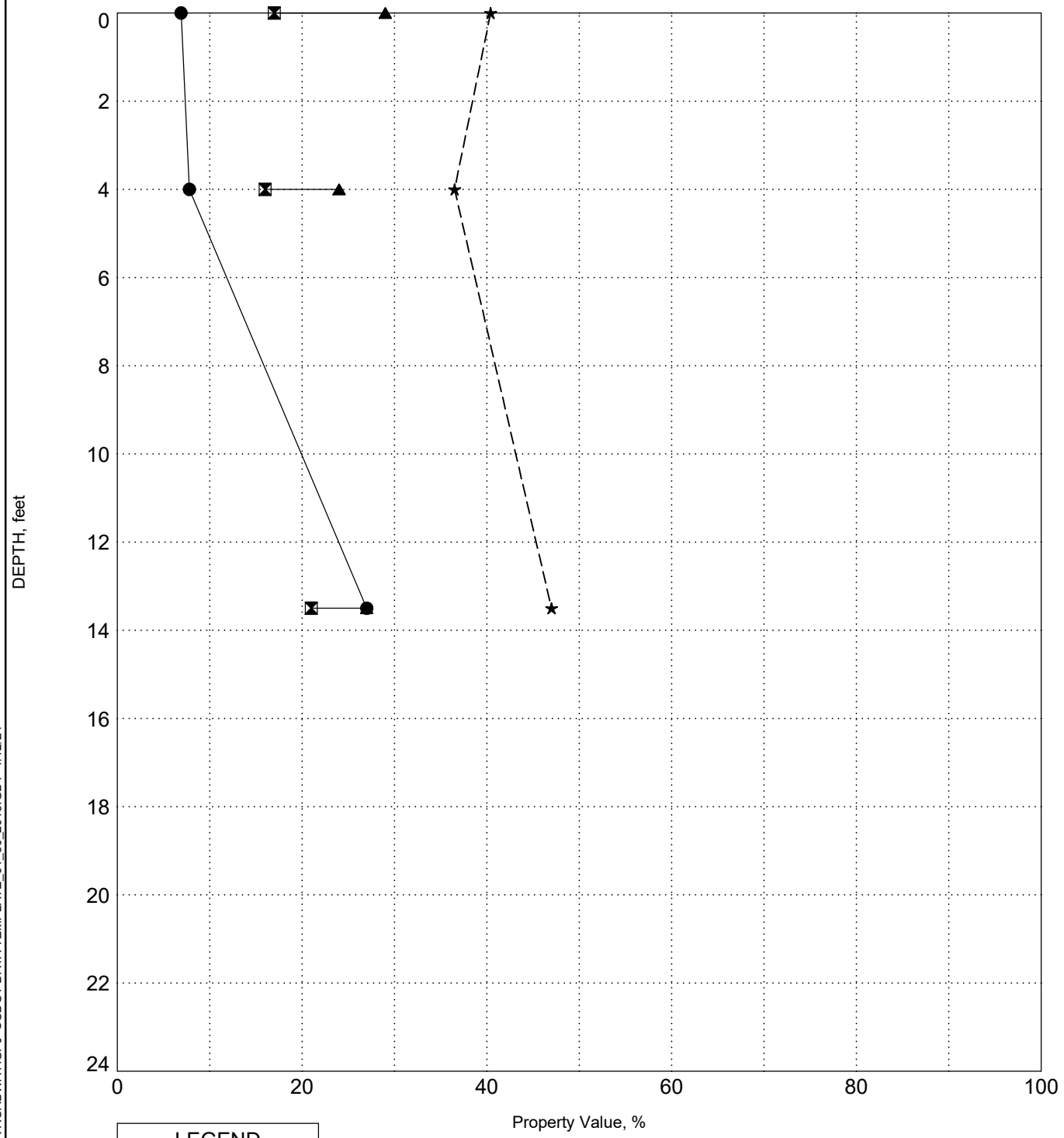
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-38

SURFACE ELEVATION: 442.4



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

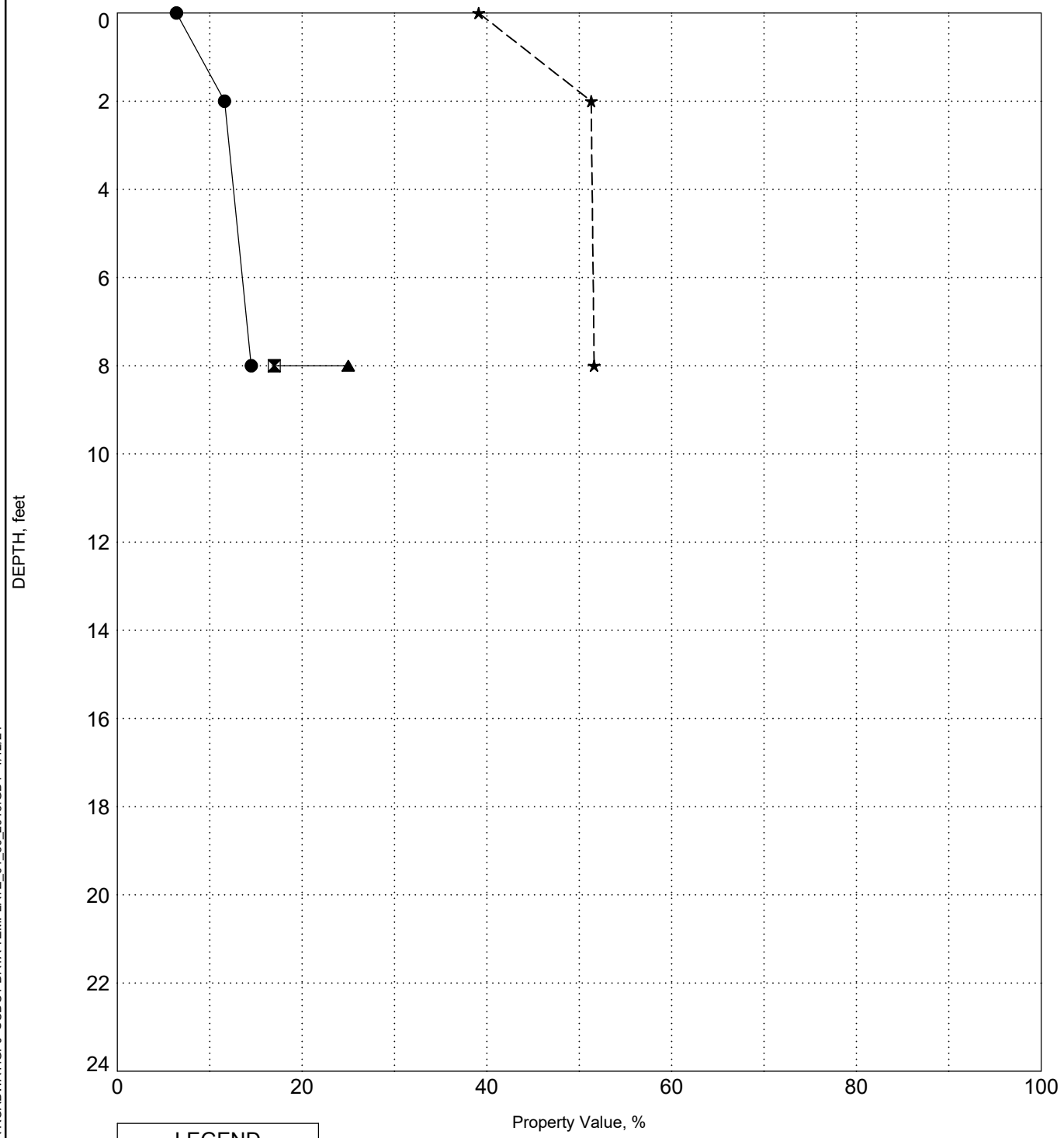
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-39

SURFACE ELEVATION: 440.6



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

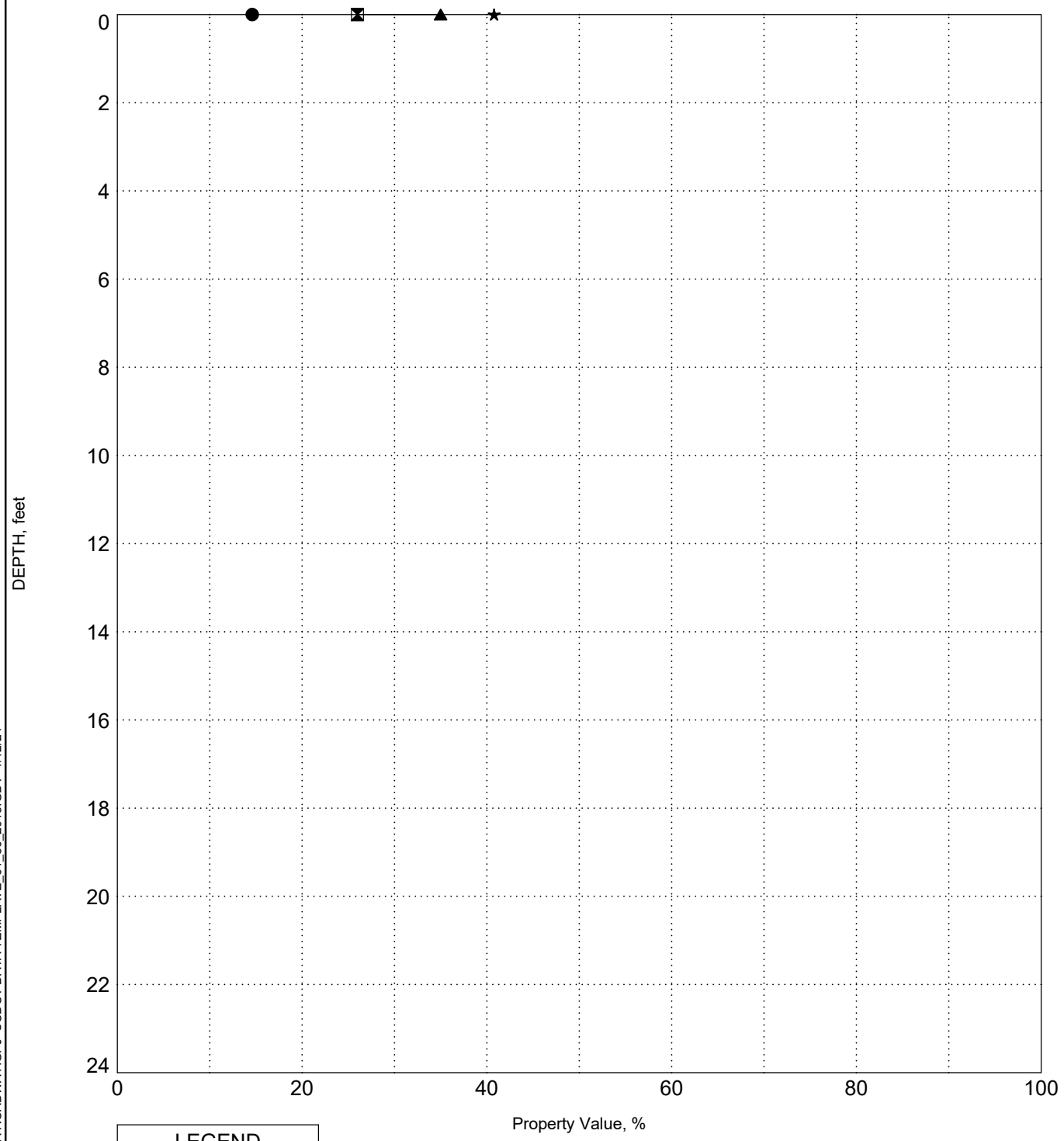
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-40

SURFACE ELEVATION: 436.6



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

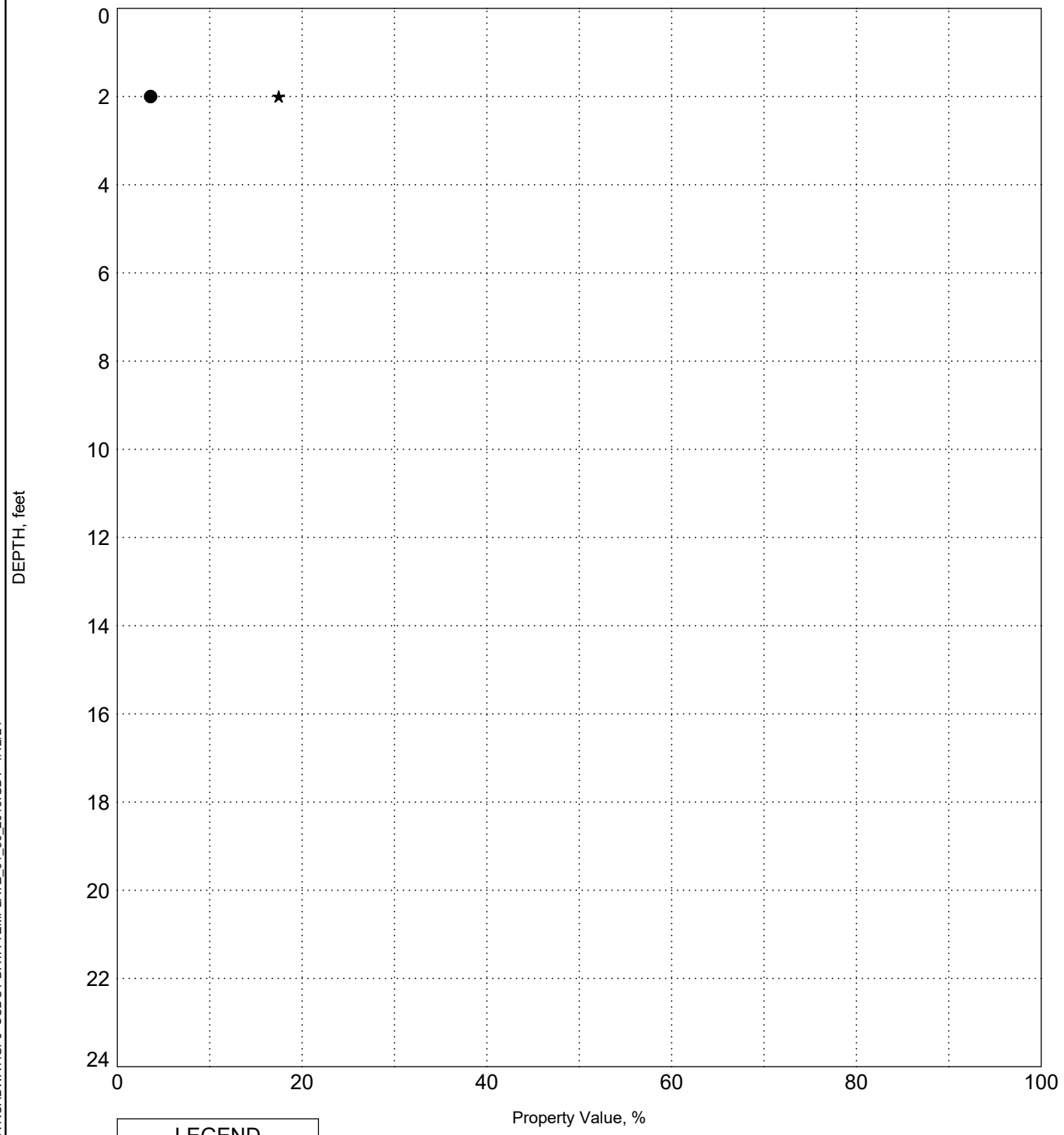
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-41

SURFACE ELEVATION: 441.5



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

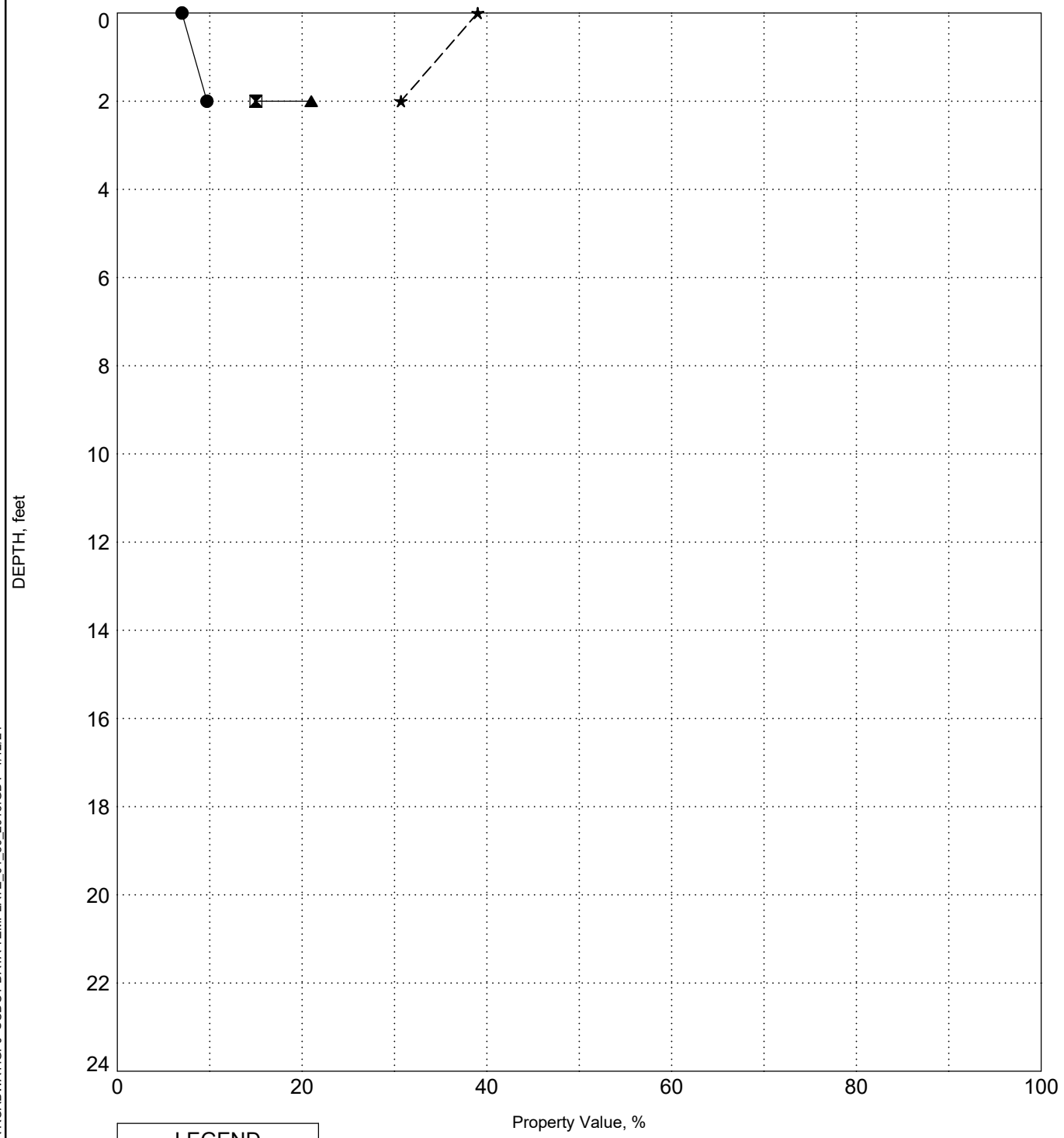
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-42

SURFACE ELEVATION: 434.6



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

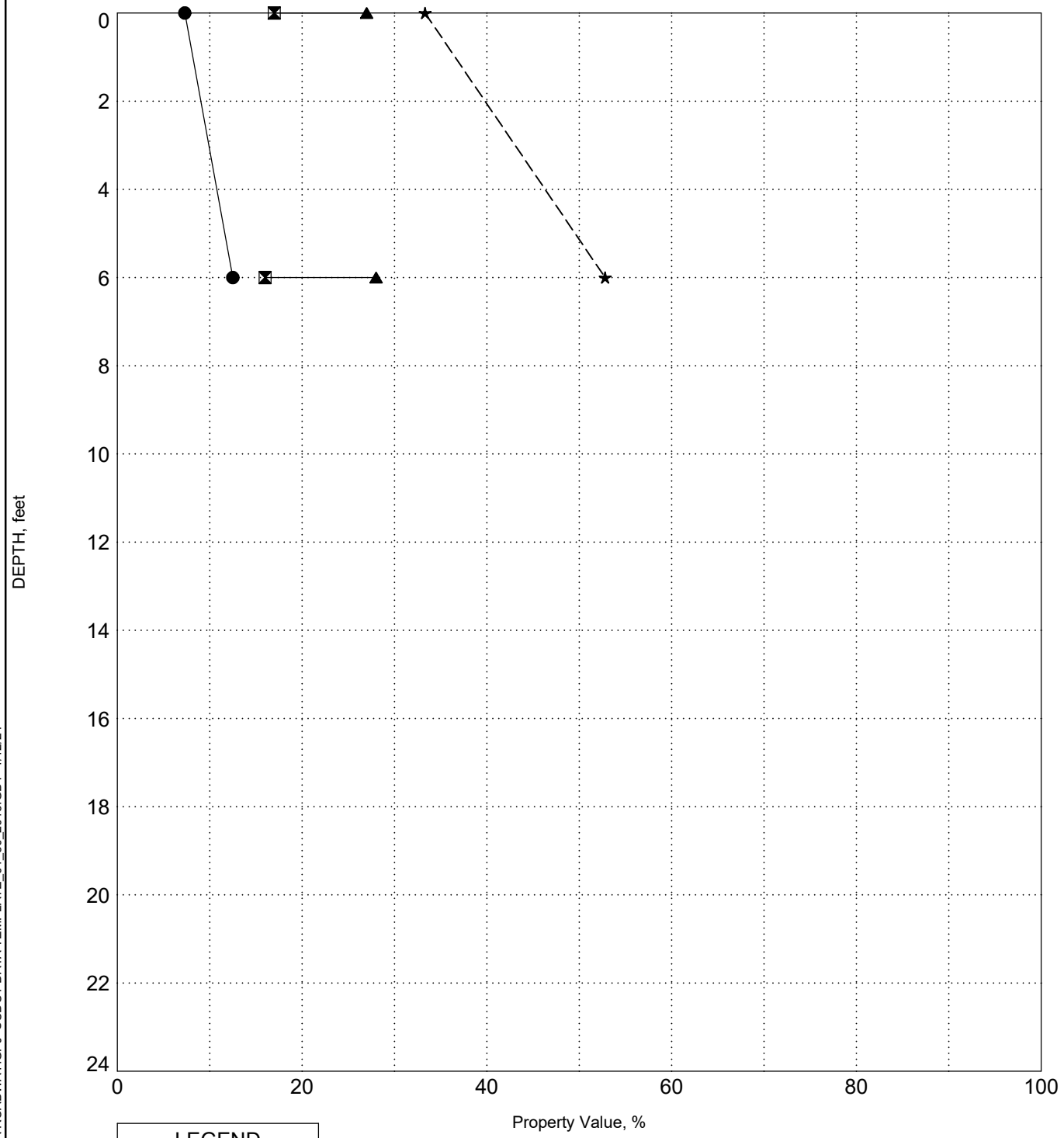
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-43

SURFACE ELEVATION: 444.8



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

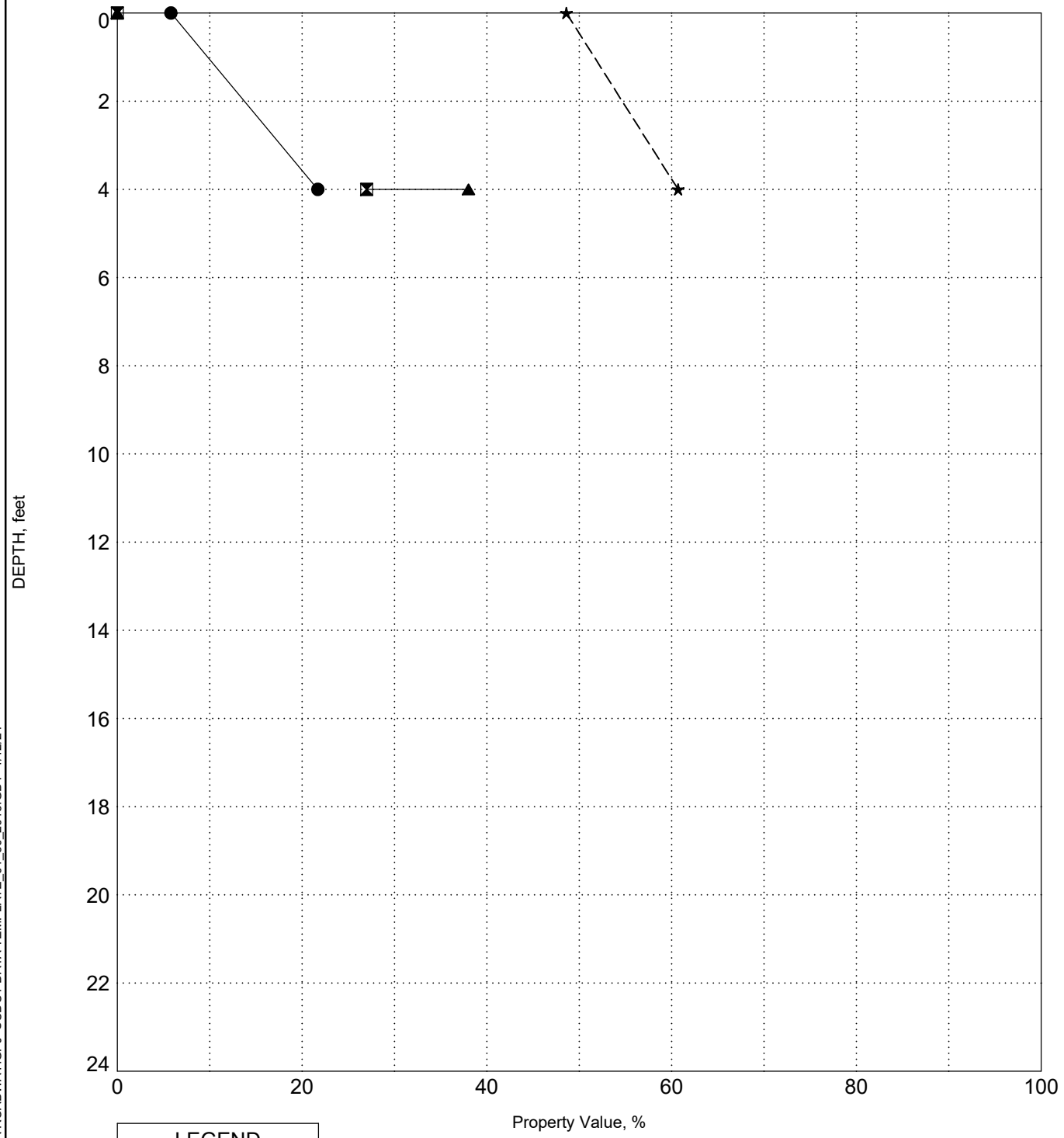
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-44

SURFACE ELEVATION: 432.6



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

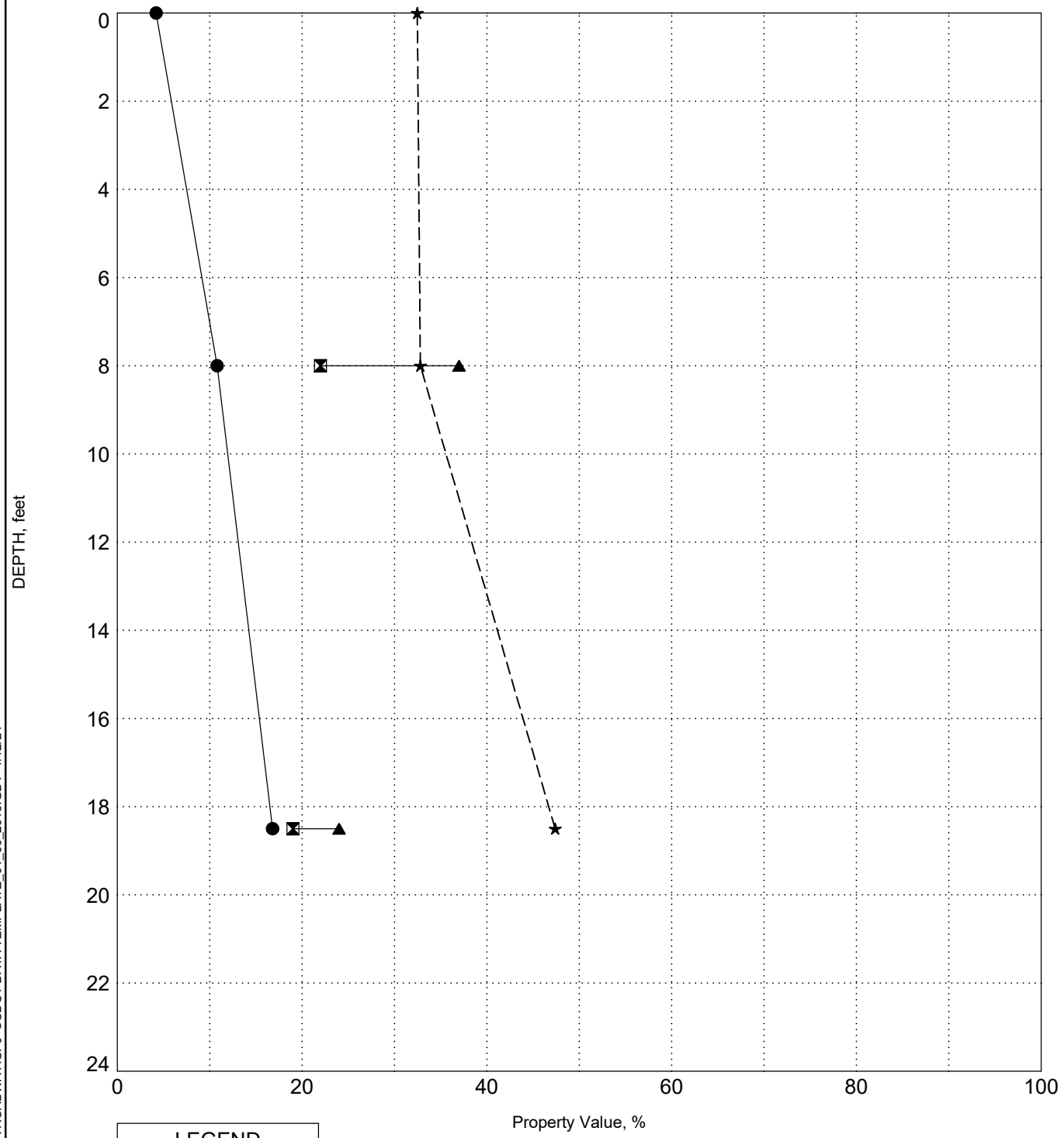
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-45

SURFACE ELEVATION: 466.3



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

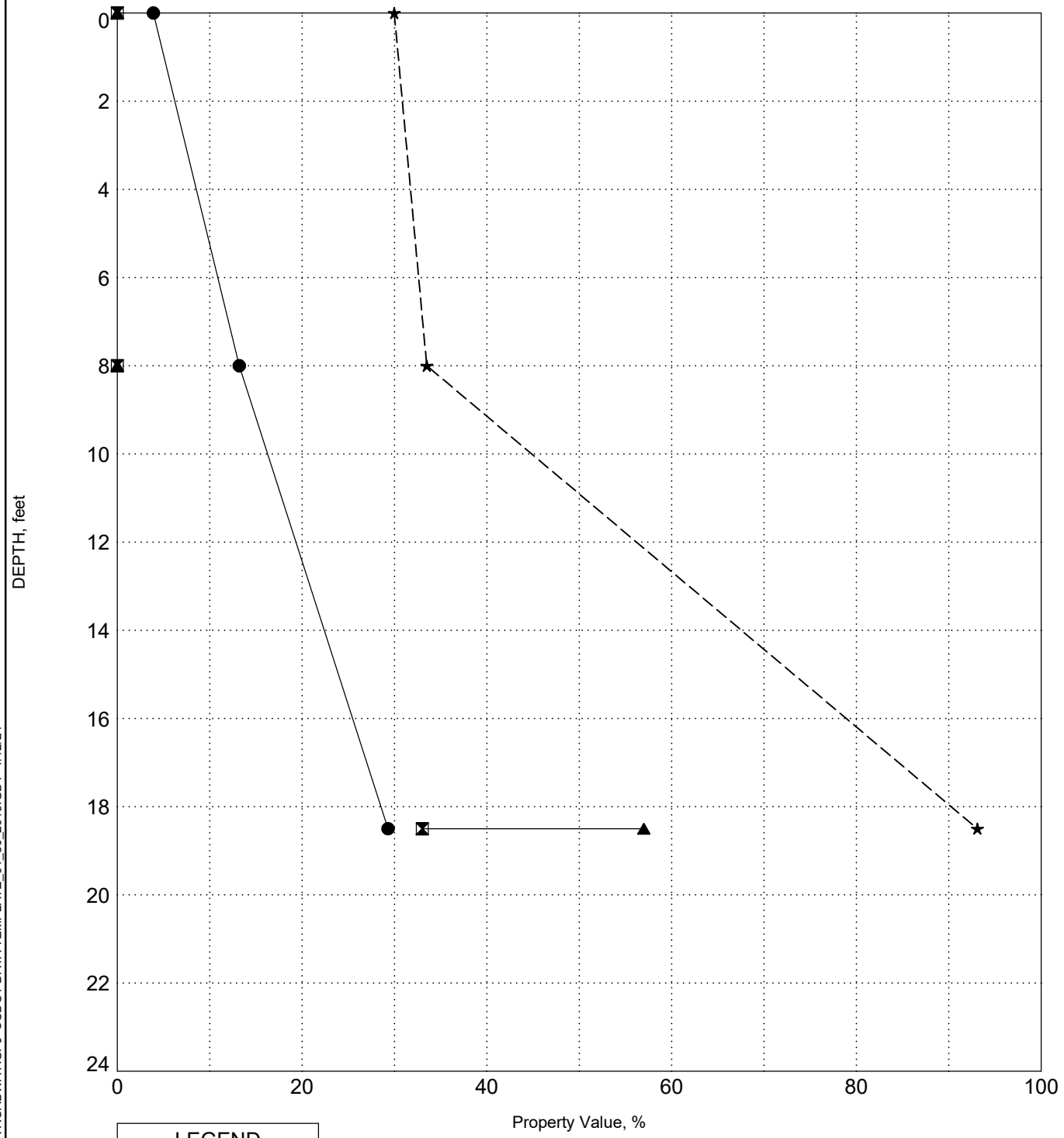
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-46

SURFACE ELEVATION: 465.9



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

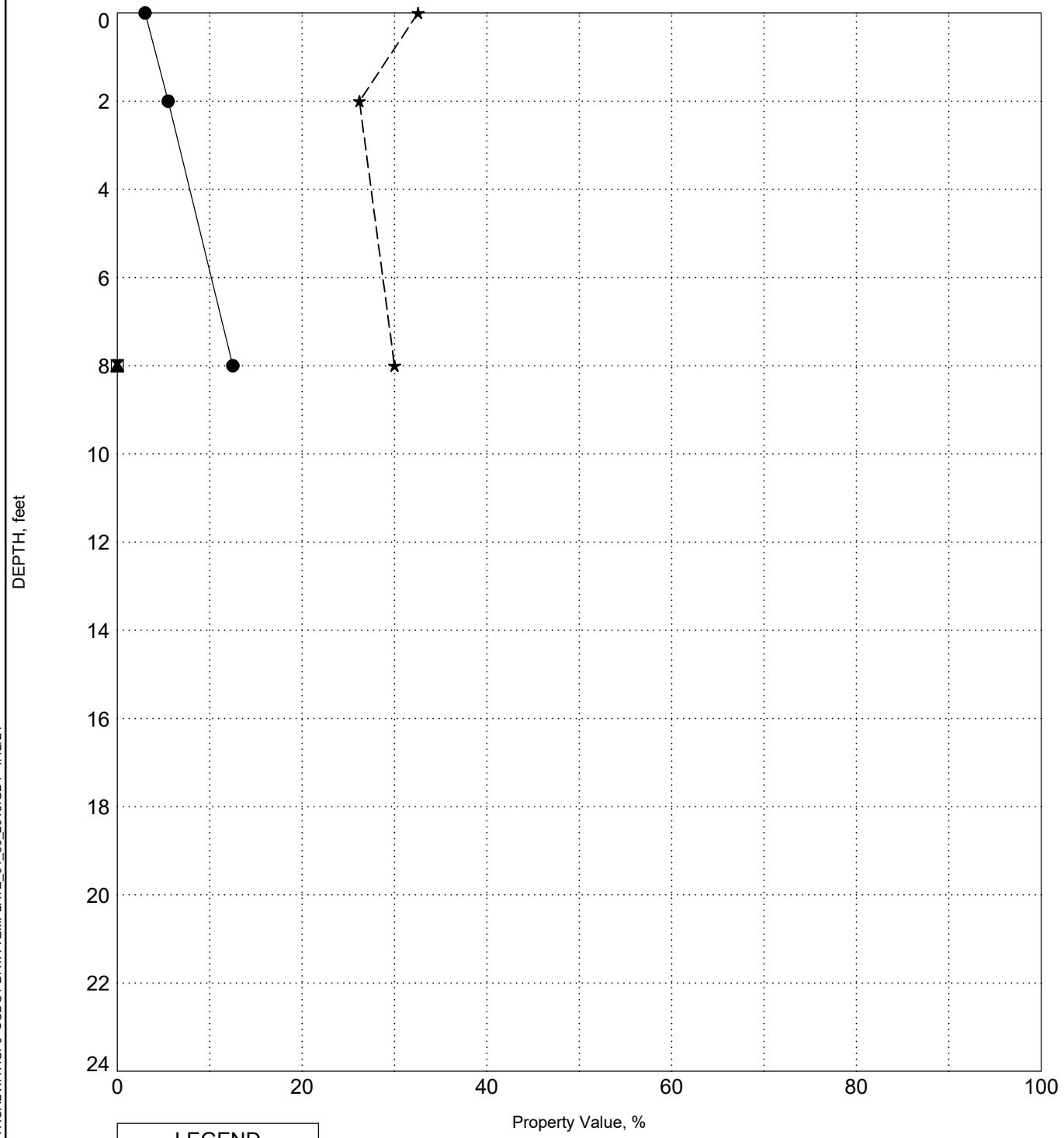
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-47

SURFACE ELEVATION: 464.7



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

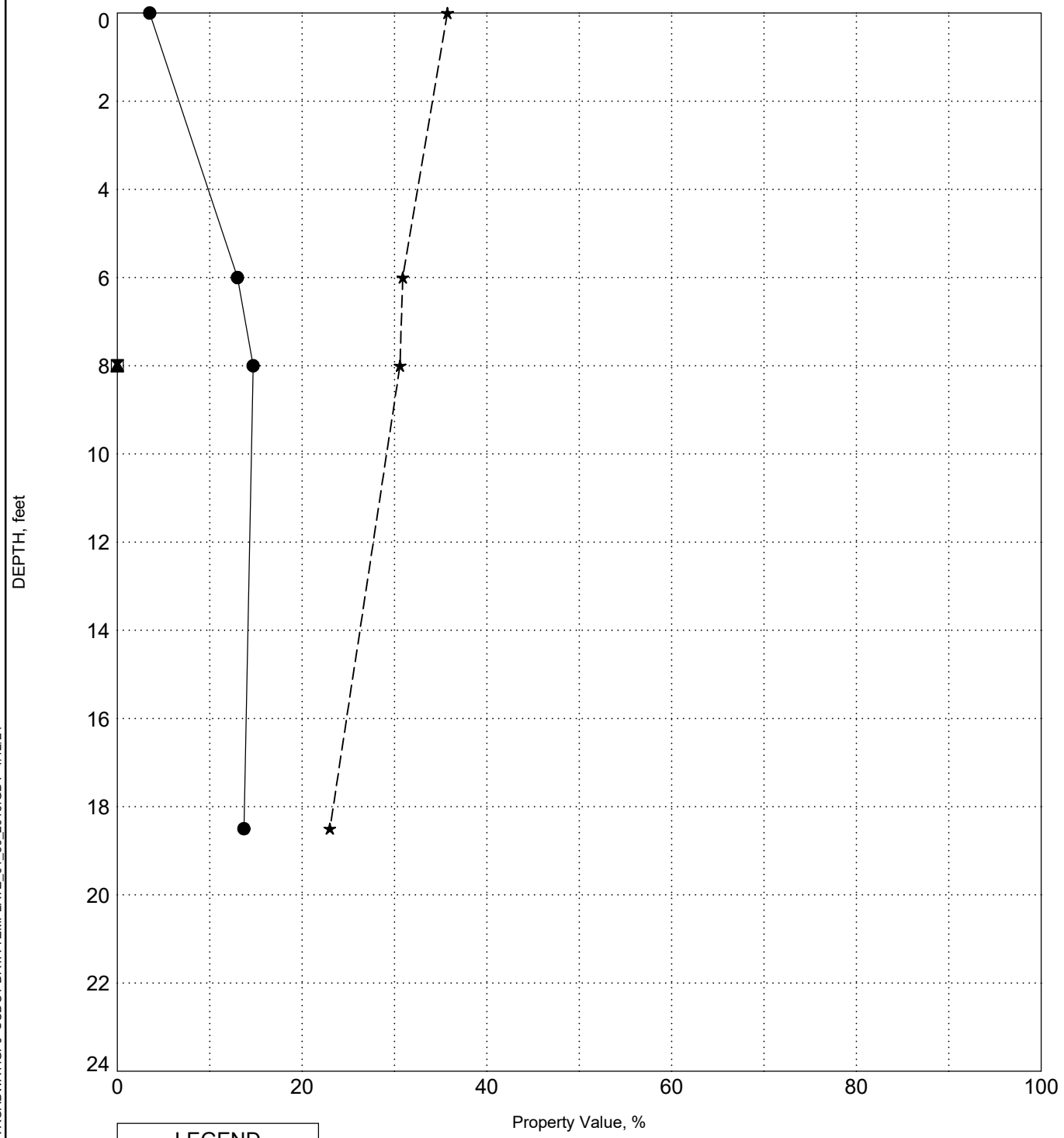
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-48

SURFACE ELEVATION: 463.0



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

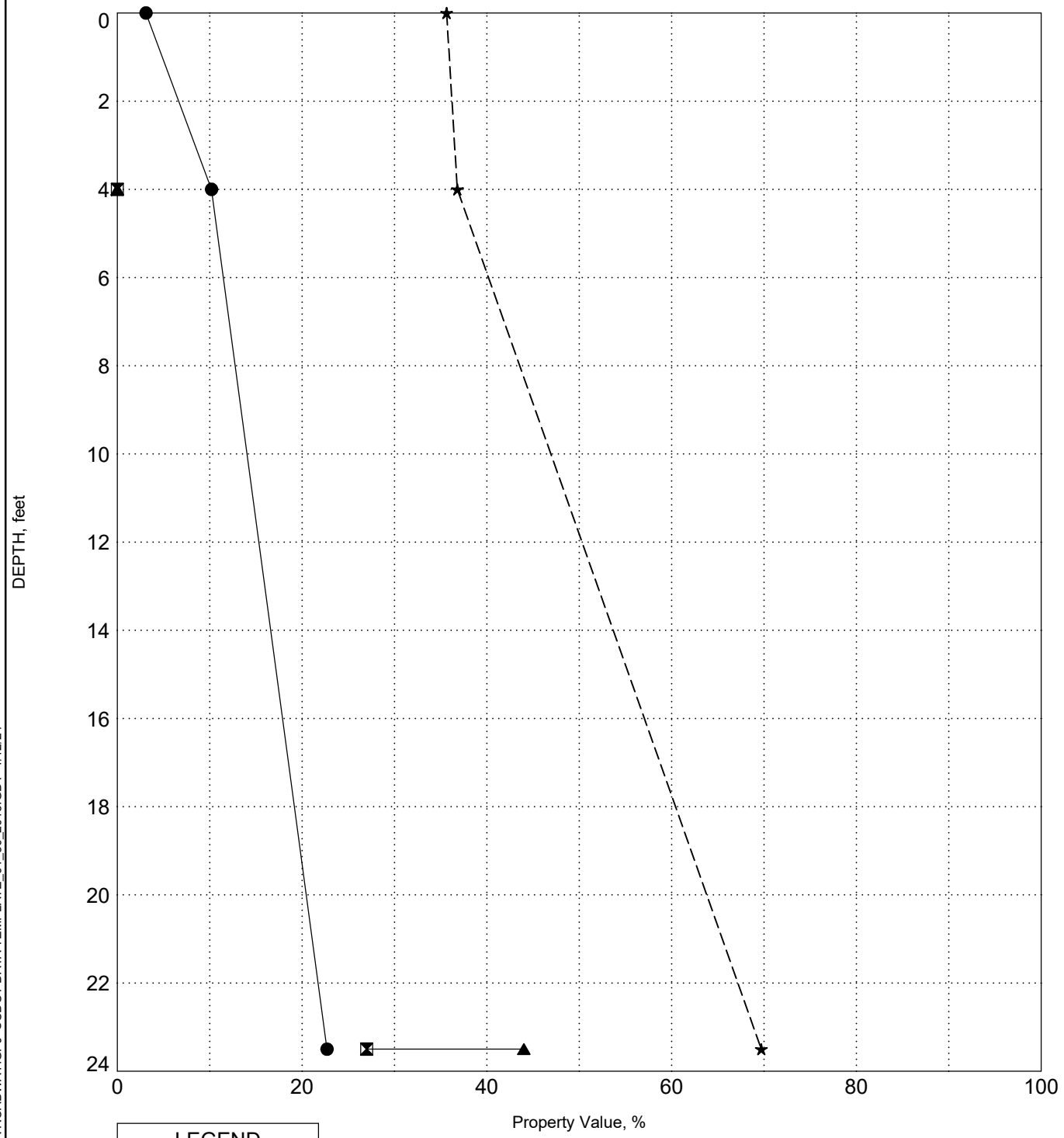
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-49

SURFACE ELEVATION: 459.2



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

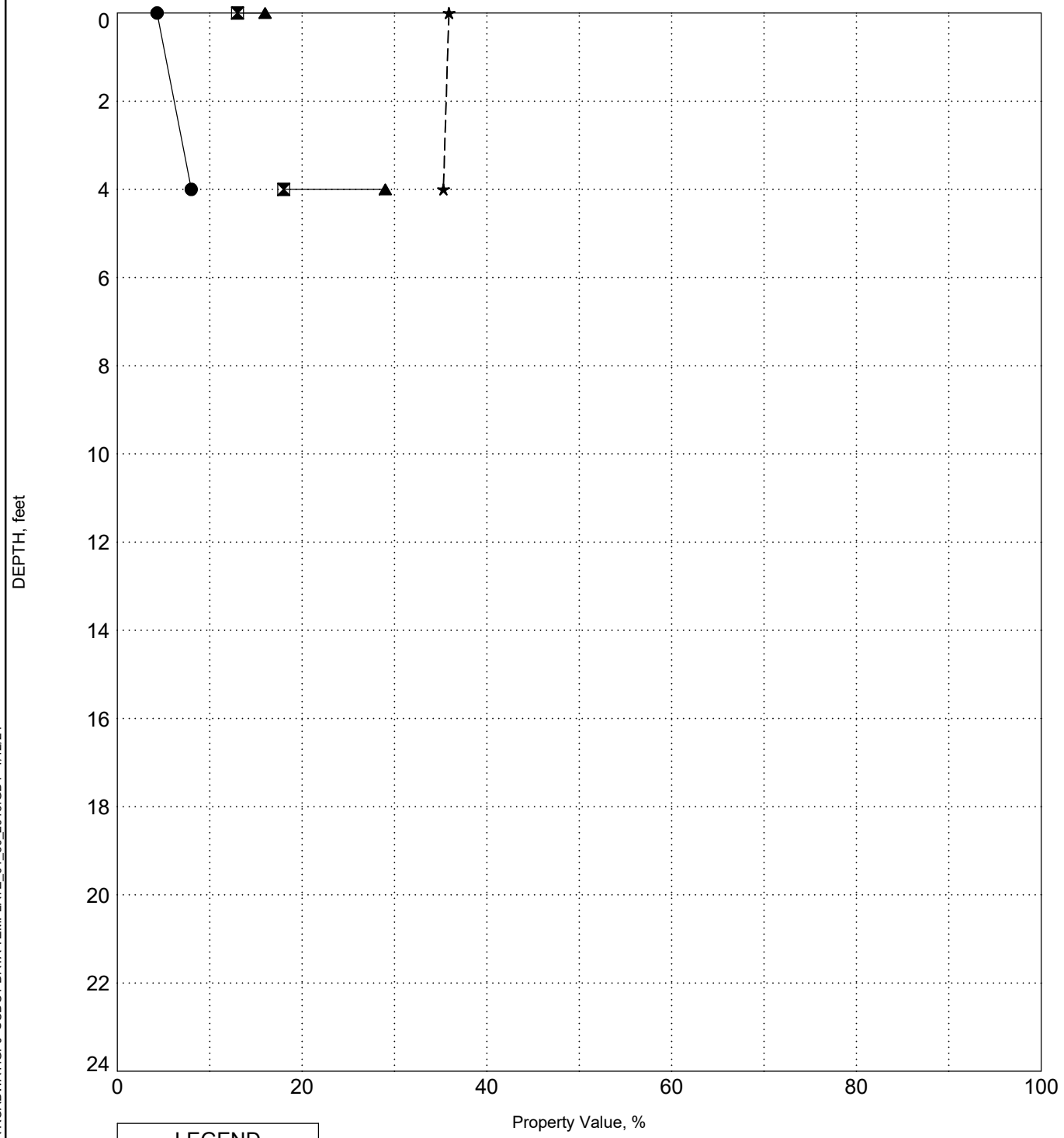
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-50

SURFACE ELEVATION: 457.5



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

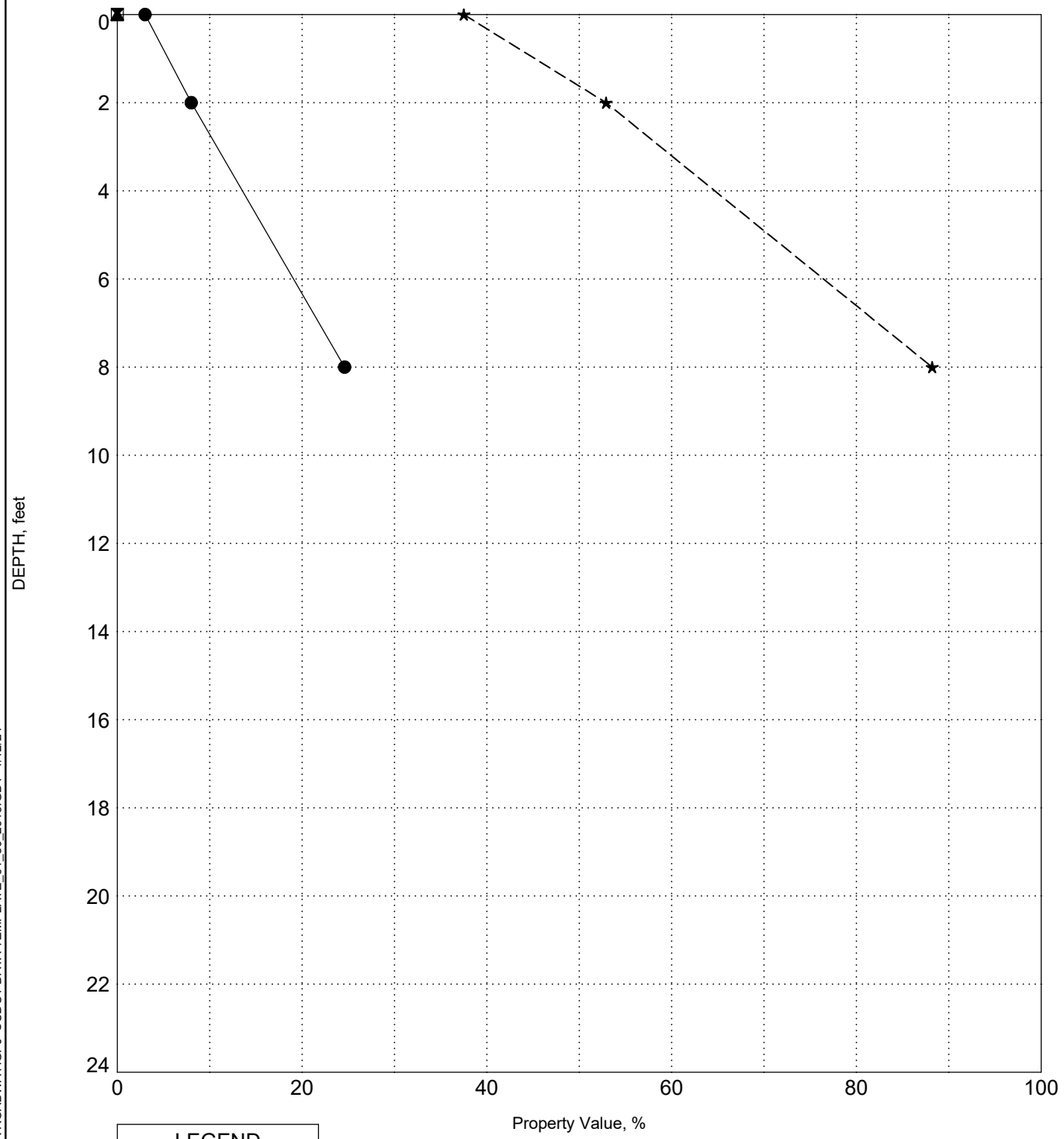
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-51

SURFACE ELEVATION: 454.4



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

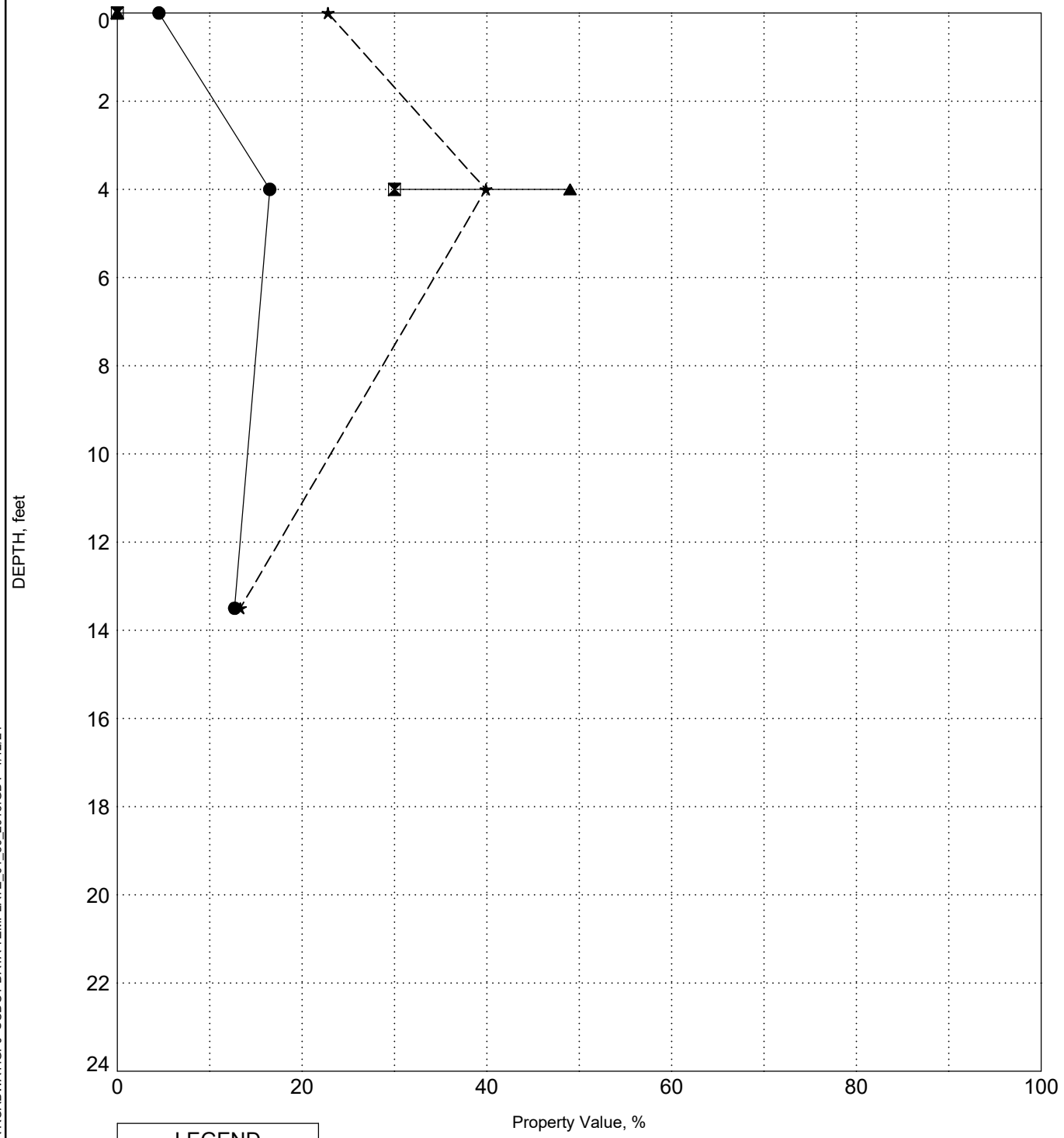
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-52

SURFACE ELEVATION: 456.0



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

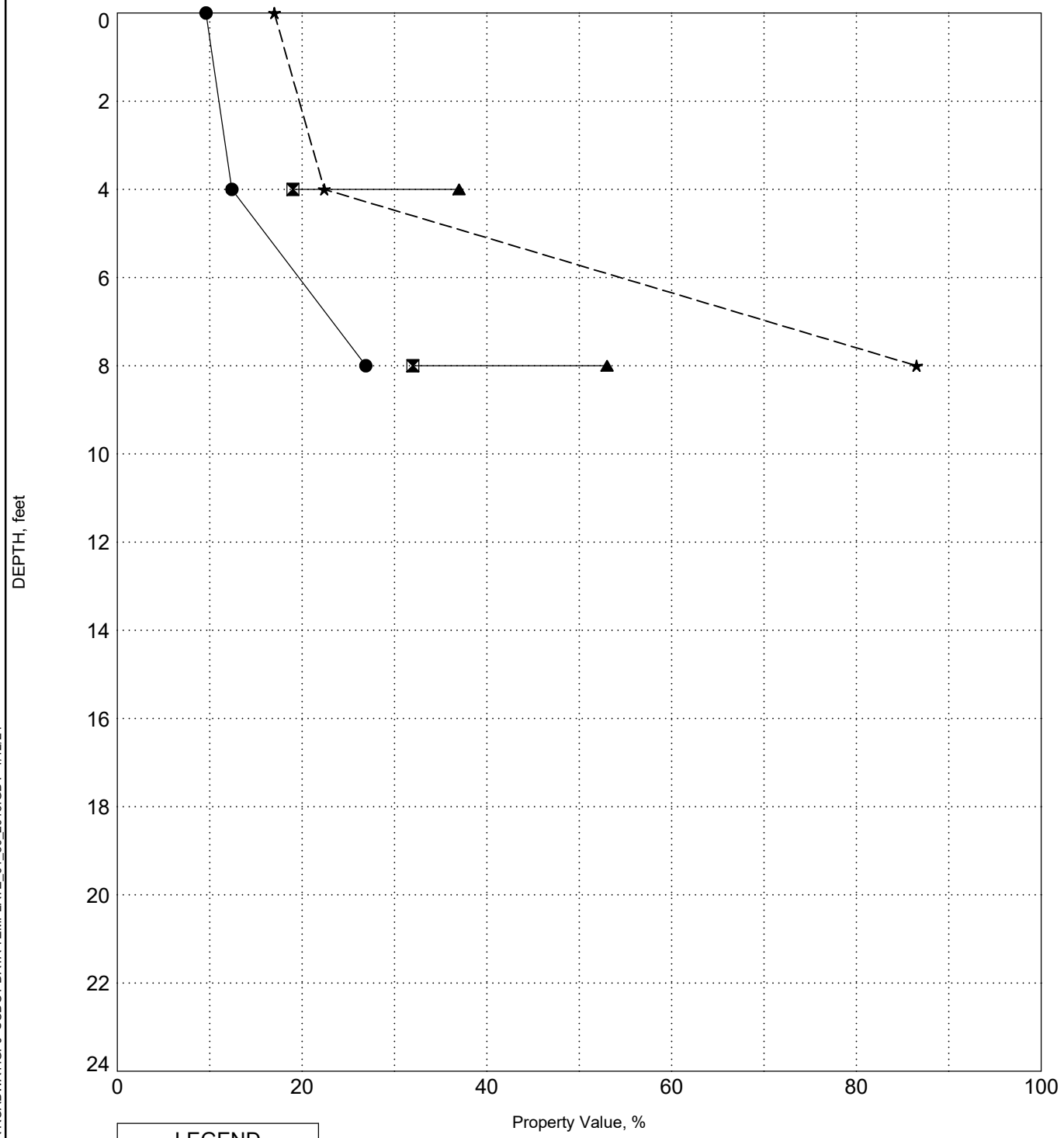
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-53

SURFACE ELEVATION: 454.5



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

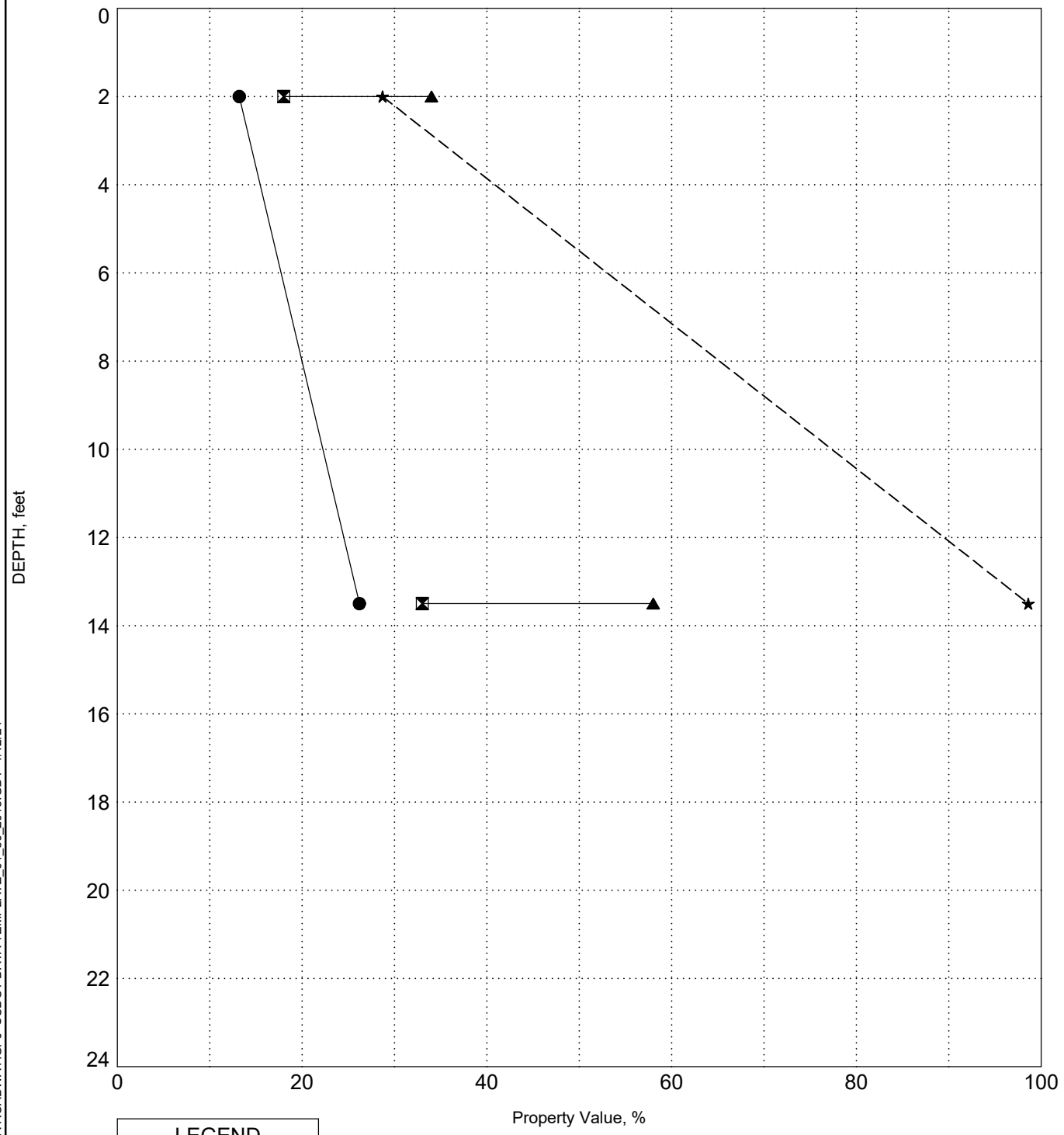
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-54

SURFACE ELEVATION: 453.4



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

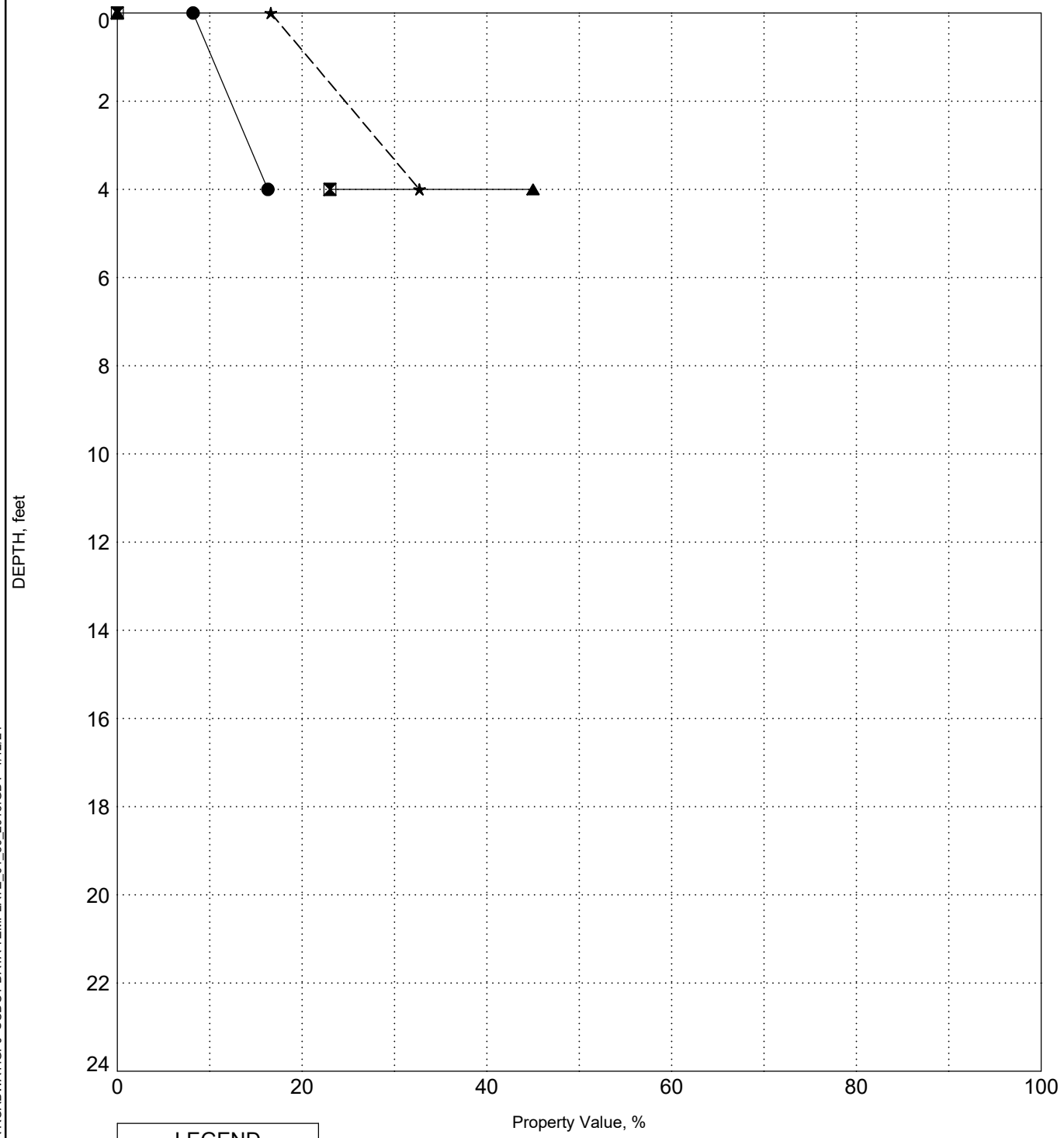
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-55

SURFACE ELEVATION: 453.2



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

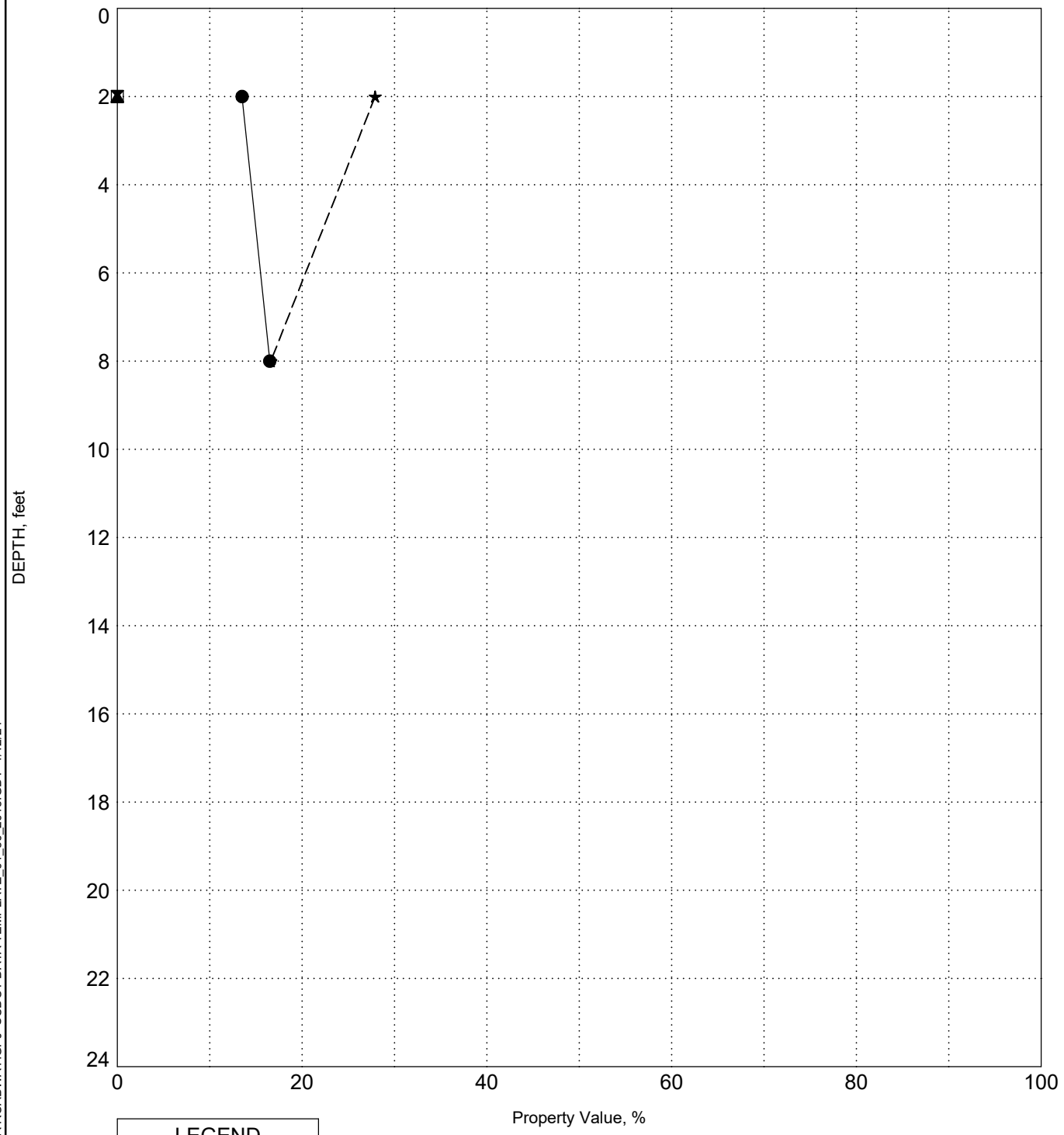
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-56

SURFACE ELEVATION: 451.7



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

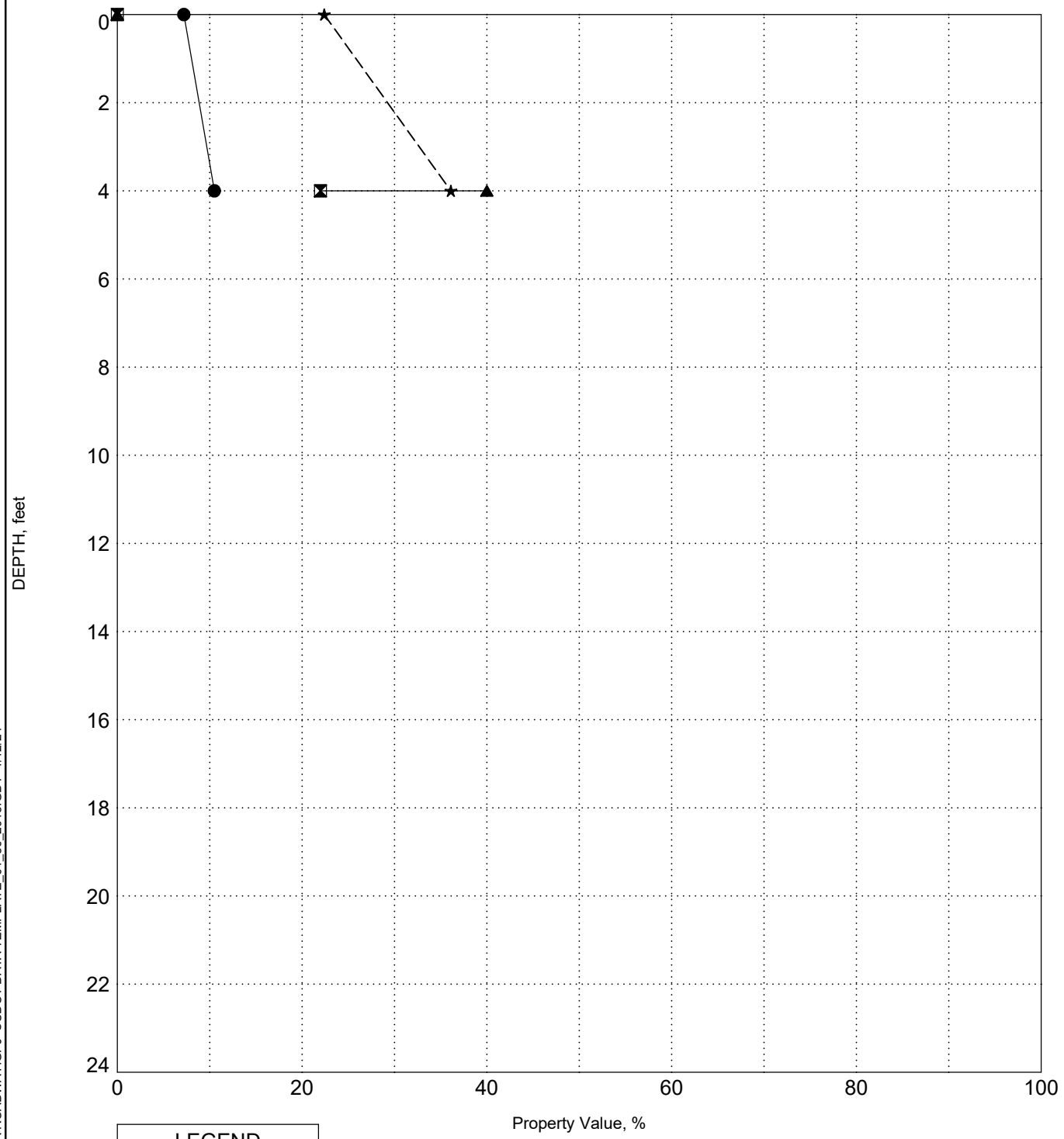
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-57

SURFACE ELEVATION: 451.8



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

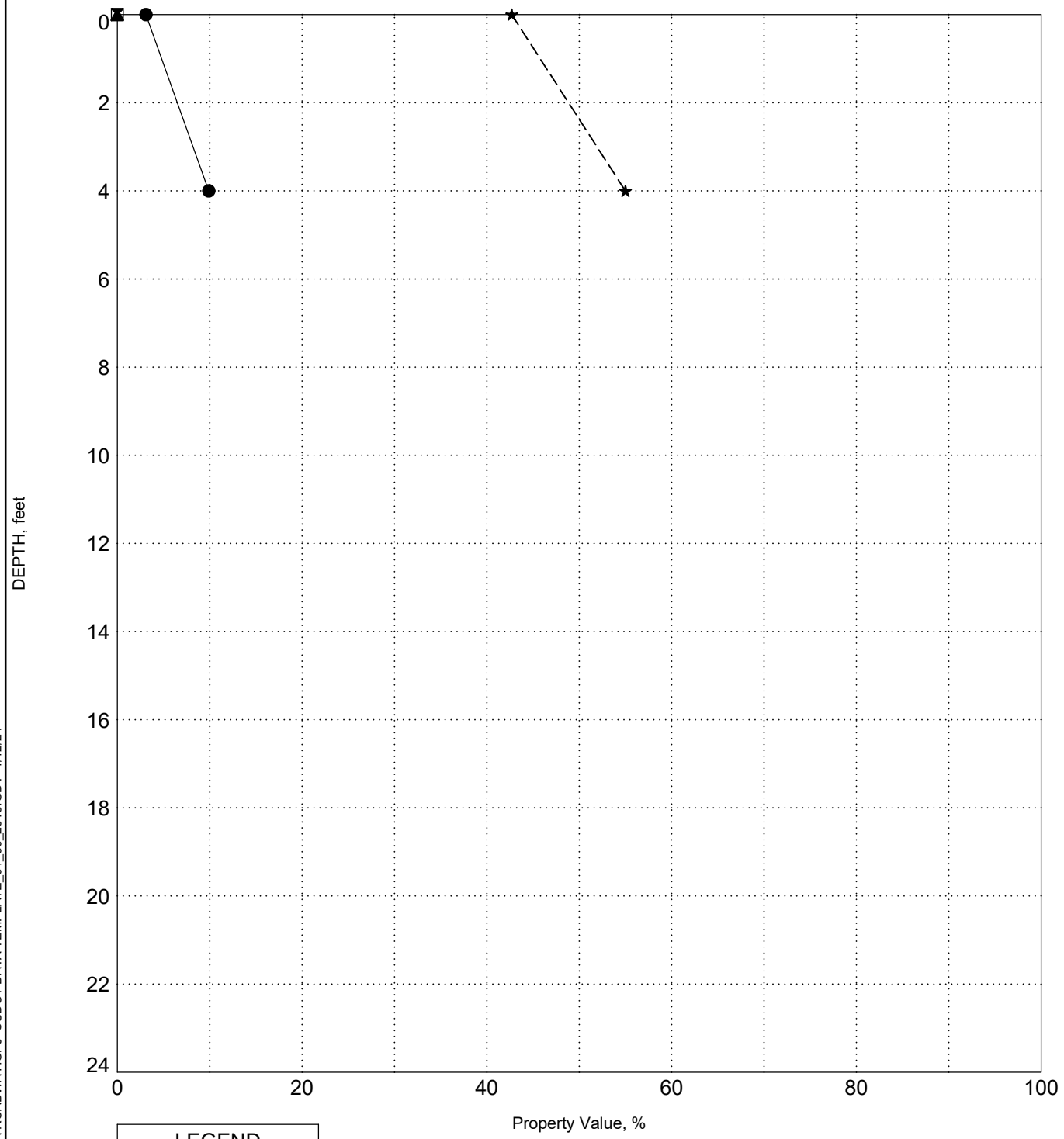
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-58

SURFACE ELEVATION: 453.7



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

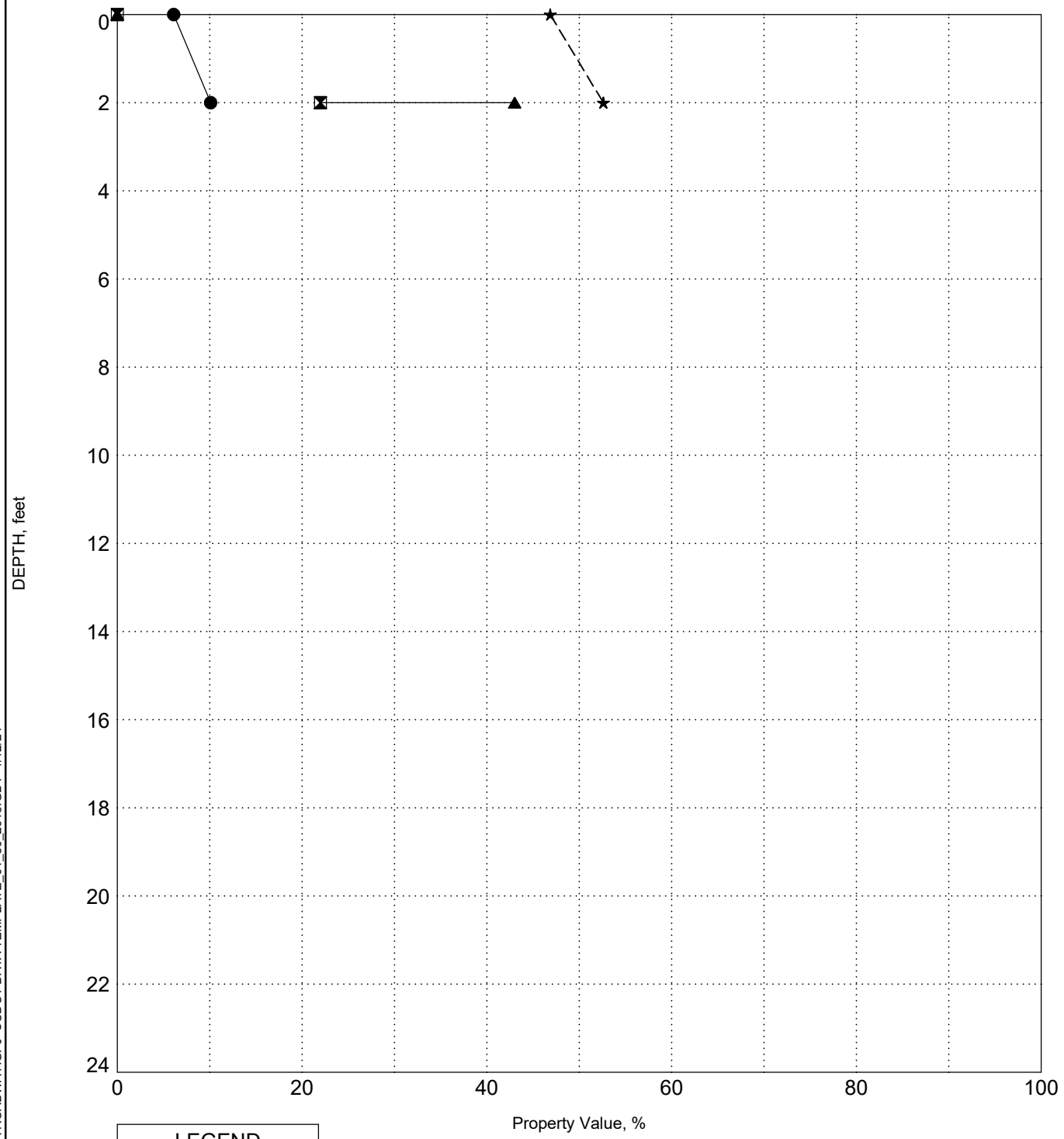
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-59

SURFACE ELEVATION: 450.8



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

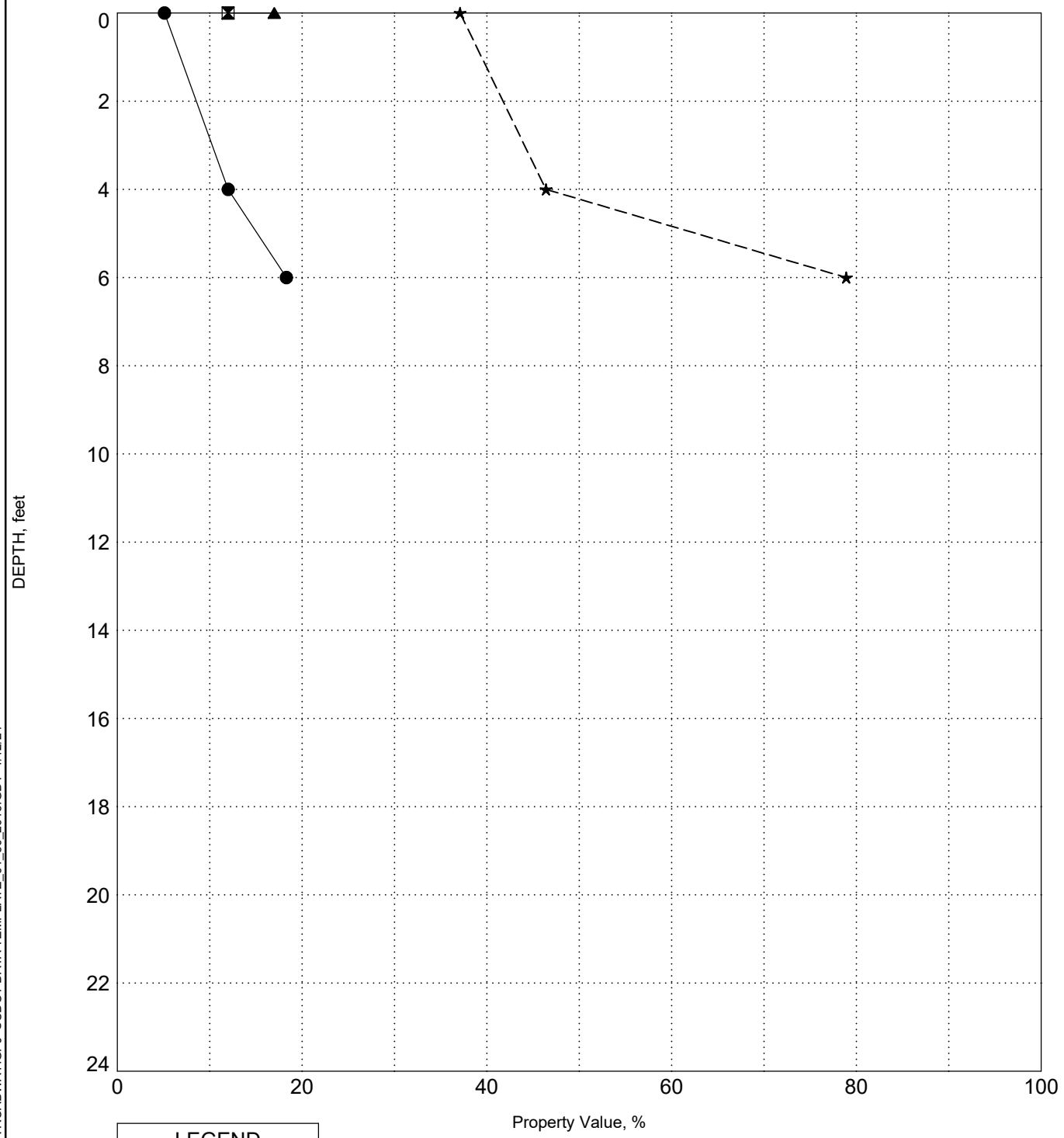
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-60

SURFACE ELEVATION: 440.5



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

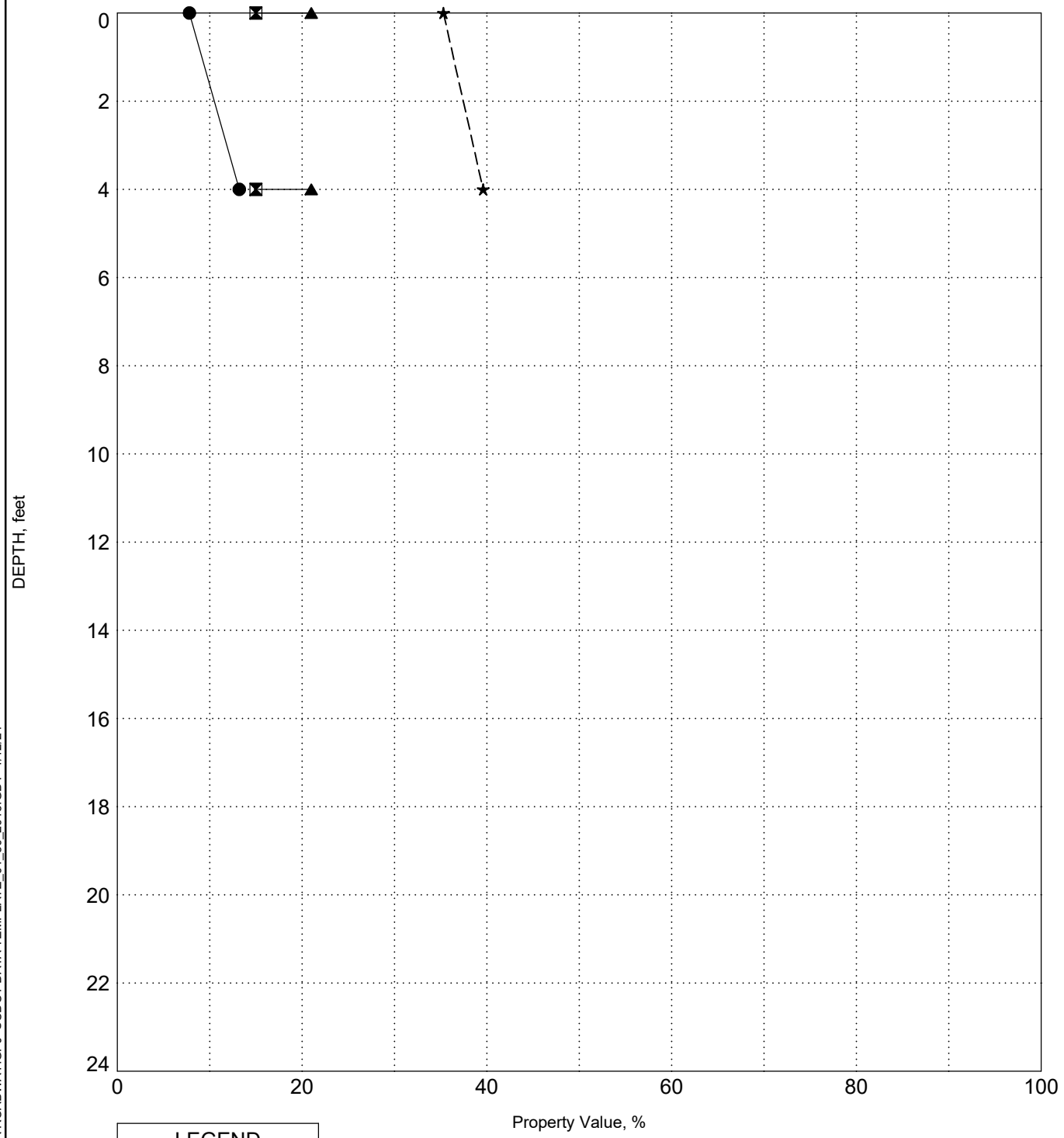
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING W-61

SURFACE ELEVATION: 434.5



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

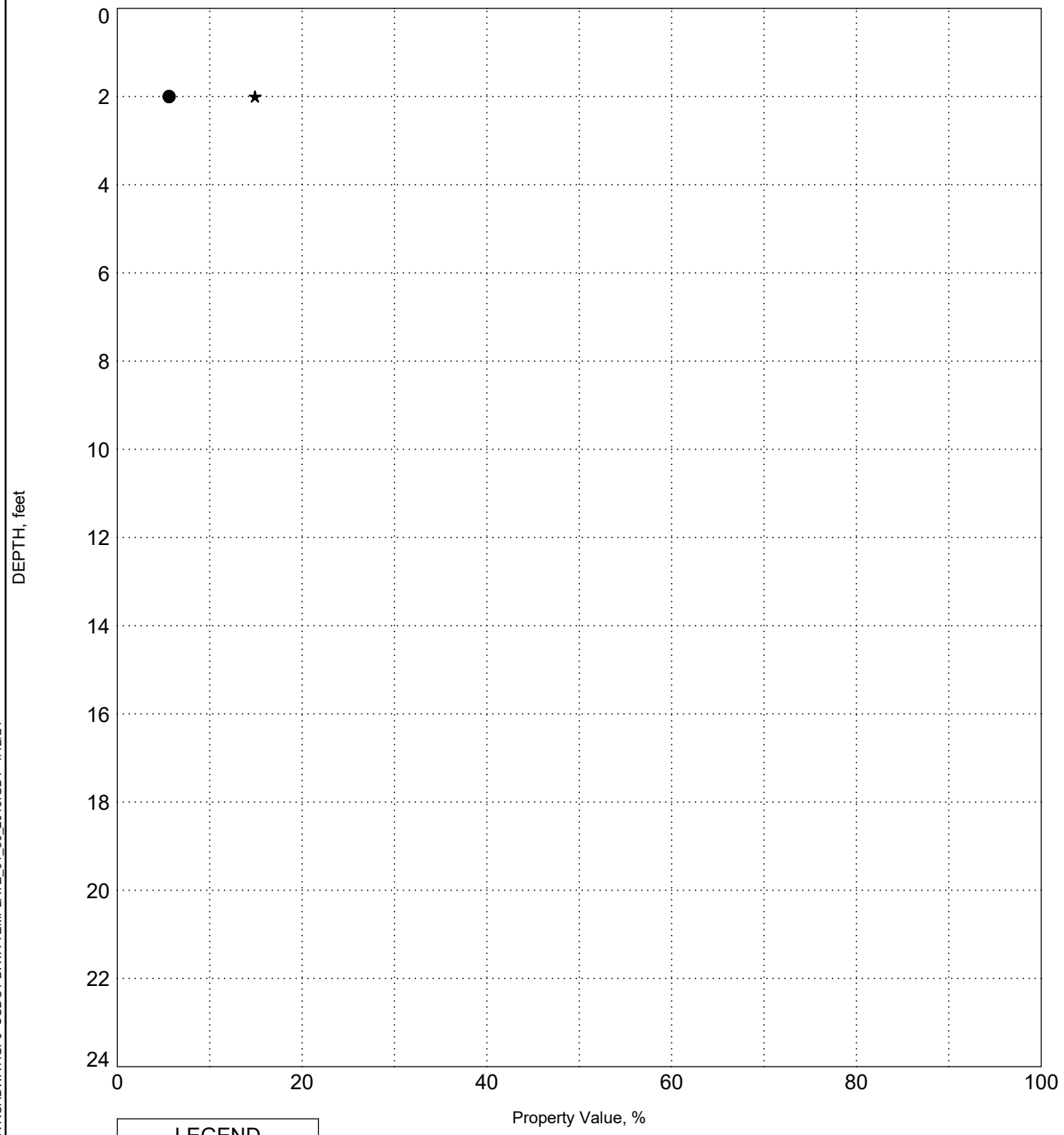
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING WR- 2

SURFACE ELEVATION: 479.2



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

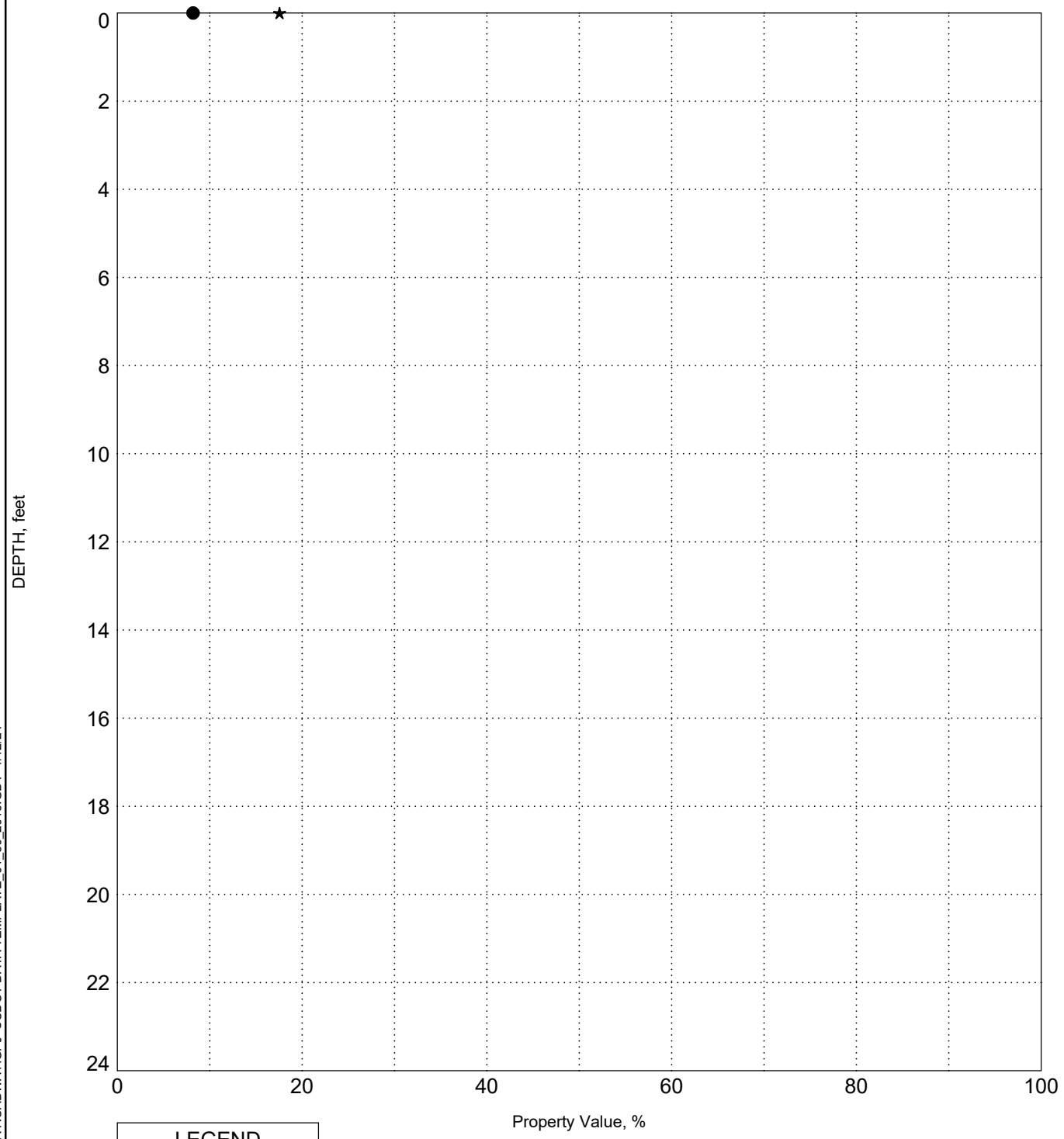
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING WR- 6

SURFACE ELEVATION: 451.9



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

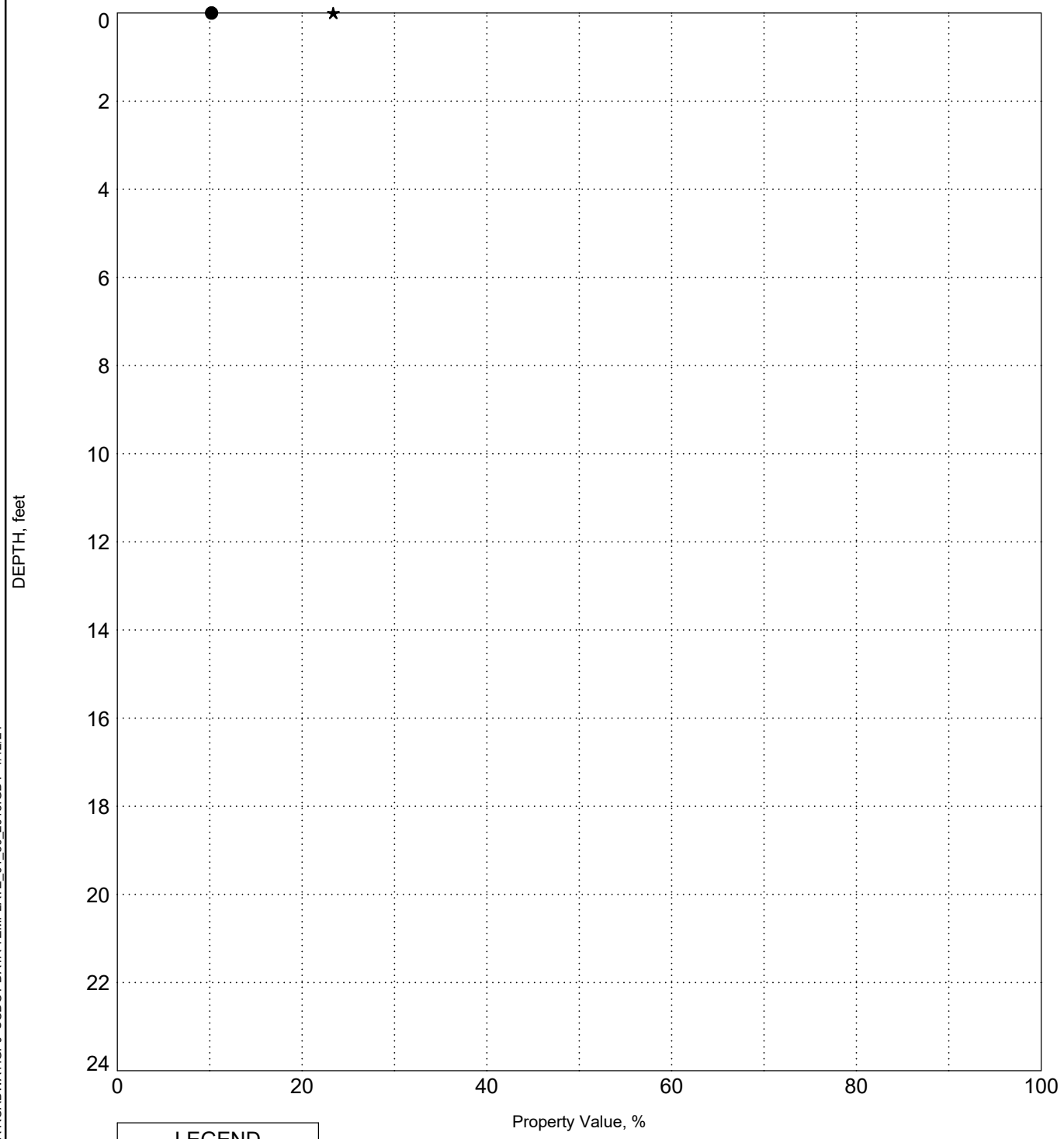
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING WR- 7

SURFACE ELEVATION: 456.3



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

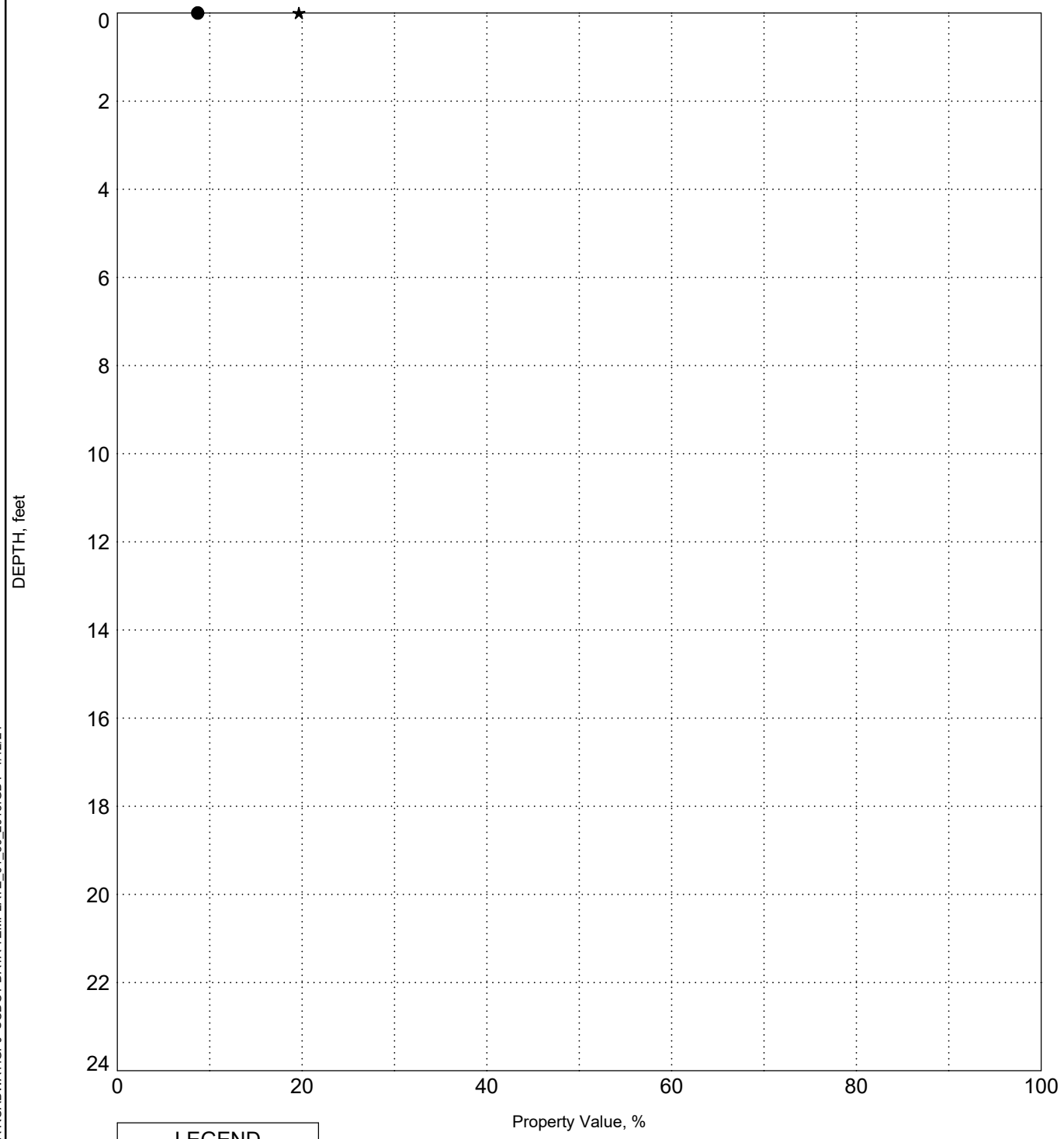
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING WR- 8

SURFACE ELEVATION: 464.5



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

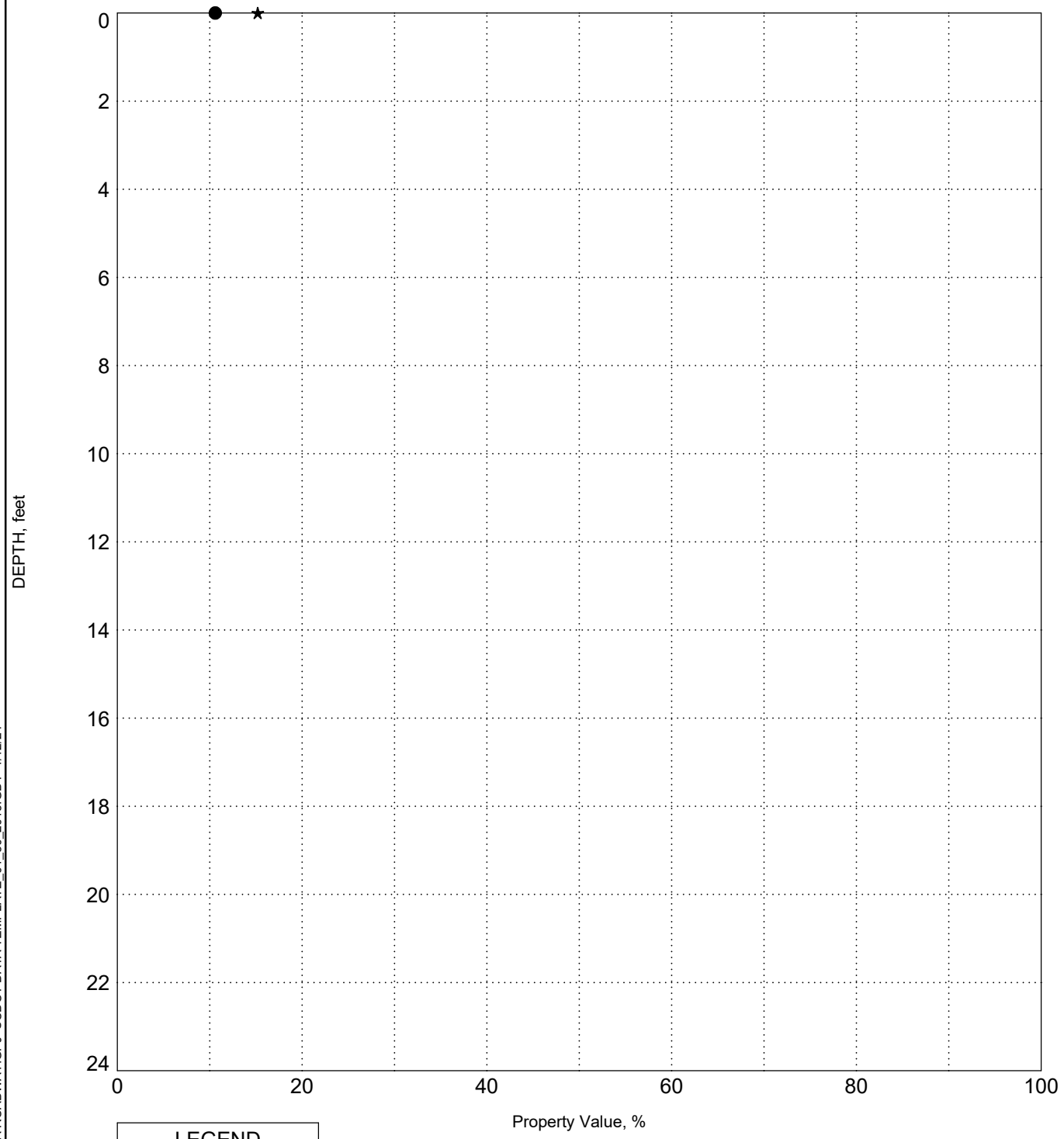
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING WR- 9

SURFACE ELEVATION: 446.5



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

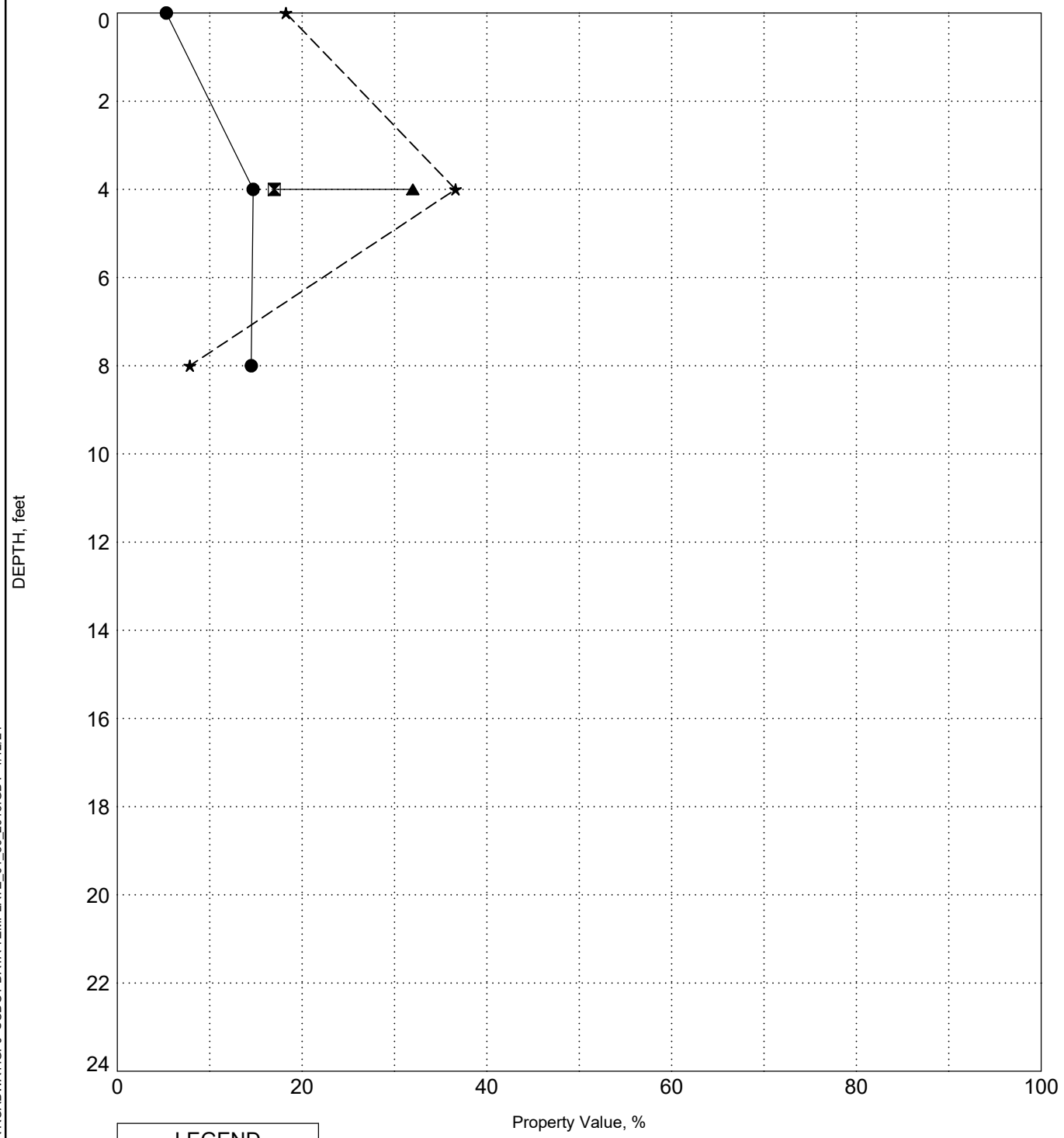
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING WR-10

SURFACE ELEVATION: 440.2



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

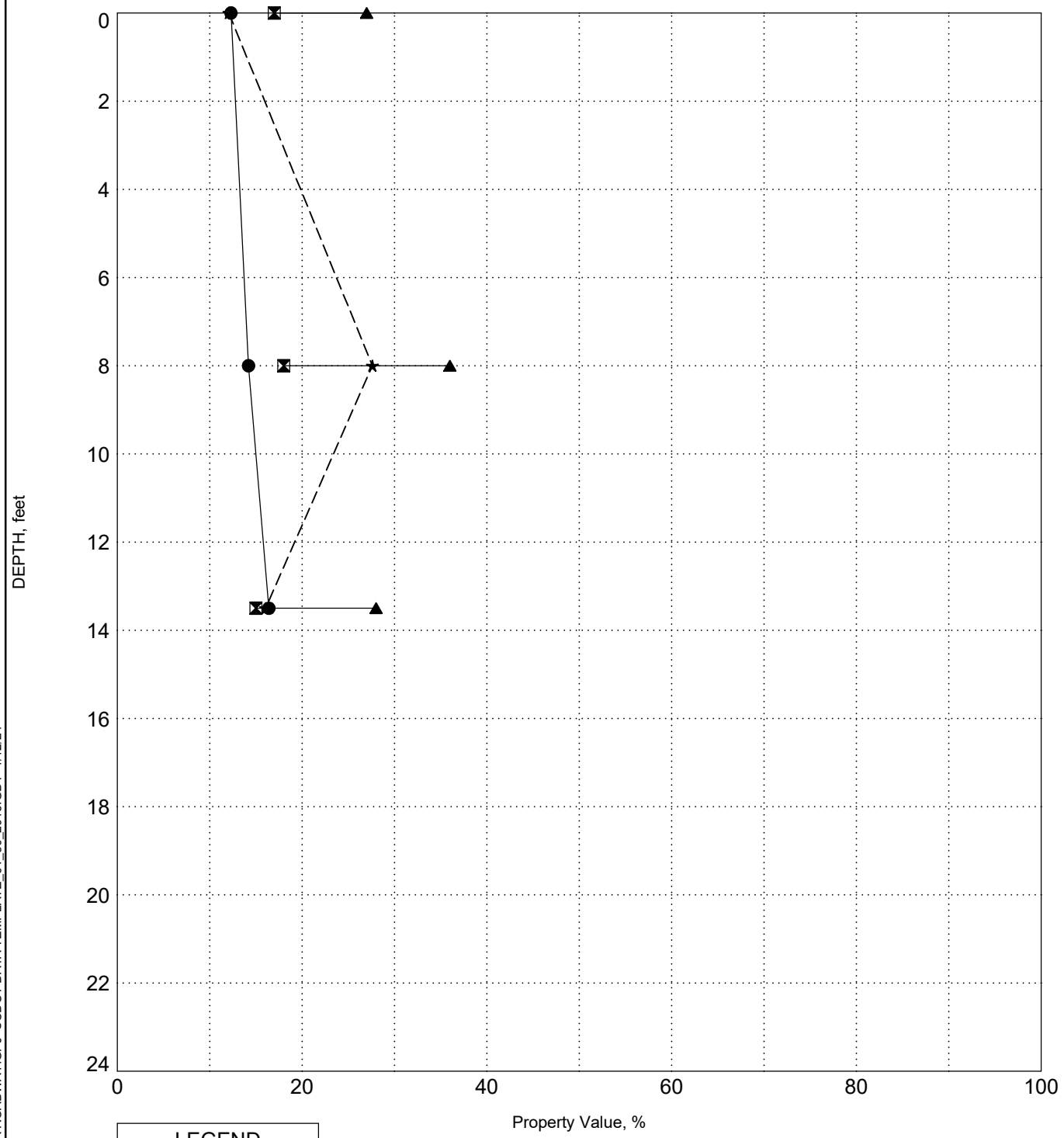
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING WR-11

SURFACE ELEVATION: 445.4



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

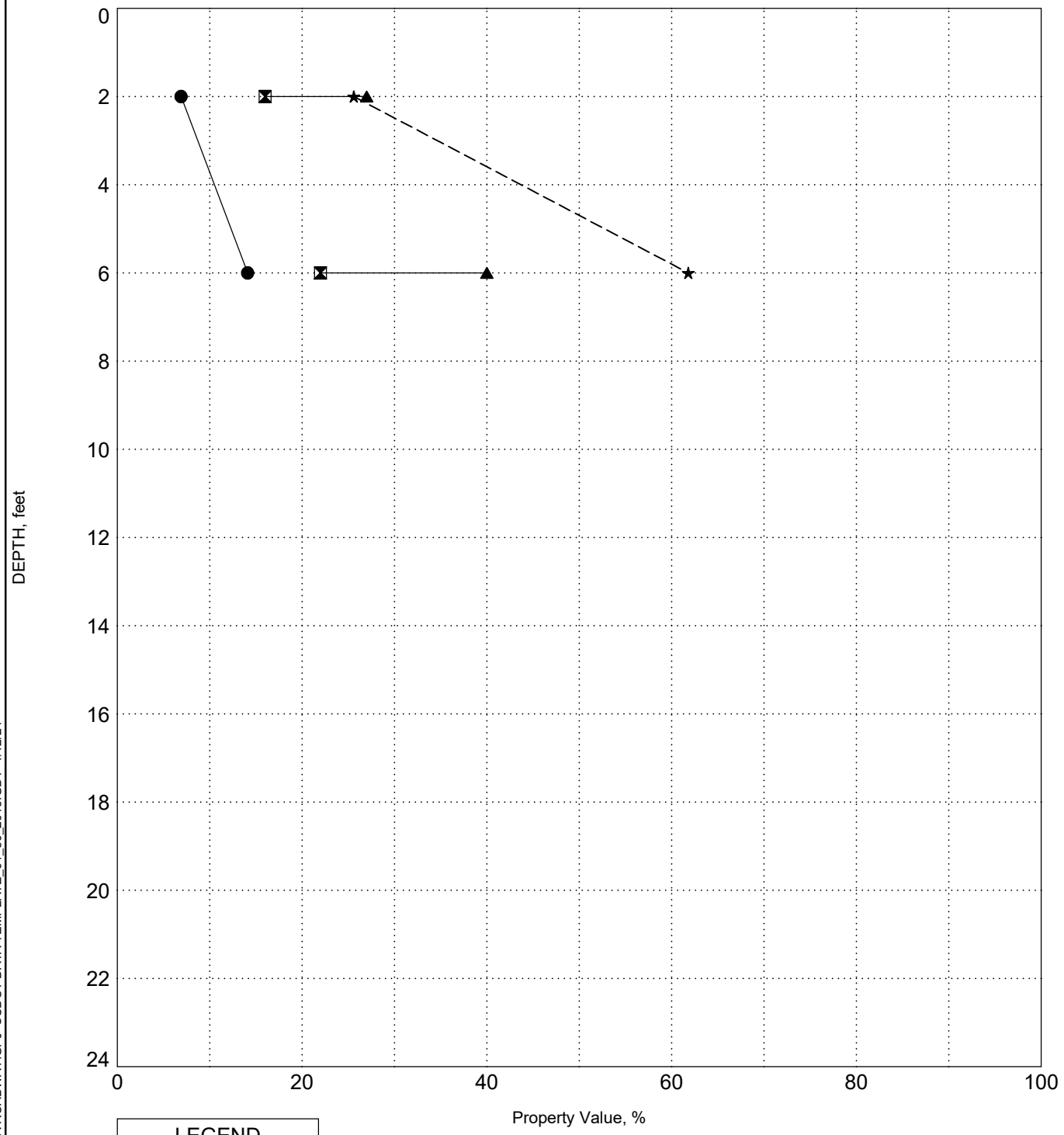
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING WR-12

SURFACE ELEVATION: 446.1



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

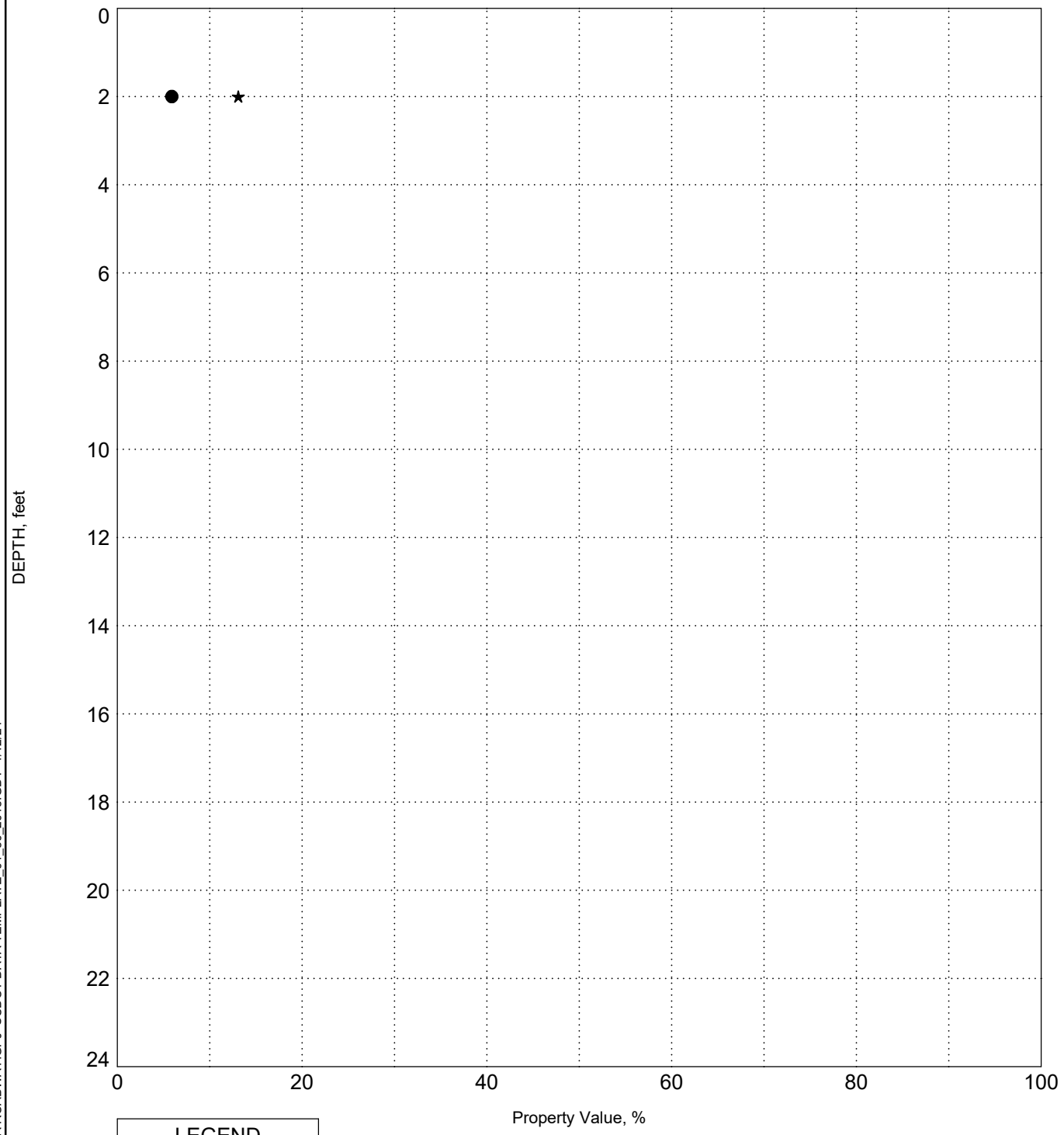
INDEX PROPERTIES VERSUS DEPTH

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING WR-13

SURFACE ELEVATION: 451.7



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

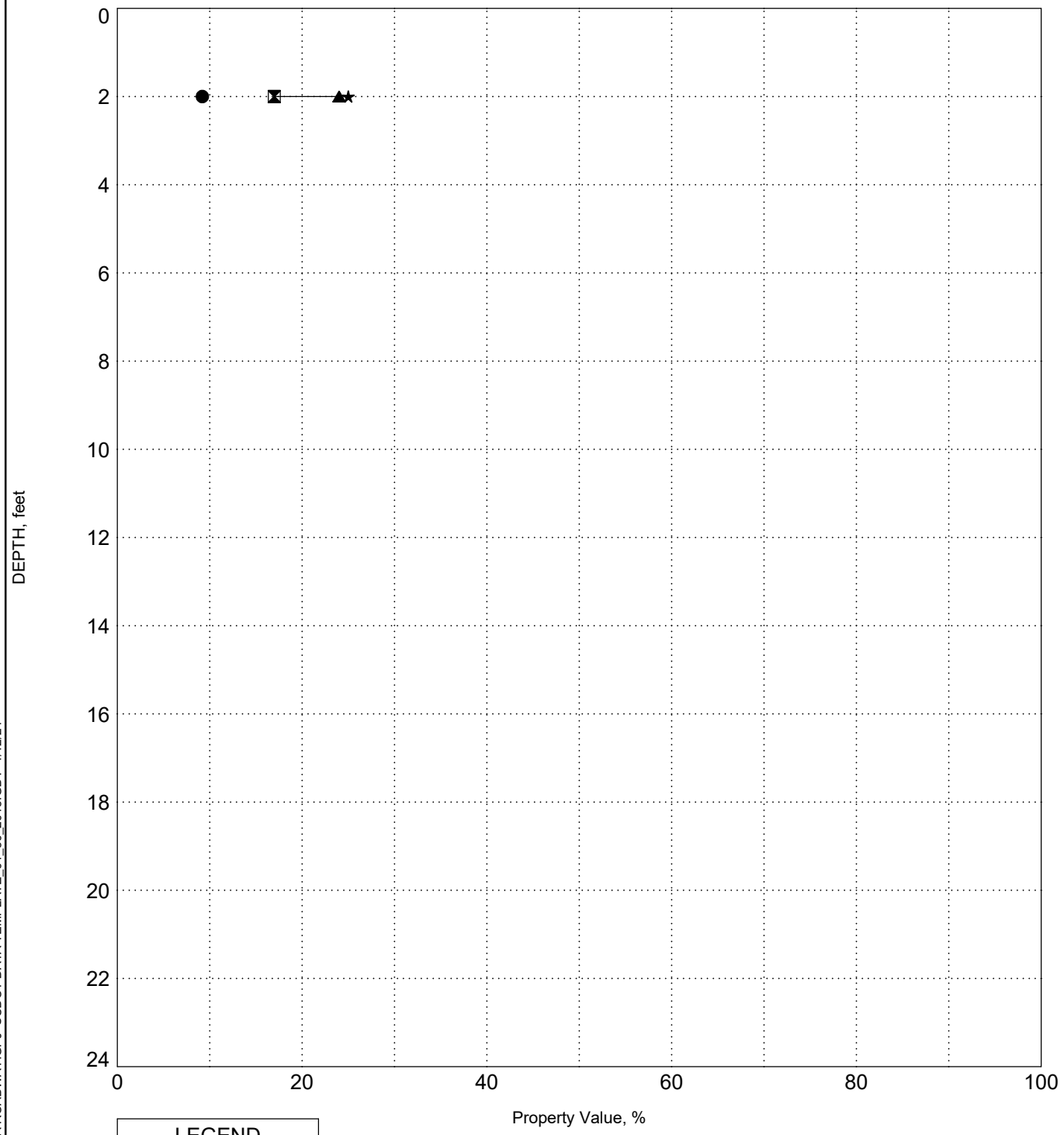
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING WR-14

SURFACE ELEVATION: 448.9



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

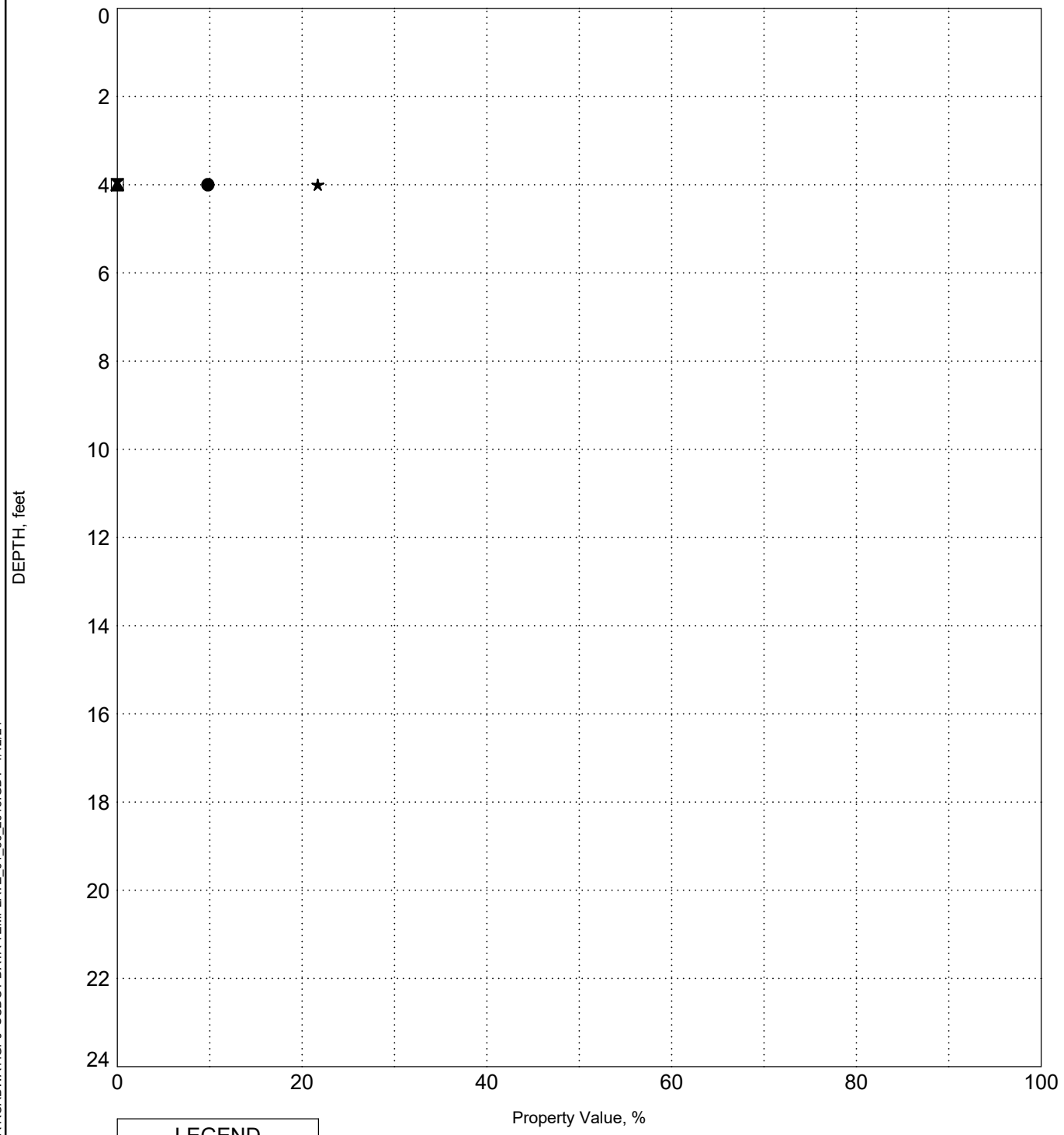
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING WR-15

SURFACE ELEVATION: 450.0



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

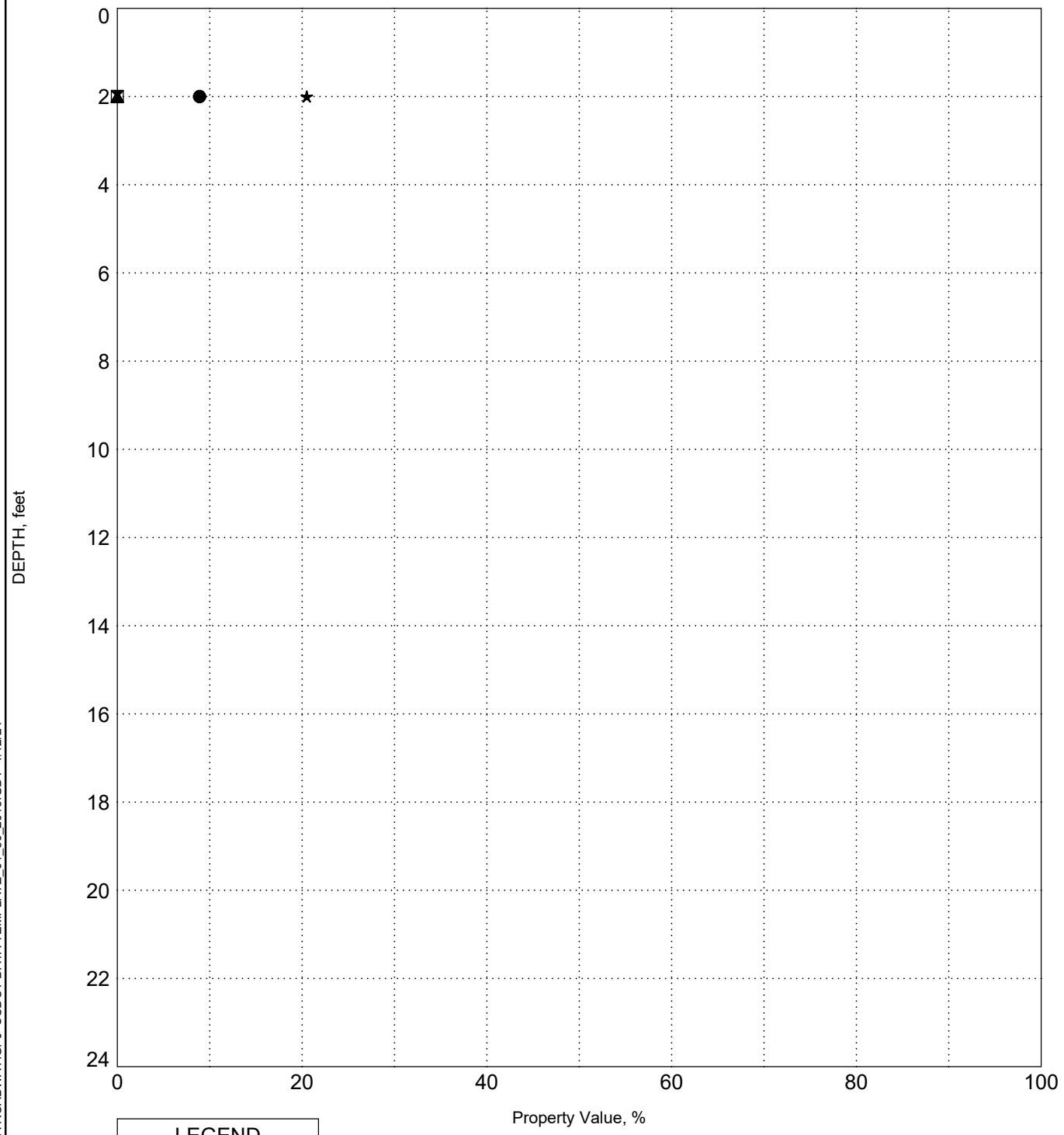
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING WR-16

SURFACE ELEVATION: 450.3



LEGEND
● Water Content
⧗ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

INDEX PROPERTIES VERSUS DEPTH

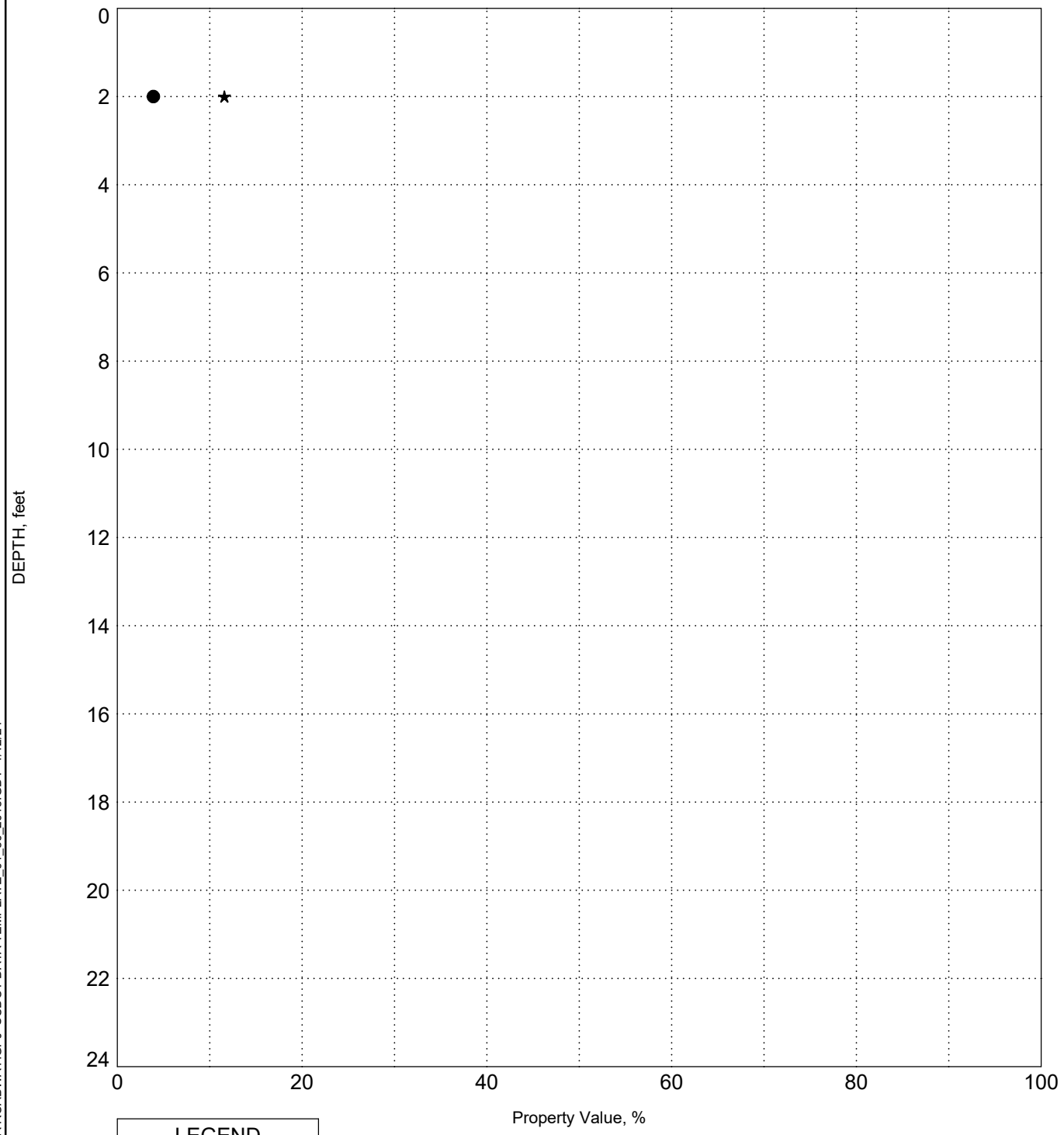
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING WR-26

SURFACE ELEVATION: 474.5



LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPERTIES VERSUS DEPTH

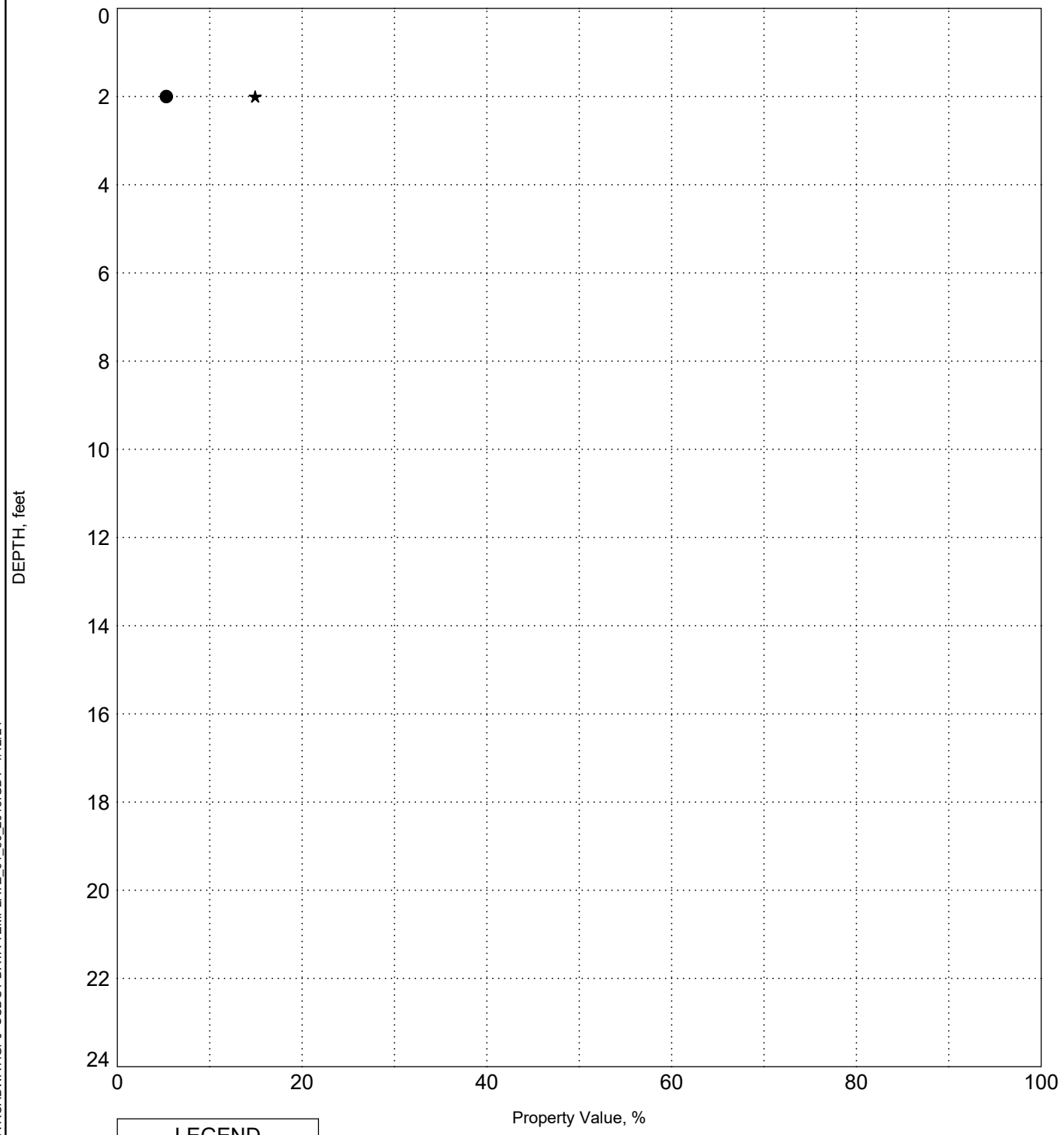
PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland

BORING WR-27

SURFACE ELEVATION: 478.7



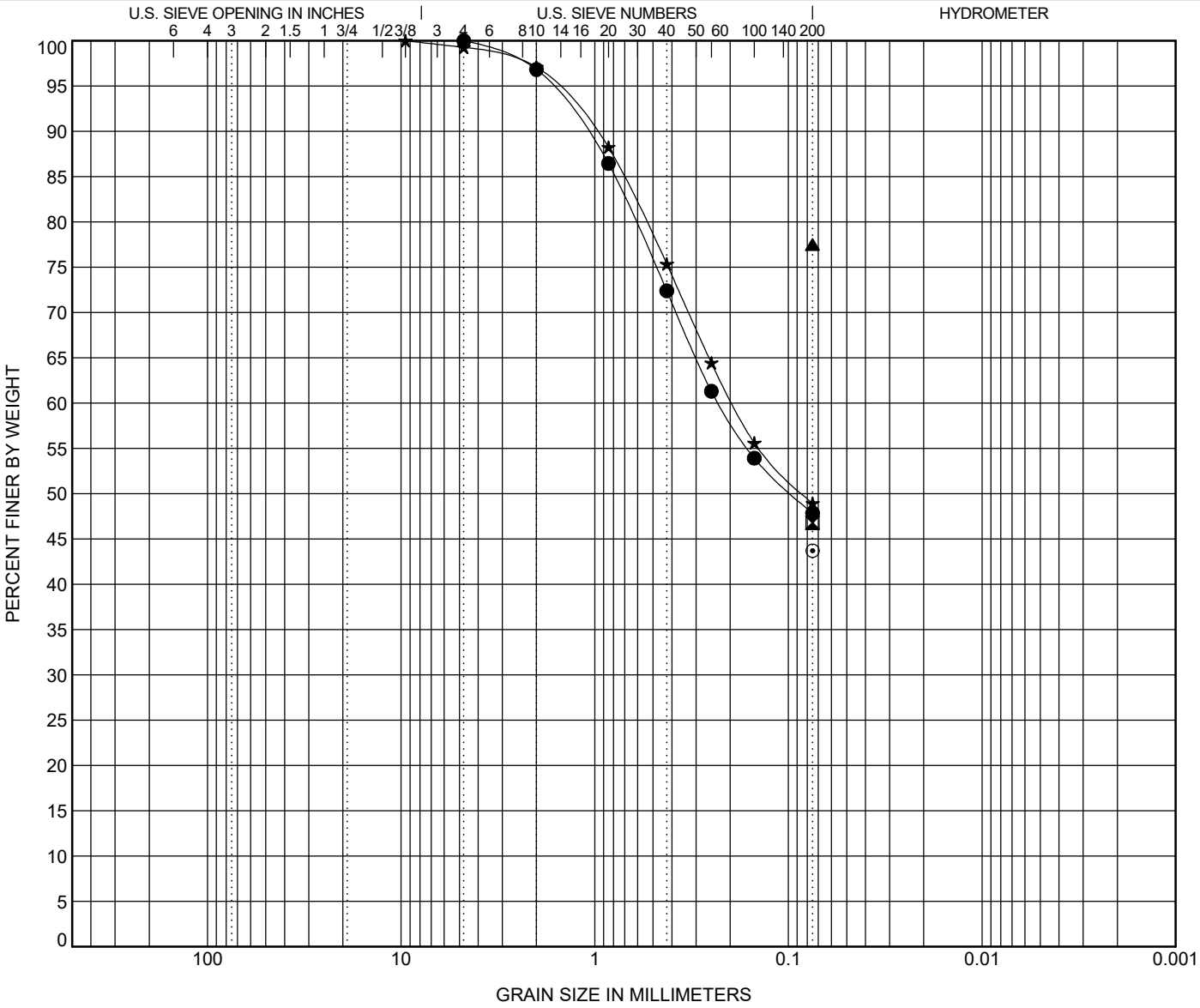
LEGEND
● Water Content
⊠ Plastic Limit
▲ Liquid Limit
★ Fines

INDEX PROPS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

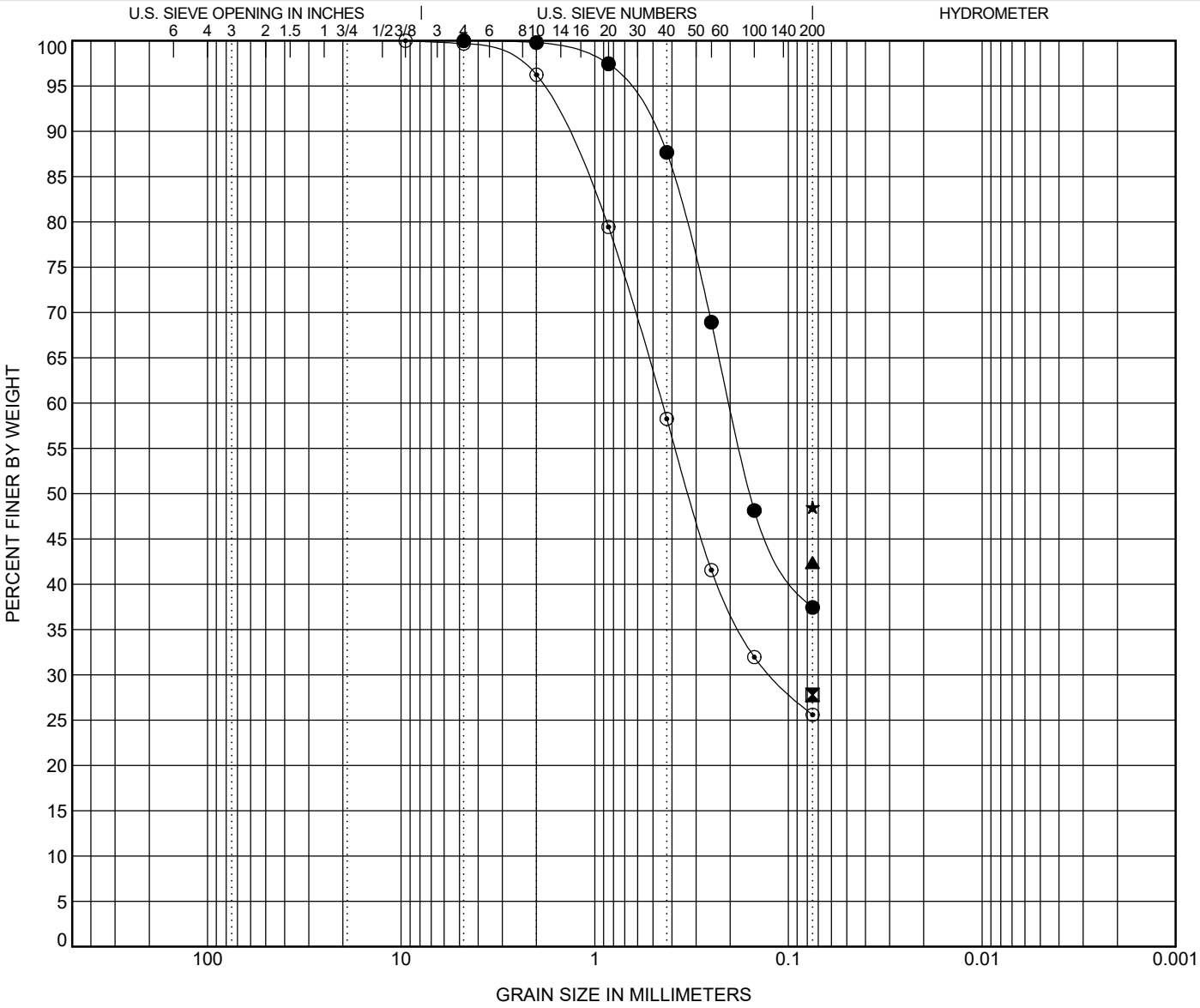
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	C- 1	0.0	**Silty SAND (SM)**					
⊠	C- 1	8.0	**Clayey SAND (SC)**	29	16	13		
▲	C- 1	18.5	**SILT with Sand (ML)**	45	35	10		
★	C- 2	0.0	**Silty SAND (SM)**					
⊙	C- 2	4.0	**Clayey SAND (SC)**	35	23	12		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	C- 1	0.0	4.75	0.228			0.0	52.1	47.9	
⊠	C- 1	8.0	0.075						46.8	
▲	C- 1	18.5	0.075						77.5	
★	C- 2	0.0	9.5	0.193			0.7	50.3	48.9	
⊙	C- 2	4.0	0.075						43.7	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

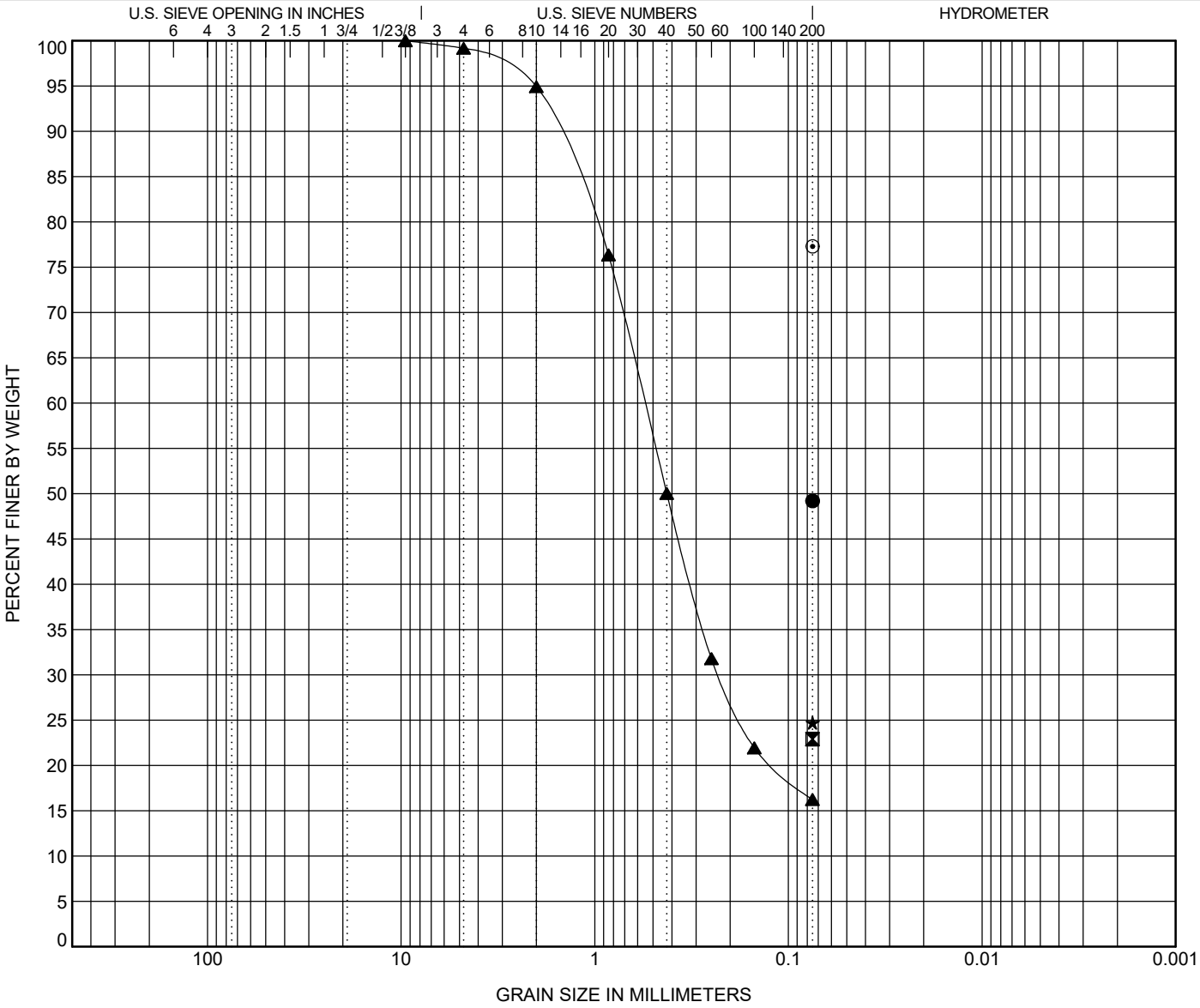
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	C- 2	8.0	**Silty SAND (SM)**					
⊠	C- 3	0.0	**Silty SAND (SM)**					
▲	C- 3	2.0	**Clayey SAND (SC)**	**38**	**20**	**18**		
★	C- 3	13.5	**Silty SAND (SM)**	**45**	**33**	**12**		
⊙	C- 4	0.0	**Silty SAND (SM)**					

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	C- 2	8.0	**4.75**	**0.201**			**0.0**	**62.6**	**37.4**	
⊠	C- 3	0.0	**0.075**						**27.8**	
▲	C- 3	2.0	**0.075**						**42.4**	
★	C- 3	13.5	**0.075**						**48.5**	
⊙	C- 4	0.0	**9.5**	**0.45**	**0.121**		**0.3**	**74.1**	**25.6**	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

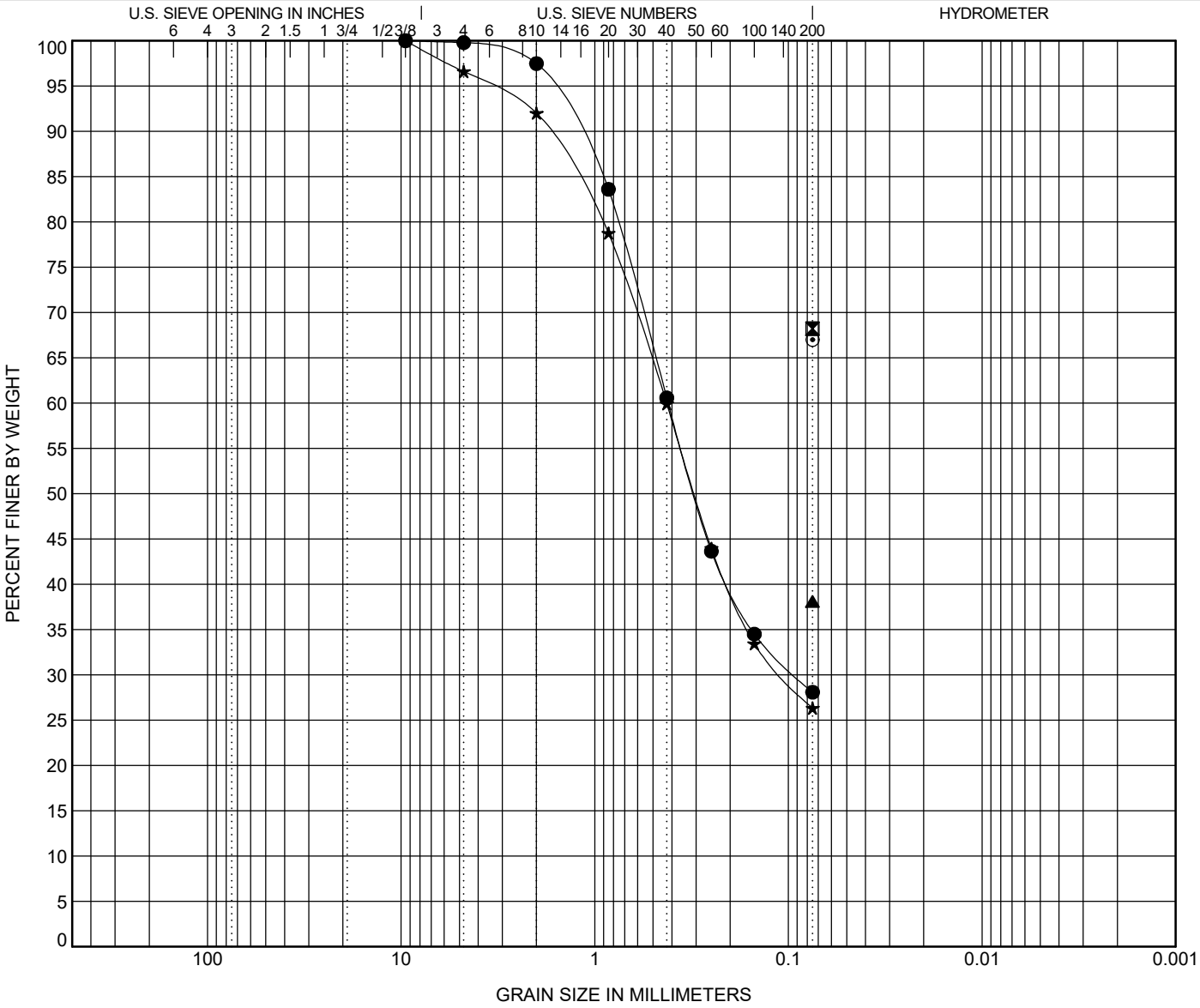
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	C- 4	2.0	**Clayey-Silty SAND (SC-SM)**	29	22	7		
⊠	C- 4	13.5	**Clayey SAND (SC)**	26	17	9		
▲	C- 5	0.0	**Silty SAND (SM)**					
★	C- 5	2.0	**Clayey SAND (SC)**	37	18	19		
⊙	C- 5	6.0	**Lean CLAY with Sand (CL)**	33	17	16		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	C- 4	2.0	0.075						49.2	
⊠	C- 4	13.5	0.075						22.9	
▲	C- 5	0.0	9.5	0.552	0.228		0.8	82.9	16.2	
★	C- 5	2.0	0.075						24.7	
⊙	C- 5	6.0	0.075						77.3	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

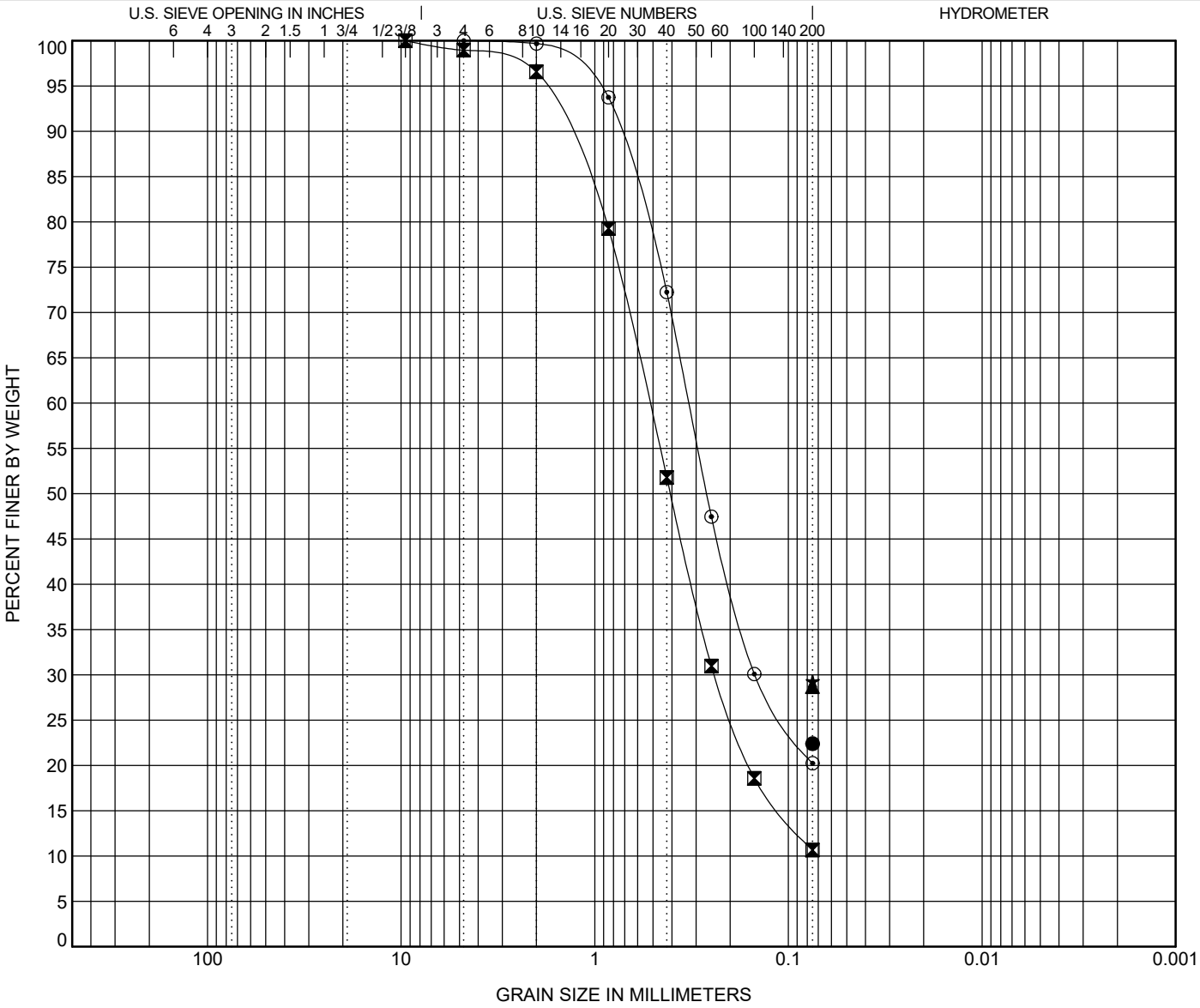
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	C- 6	0.0	Silty SAND (SM)					
⊠	C- 6	4.0	Sandy Lean CLAY (CL)	25	15	10		
▲	C- 6	8.0	Clayey SAND (SC)	19	11	8		
★	C- 7	0.0	Silty SAND (SM)					
⊙	C- 7	2.0	Sandy Lean CLAY (CL)	20	12	8		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	C- 6	0.0	9.5	0.417	0.092		0.2	71.7	28.1	
⊠	C- 6	4.0	0.075						68.2	
▲	C- 6	8.0	0.075						38.1	
★	C- 7	0.0	9.5	0.426	0.107		3.4	70.3	26.3	
⊙	C- 7	2.0	0.075						67.0	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

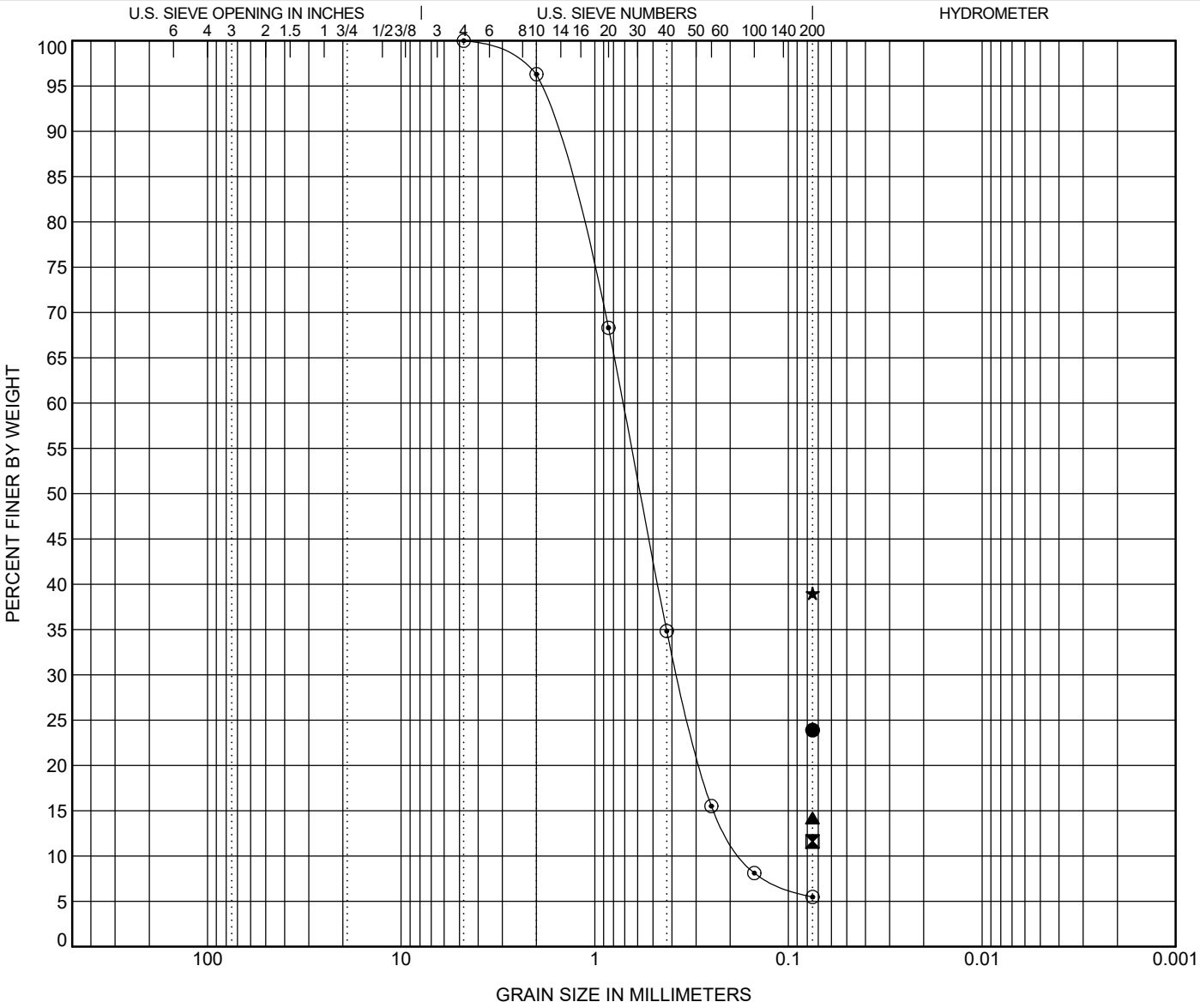
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	C- 7	8.0	Clayey SAND (SC)	25	14	11		
⊠	C- 8	0.0	Poorly Graded SAND with Silt (SP-SM)				1.56	7.39
▲	C- 8	2.0	Silty SAND (SM)					
★	C- 8	4.0	Clayey SAND (SC)	28	20	8		
⊙	C- 9	0.0	Silty SAND (SM)					

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	C- 7	8.0	0.075						22.4	
⊠	C- 8	0.0	9.5	0.523	0.24		1.0	88.3	10.7	
▲	C- 8	2.0	0.075						28.6	
★	C- 8	4.0	0.075						29.3	
⊙	C- 9	0.0	4.75	0.327	0.149		0.0	79.8	20.2	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

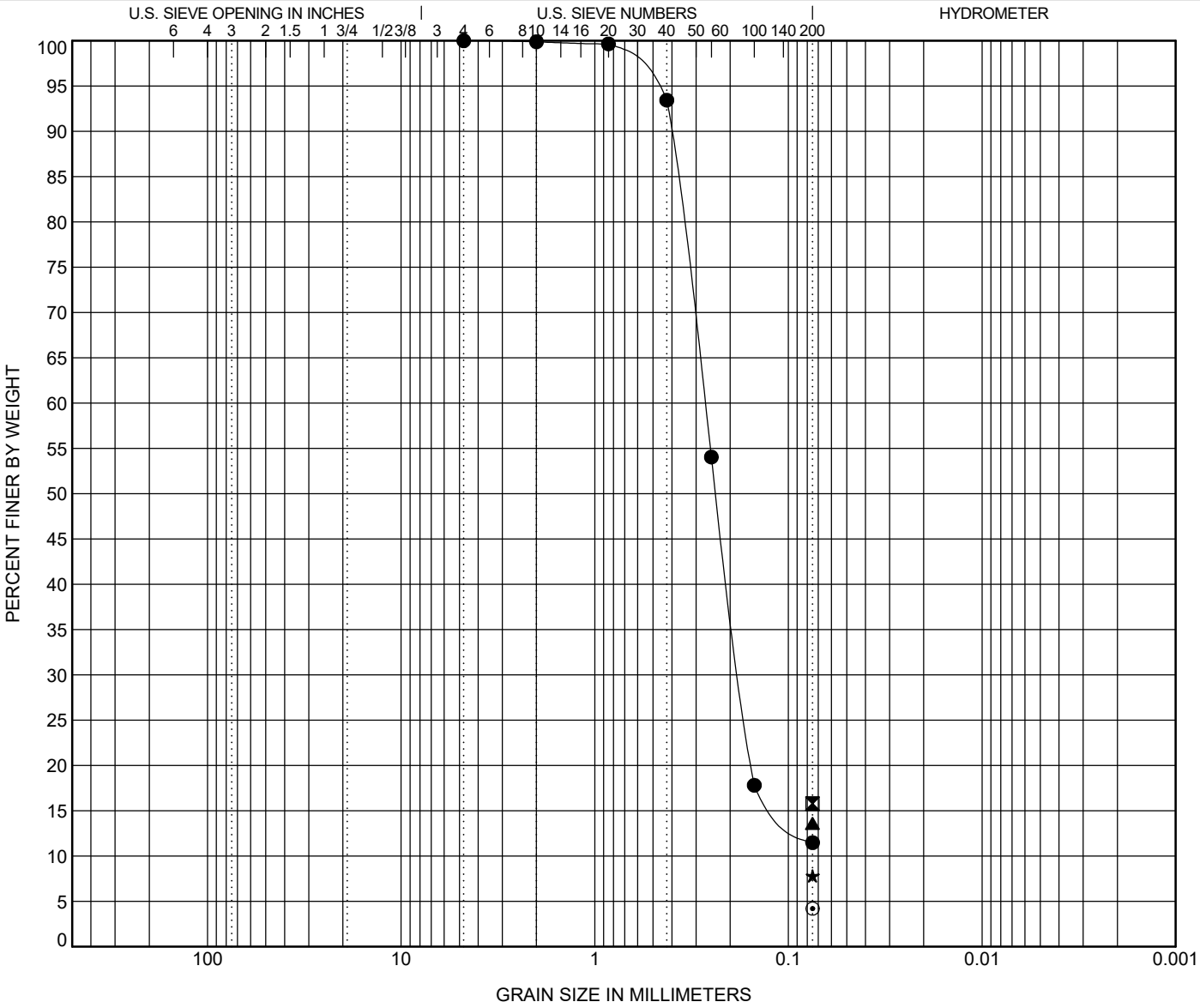
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	C- 9	2.0	**Silty SAND (SM)**	**NP**	**NP**	**NP**		
⊠	C- 9	8.0	**Poorly Graded SAND with Silt (SP-SM)**	**NP**	**NP**	**NP**		
▲	C- 9	18.5	**Clayey SAND (SC)**					
★	C-10	0.0	**Silty SAND (SM)**					
⊙	C-10	4.0	**Poorly Graded SAND with Silt (SP-SM)**				**1.13**	**4.19**

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	C- 9	2.0	**0.075**						**23.9**	
⊠	C- 9	8.0	**0.075**						**11.6**	
▲	C- 9	18.5	**0.075**						**14.2**	
★	C-10	0.0	**0.075**						**39.0**	
⊙	C-10	4.0	**4.75**	**0.716**	**0.372**	**0.171**	**0.0**	**94.5**	**5.5**	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

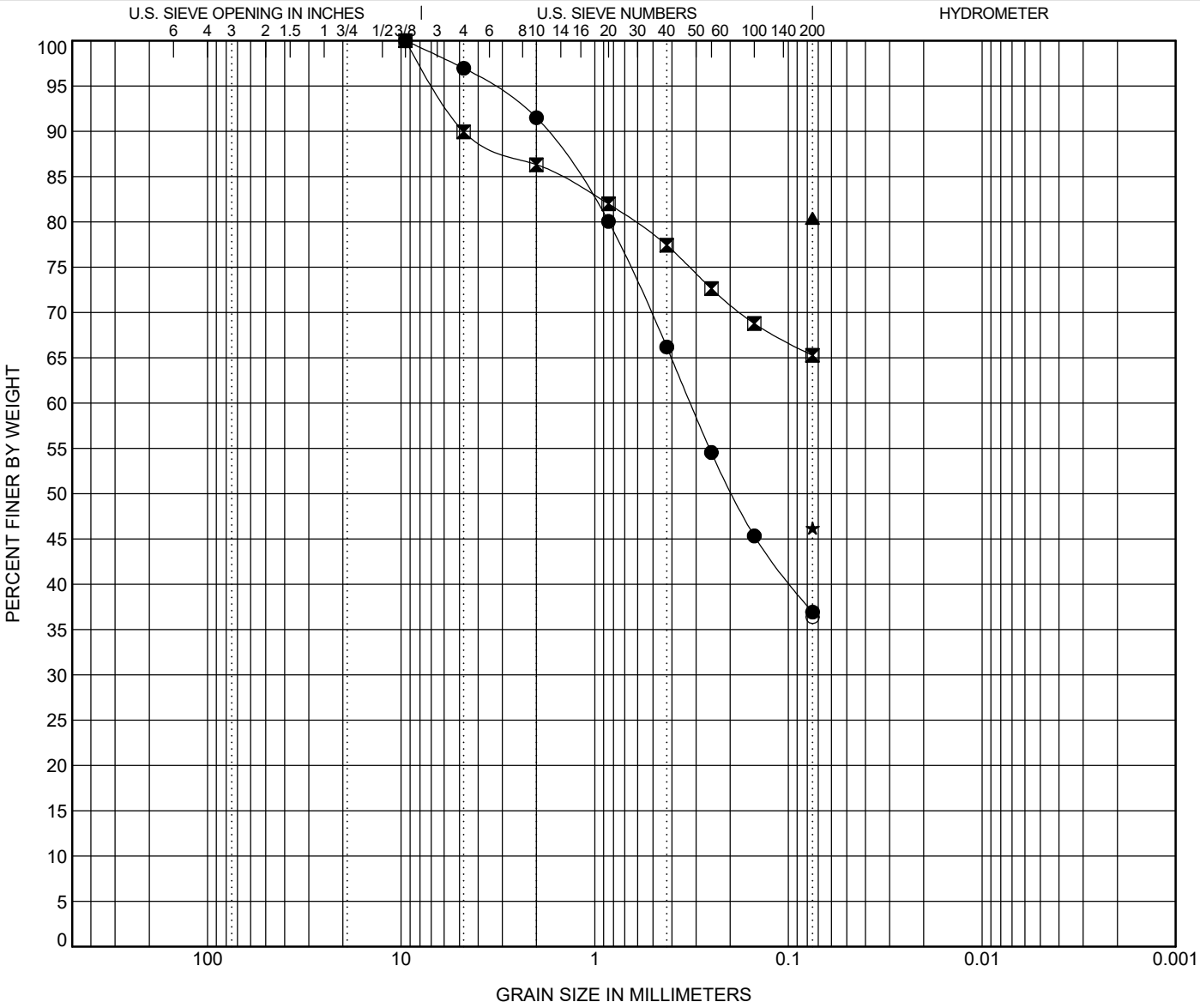
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	C-10	8.0	**Poorly Graded SAND with Clay (SP-SC)**				1.84	4.25
⊠	C-10	18.5	**Clayey SAND (SC)**	35	23	12		
▲	C-13	0.0	**Silty SAND (SM)**					
★	C-13	2.0	**Poorly Graded SAND with Silt (SP-SM)**	NP	NP	NP		
⊙	C-13	4.0	**Poorly Graded SAND (SP)**					

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	C-10	8.0	4.75	0.271	0.178		0.0	88.5	11.5	
⊠	C-10	18.5	0.075						15.8	
▲	C-13	0.0	0.075						13.6	
★	C-13	2.0	0.075						7.8	
⊙	C-13	4.0	0.075						4.2	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

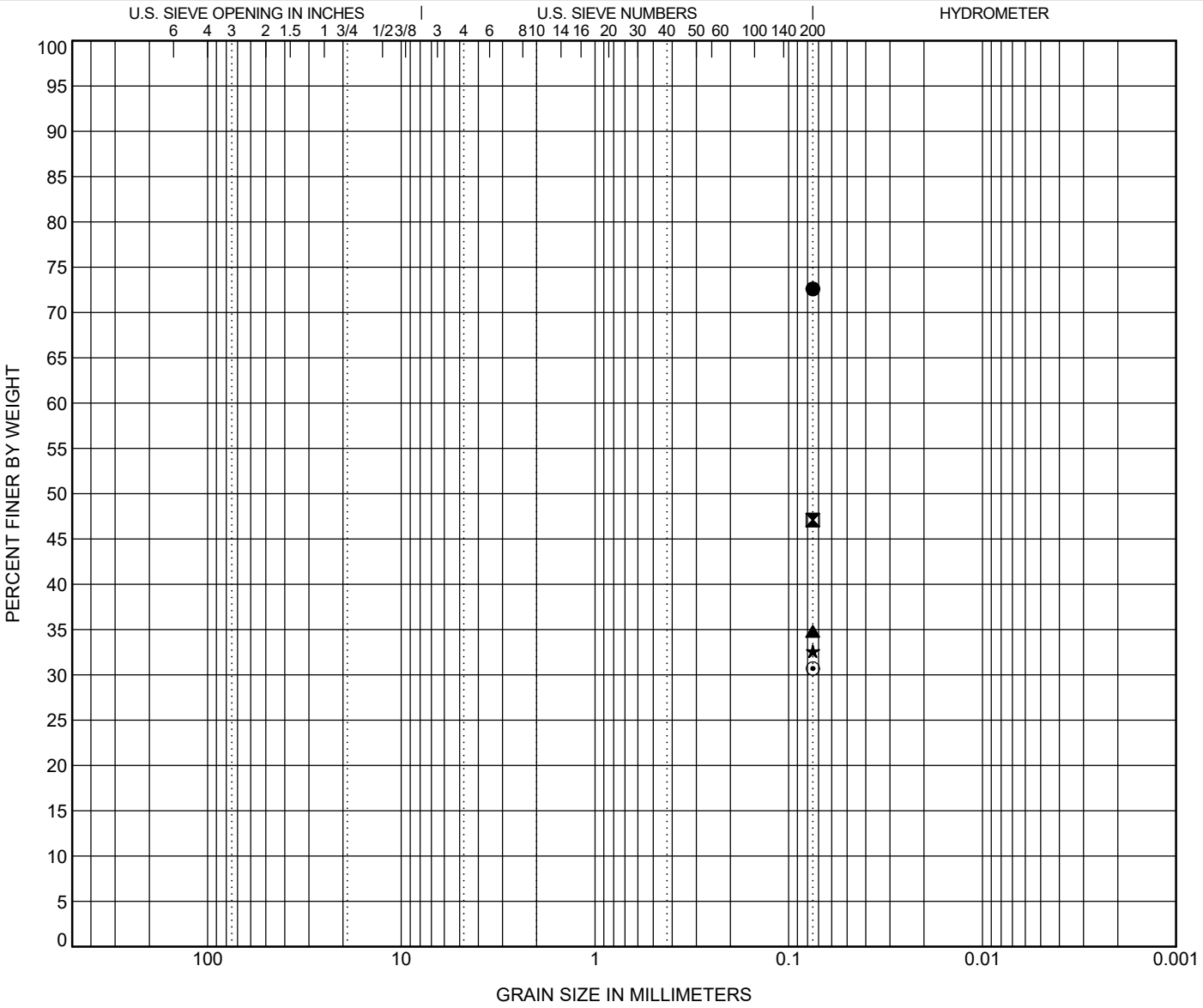
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	C-14	2.0	Silty SAND (SM)					
⊠	C-15	2.0	Sandy SILT (ML)					
▲	C-15	8.0	Fat CLAY with Sand (CH)	69	33	36		
★	C-16	2.0	Clayey SAND (SC)	28	15	13		
⊙	C-16	8.0	Silty SAND (SM)					

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	C-14	2.0	9.5	0.321			3.0	60.0	36.9	
⊠	C-15	2.0	9.5				10.1	24.7	65.3	
▲	C-15	8.0	0.075						80.4	
★	C-16	2.0	0.075						46.2	
⊙	C-16	8.0	0.075						36.4	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

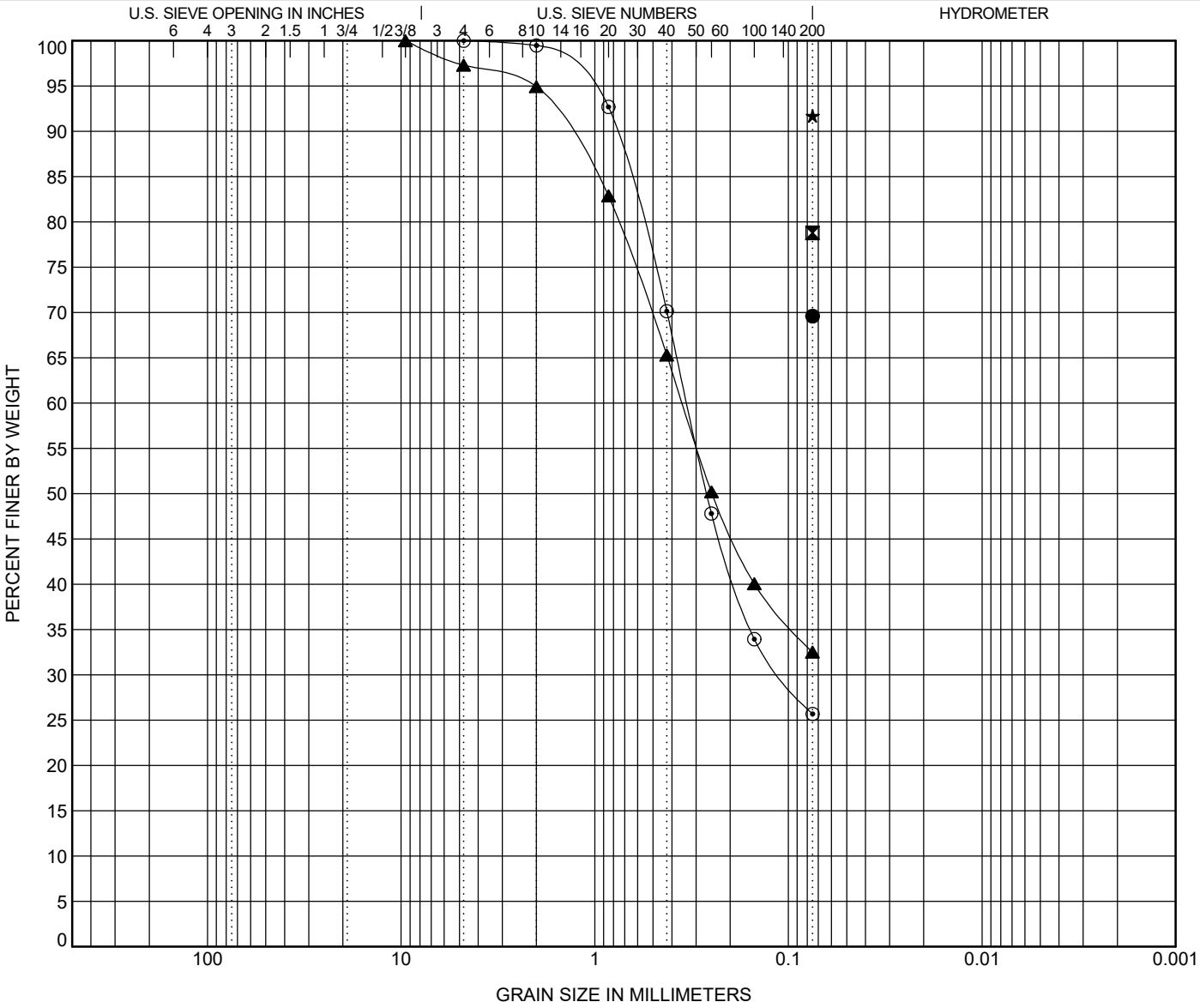
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**C-17**	**2.0**	**SILT with Sand (ML)**	**36**	**27**	**9**		
⊠	**C-17**	**8.0**	**Silty SAND (SM)**	**37**	**29**	**8**		
▲	**C-18**	**0.0**	**Silty, Clayey SAND (SC-SM)**	**28**	**22**	**6**		
★	**C-18**	**4.0**	**Silty, Clayey SAND (SC-SM)**					
⊙	**C-19**	**2.0**	**Silty, Clayey SAND (SC-SM)**	**19**	**15**	**4**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**C-17**	**2.0**	**0.075**						**72.6**	
⊠	**C-17**	**8.0**	**0.075**						**47.1**	
▲	**C-18**	**0.0**	**0.075**						**34.8**	
★	**C-18**	**4.0**	**0.075**						**32.6**	
⊙	**C-19**	**2.0**	**0.075**						**30.7**	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

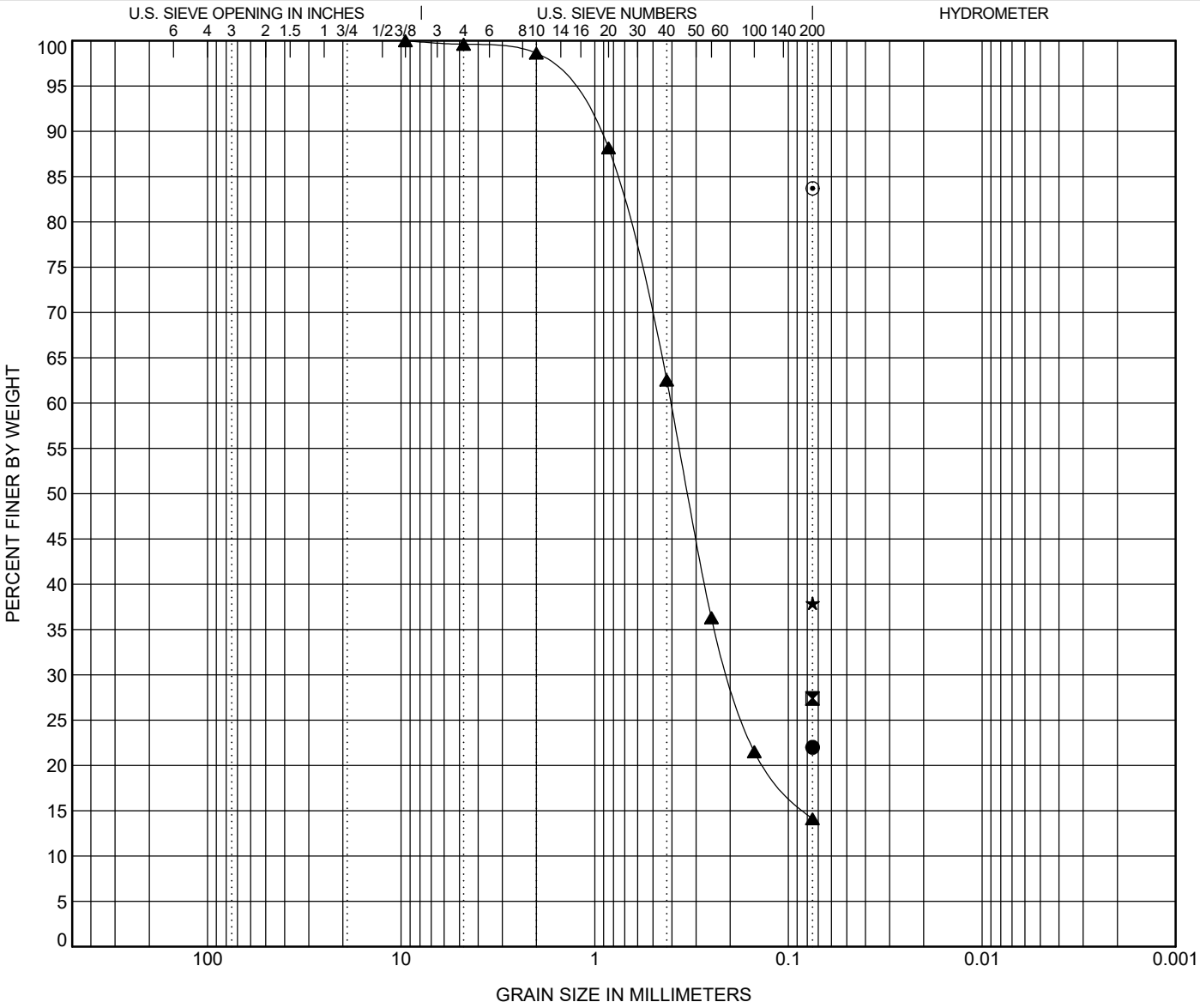
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	C-19	13.5	**Sandy Elastic SILT (MH)**	53	34	19		
⊠	C-19	18.5	**Fat CLAY with Sand (CH)**	67	32	35		
▲	C-20	2.0	**Silty, Clayey SAND (SC-SM)**	21	17	4		
★	C-20	13.5	**Elastic SILT (MH)**	56	38	18		
⊙	C-21	0.0	**Silty SAND (SM)**					

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	C-19	13.5	0.075						69.6	
⊠	C-19	18.5	0.075						78.8	
▲	C-20	2.0	9.5	0.353			2.7	64.8	32.5	
★	C-20	13.5	0.075						91.7	
⊙	C-21	0.0	4.75	0.334	0.108		0.0	74.3	25.7	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

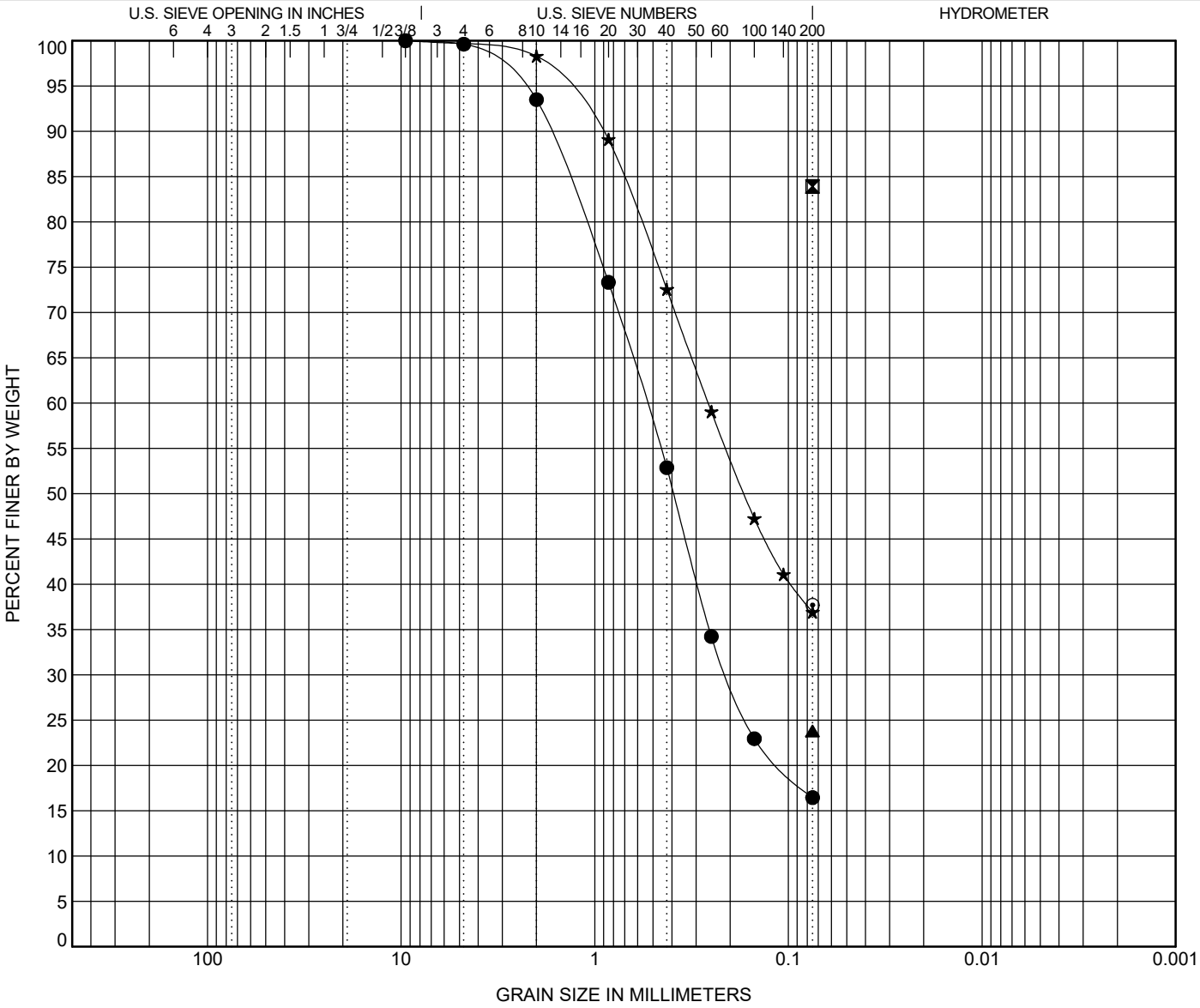
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	C-21	4.0	Clayey SAND (SC)	27	16	11		
⊠	C-22	2.0	Clayey SAND (SC)	30	14	16		
▲	C-23	0.0	Silty SAND (SM)					
★	C-23	2.0	Clayey SAND (SC)	35	20	15		
⊙	C-23	8.0	Lean CLAY with Sand (CL)	36	20	16		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	C-21	4.0	0.075						22.0	
⊠	C-22	2.0	0.075						27.4	
▲	C-23	0.0	9.5	0.404	0.201		0.4	85.5	14.1	
★	C-23	2.0	0.075						37.9	
⊙	C-23	8.0	0.075						83.7	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

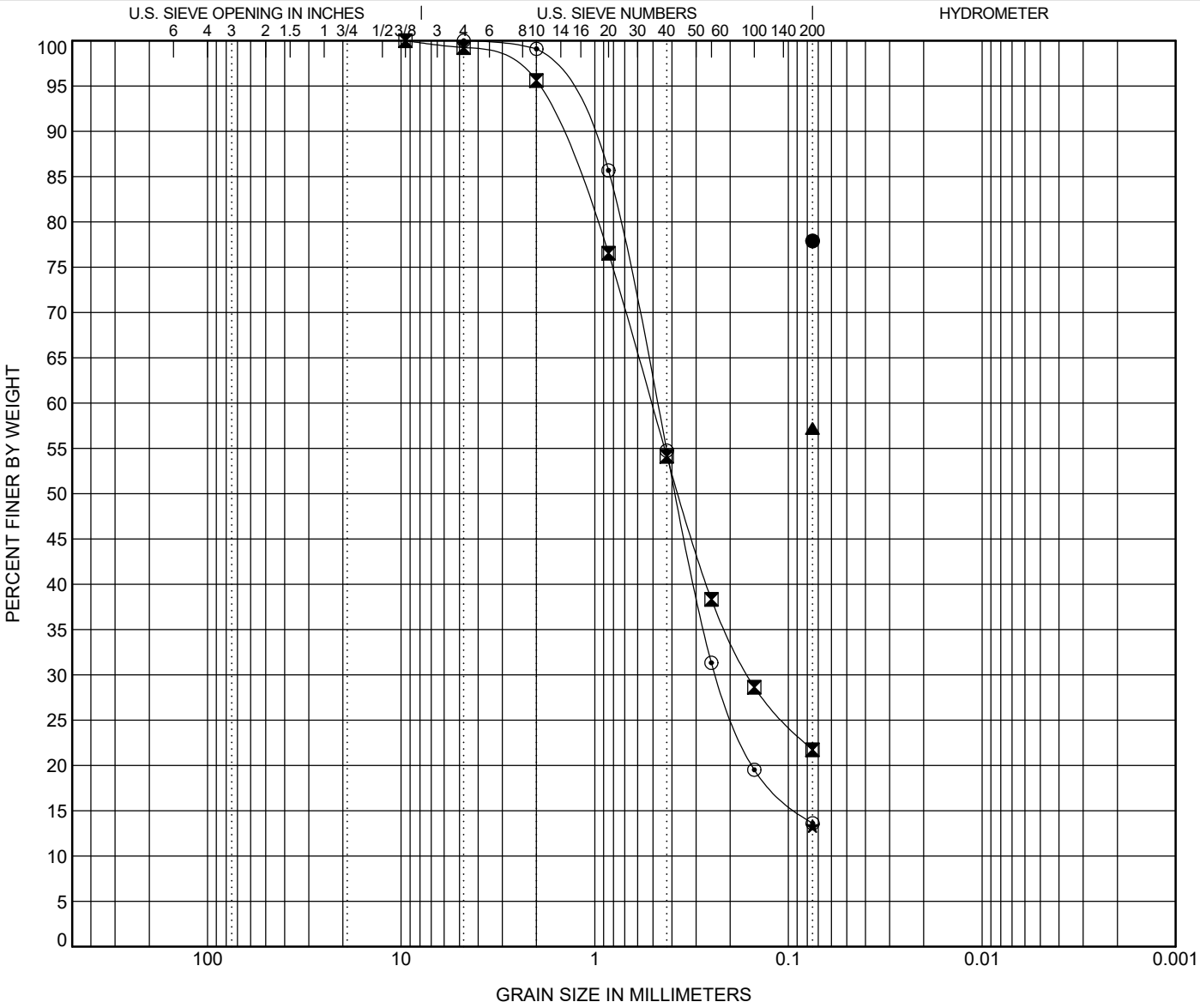
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	C-24	0.0	**Silty SAND (SM)**					
⊠	C-24	4.0	**Lean CLAY with Sand (CL)**	30	18	12		
▲	C-24	8.0	**Clayey SAND (SC)**	27	18	9		
★	CN-1	0.0	**Silty SAND (SM)**					
⊙	CN-1	4.0	**Clayey SAND (SC)**	24	16	8		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	C-24	0.0	9.5	0.541	0.206		0.4	83.2	16.5	
⊠	C-24	4.0	0.075						83.9	
▲	C-24	8.0	0.075						23.8	
★	CN-1	0.0	9.5	0.259			0.3	62.8	36.9	
⊙	CN-1	4.0	0.075						37.7	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

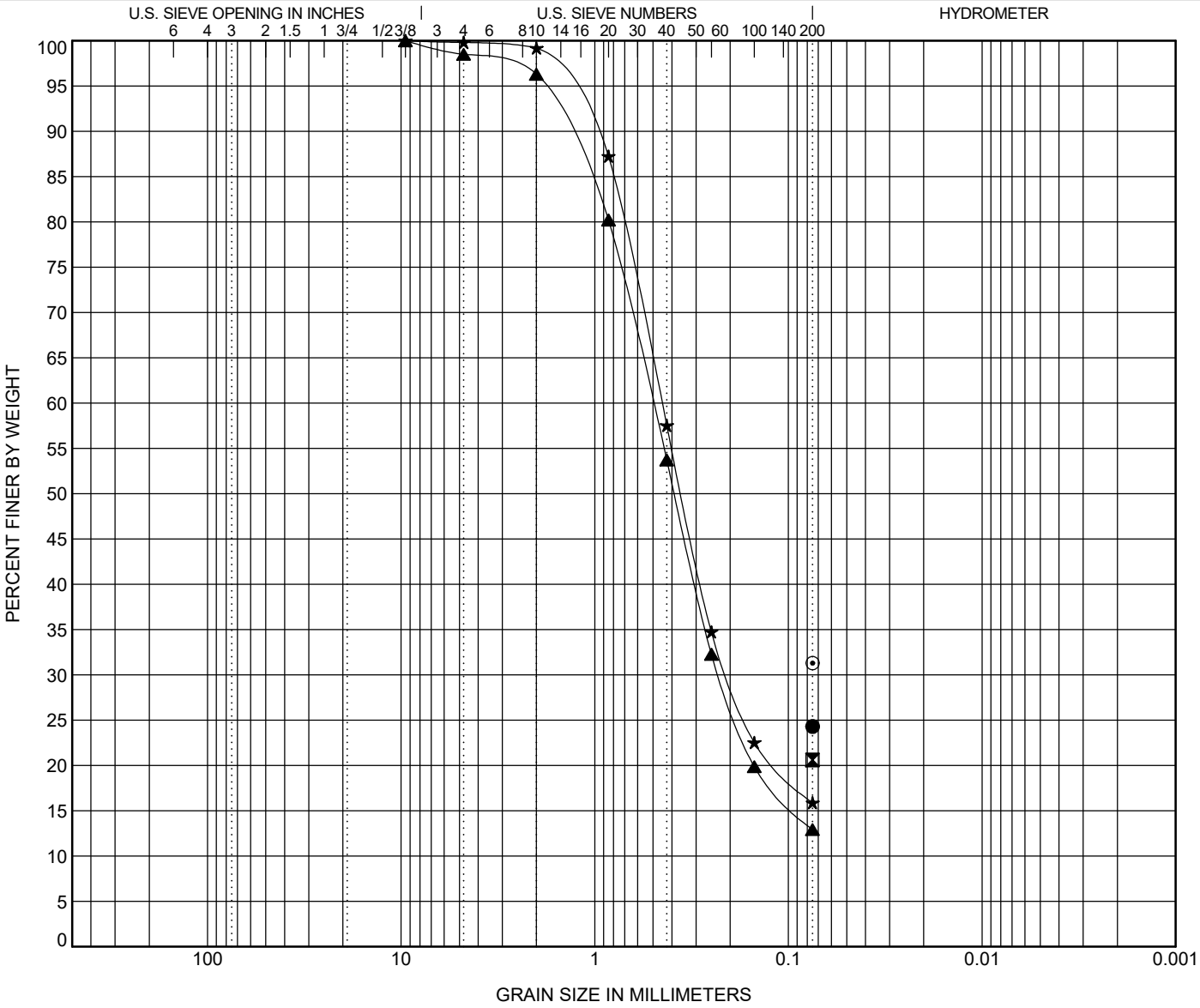
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**CN-1**	**8.0**	**SILT with Sand (ML)**	**42**	**31**	**11**		
⊠	**CN-2**	**0.0**	**Silty SAND (SM)**					
▲	**CN-2**	**4.0**	**Sandy Lean CLAY (CL)**	**31**	**17**	**14**		
★	**CN-2**	**13.5**	**Silty SAND (SM)**					
⊙	**CN-3**	**0.0**	**Silty SAND (SM)**					

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**CN-1**	**8.0**	**0.075**						**77.9**	
⊠	**CN-2**	**0.0**	**9.5**	**0.51**	**0.161**		**0.7**	**77.5**	**21.7**	
▲	**CN-2**	**4.0**	**0.075**						**57.2**	
★	**CN-2**	**13.5**	**0.075**						**13.3**	
⊙	**CN-3**	**0.0**	**4.75**	**0.478**	**0.236**		**0.0**	**86.4**	**13.6**	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**CN-3**	**4.0**	**Clayey SAND (SC)**	**36**	**21**	**15**		
⊠	**CN-3**	**13.5**	**Silty SAND (SM)**	**51**	**31**	**20**		
▲	**CN-4**	**2.0**	**Silty SAND (SM)**					
★	**CN-5**	**0.0**	**Silty SAND (SM)**					
⊙	**CN-5**	**4.0**	**Clayey SAND (SC)**	**54**	**26**	**28**		

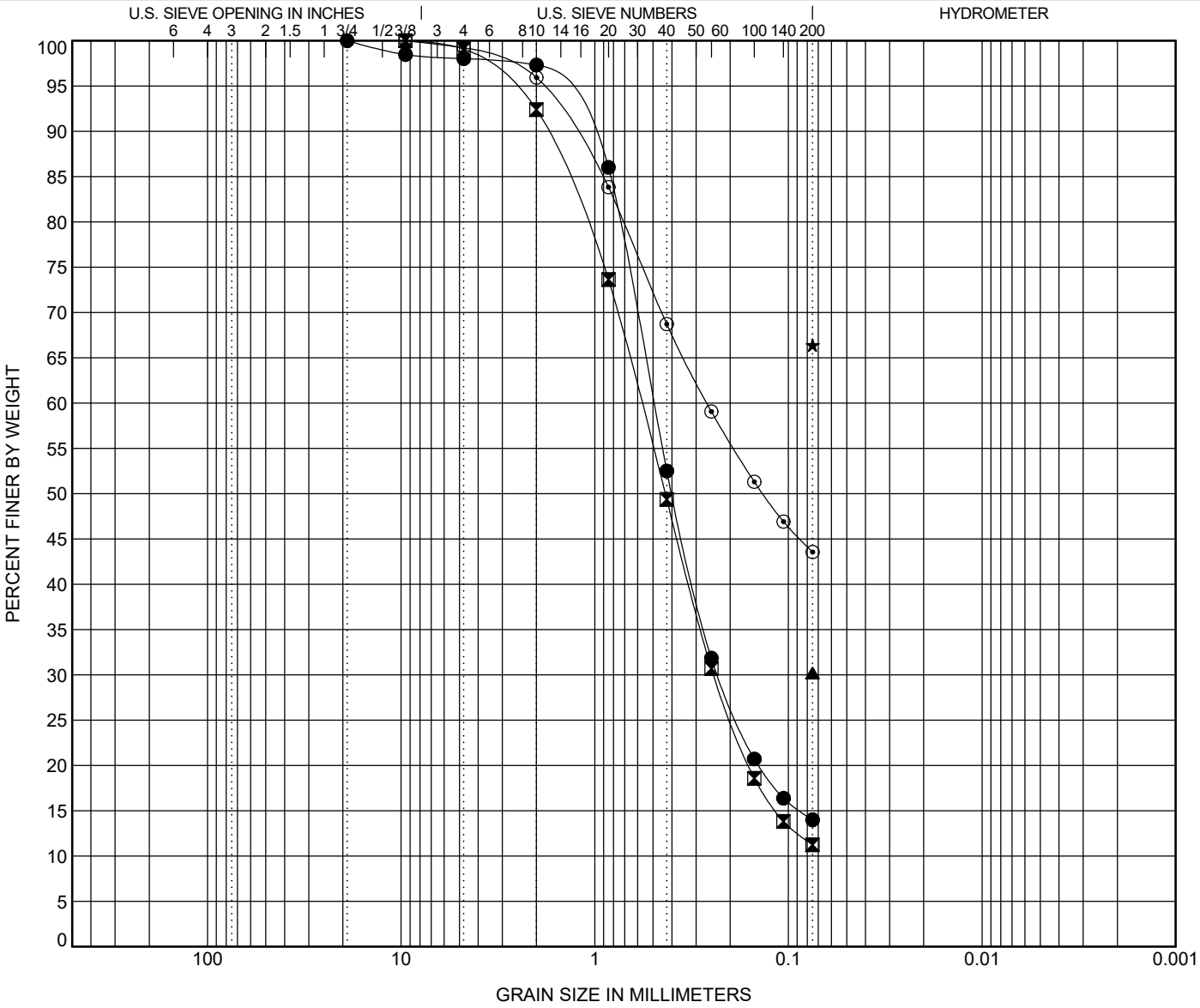
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**CN-3**	**4.0**	**0.075**						**24.3**	
⊠	**CN-3**	**13.5**	**0.075**						**20.6**	
▲	**CN-4**	**2.0**	**9.5**	**0.501**	**0.228**		**1.5**	**85.6**	**12.9**	
★	**CN-5**	**0.0**	**9.5**	**0.45**	**0.205**		**0.2**	**83.9**	**15.9**	
⊙	**CN-5**	**4.0**	**0.075**						**31.3**	

GRAIN SIZE 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**CR-1**	**0.0**	**Silty SAND (SM)**					
⊠	**CR-2**	**0.0**	**Poorly Graded SAND with Silt (SP-SM)**				**1.61**	**9.08**
▲	**CR-2**	**2.0**	**Clayey SAND (SC)**	**40**	**20**	**20**		
★	**CR-2**	**8.0**	**Sandy Elastic SILT (MH)**	**50**	**36**	**14**		
⊙	**CR-3**	**0.0**	**Silty SAND (SM)**					

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**CR-1**	**0.0**	**19**	**0.496**	**0.23**		**2.0**	**84.0**	**14.0**	
⊠	**CR-2**	**0.0**	**9.5**	**0.576**	**0.243**		**0.9**	**87.8**	**11.3**	
▲	**CR-2**	**2.0**	**0.075**						**30.2**	
★	**CR-2**	**8.0**	**0.075**						**66.4**	
⊙	**CR-3**	**0.0**	**9.5**	**0.263**			**0.8**	**55.7**	**43.6**	

GRAIN SIZE DISTRIBUTION

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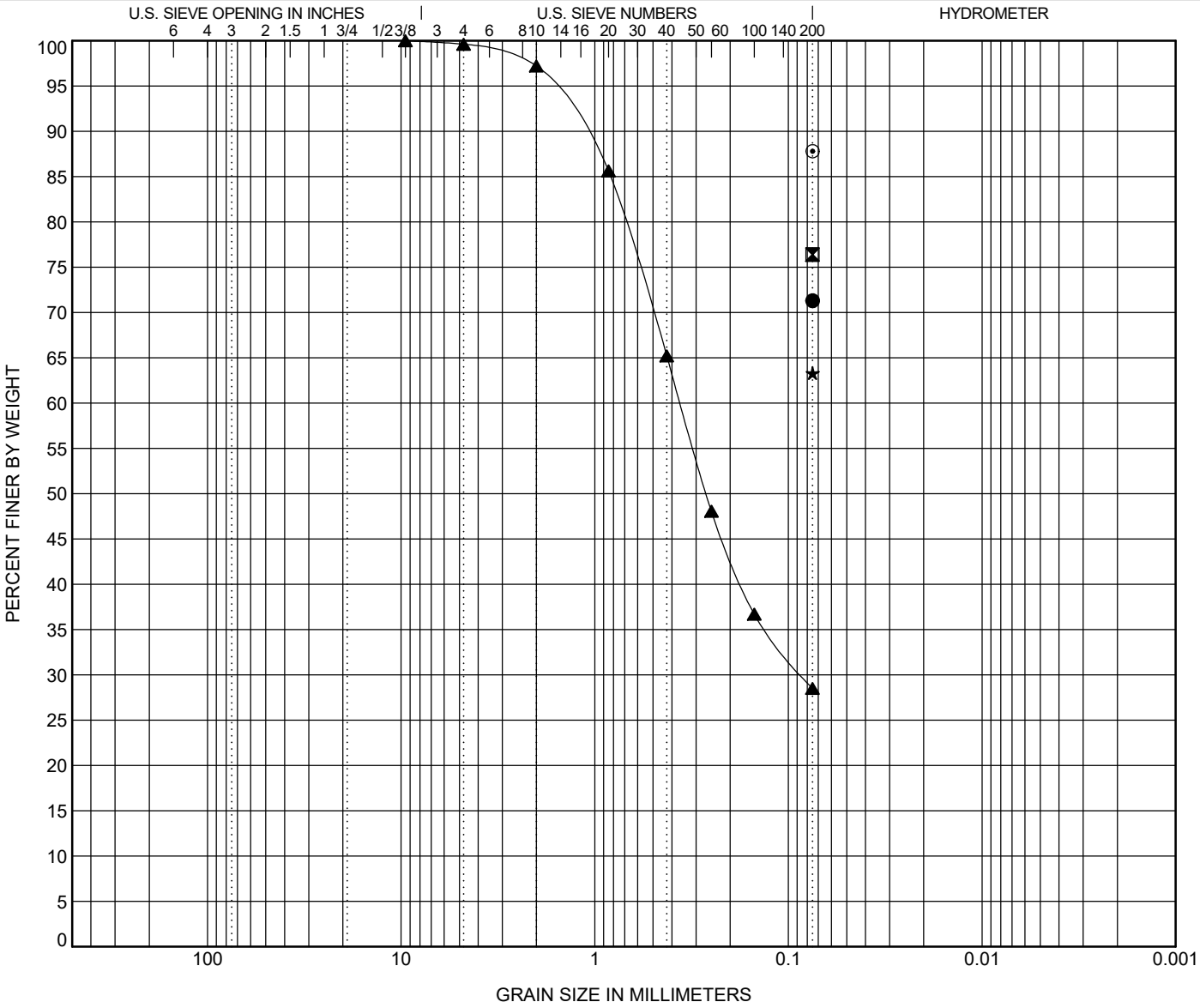
PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

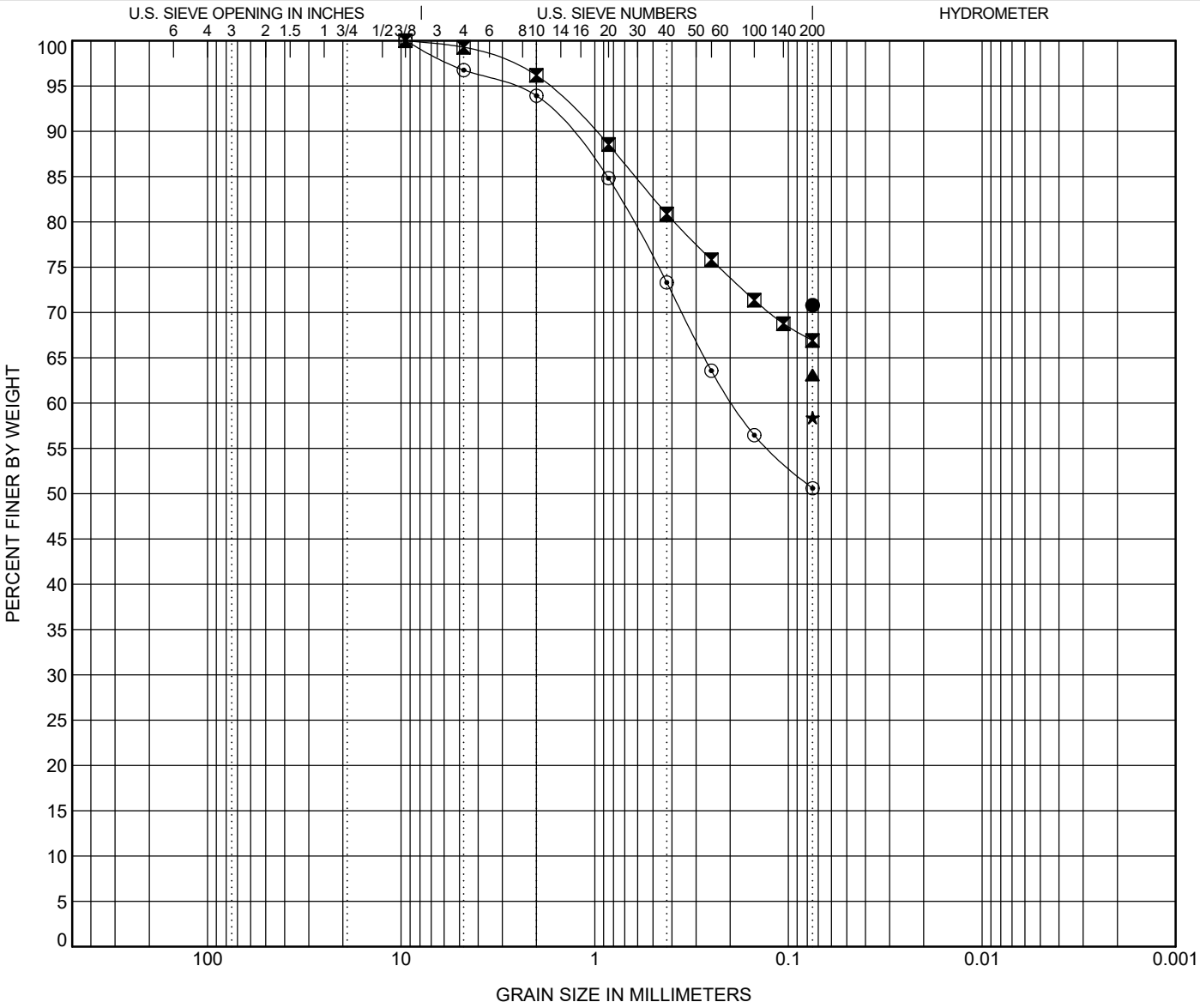
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**CR-3**	**2.0**	**Elastic SILT with Sand (MH)**	**55**	**33**	**22**		
⊠	**CR-3**	**18.5**	**Elastic SILT with Sand (MH)**	**52**	**34**	**18**		
▲	**CR-4**	**0.0**	**Clayey SAND (SC)**					
★	**CR-5**	**0.0**	**Sandy SILT (ML)**	**39**	**27**	**12**		
⊙	**CR-6**	**2.0**	**Fat CLAY (CH)**	**69**	**31**	**38**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**CR-3**	**2.0**	**0.075**						**71.3**	
⊠	**CR-3**	**18.5**	**0.075**						**76.4**	
▲	**CR-4**	**0.0**	**9.5**	**0.362**	**0.085**		**0.4**	**71.1**	**28.5**	
★	**CR-5**	**0.0**	**0.075**						**63.3**	
⊙	**CR-6**	**2.0**	**0.075**						**87.8**	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**CR-6**	**8.0**	**SILT with Sand (ML)**	**46**	**35**	**11**		
⊠	**CR-7**	**0.0**	**Sandy SILT (ML)**					
▲	**CR-7**	**2.0**	**Sandy SILT (ML)**	**37**	**29**	**8**		
★	**CR-7**	**8.0**	**Sandy SILT (ML)**	**45**	**31**	**14**		
⊙	**CR-8**	**0.0**	**Sandy Lean SILTY CLAY (CL-ML)**	**24**	**18**	**6**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**CR-6**	**8.0**	**0.075**						**70.8**	
⊠	**CR-7**	**0.0**	**9.5**				**0.7**	**32.4**	**66.9**	
▲	**CR-7**	**2.0**	**0.075**						**63.1**	
★	**CR-7**	**8.0**	**0.075**						**58.4**	
⊙	**CR-8**	**0.0**	**9.5**	**0.193**			**3.2**	**46.2**	**50.6**	

GRAIN SIZE DISTRIBUTION

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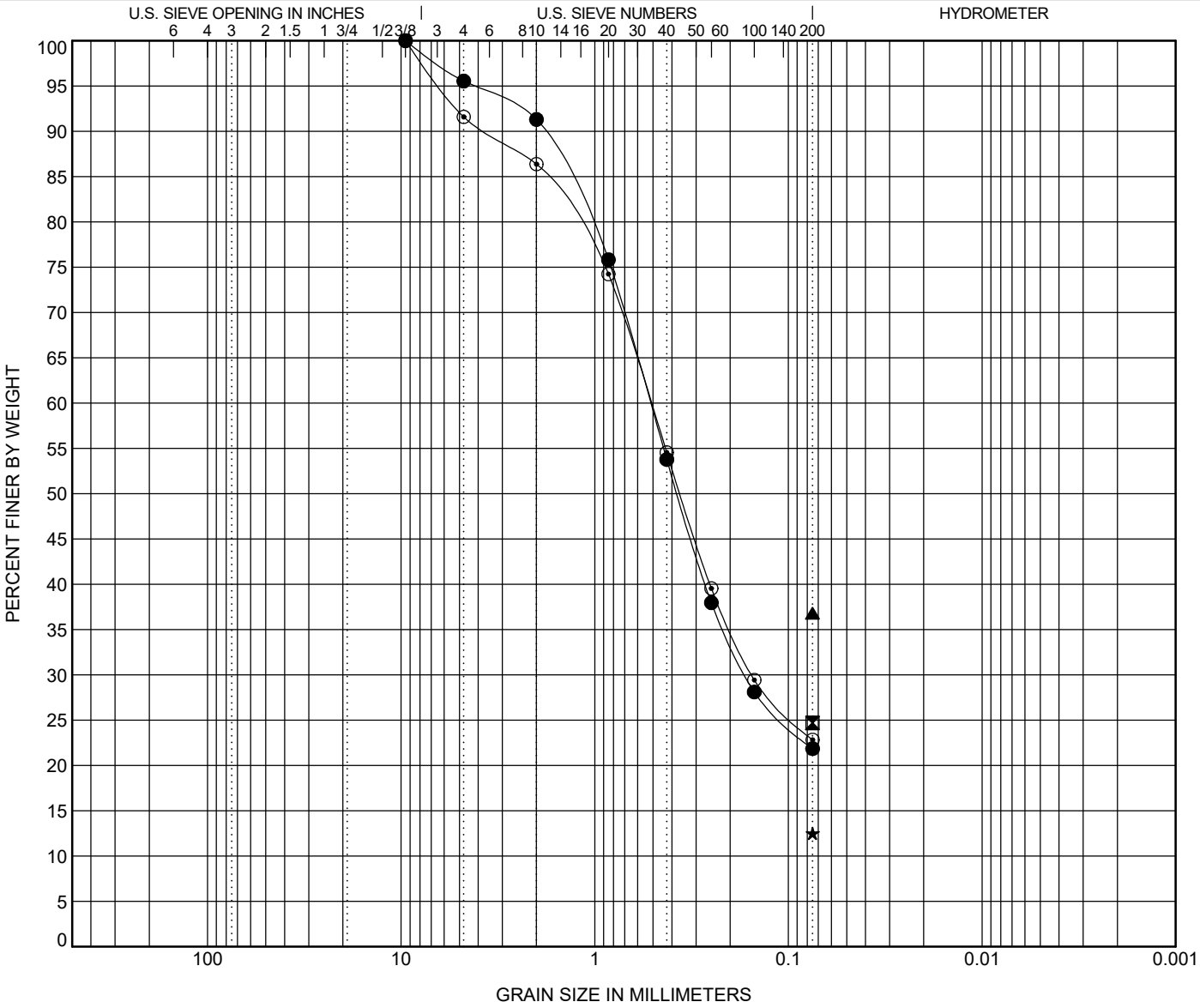
PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

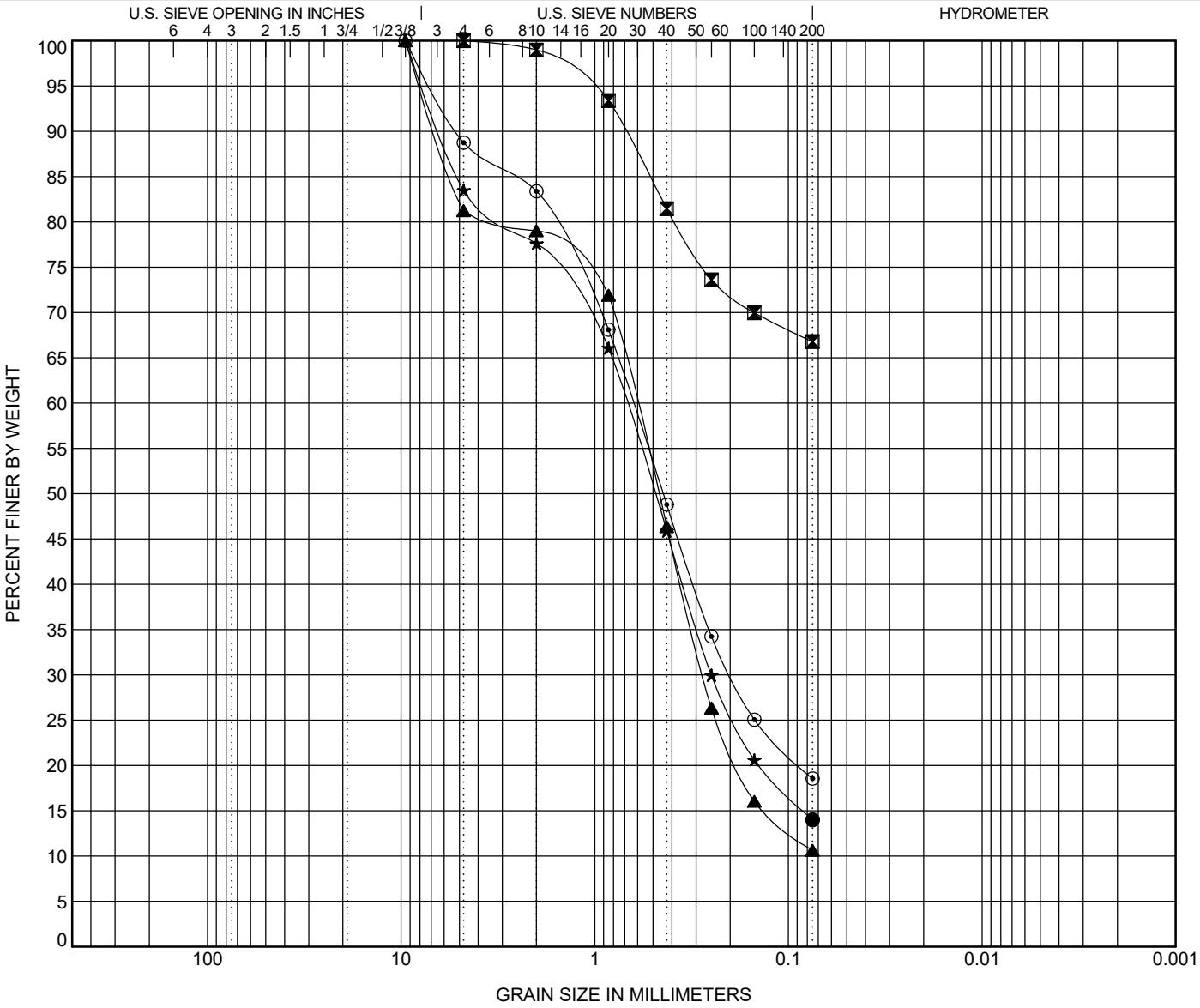
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**NB- 1**	**0.0**	**Silty SAND (SM)**					
⊠	**NB- 2**	**0.0**	**Clayey SAND (SC)**	**22**	**14**	**8**		
▲	**NB- 3**	**2.0**	**Clayey SAND (SC)**	**54**	**23**	**31**		
★	**NB- 4**	**0.0**	**Silty SAND (SM)**					
⊙	**NB- 5**	**0.0**	**Silty SAND (SM)**					

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**NB- 1**	**0.0**	**9.5**	**0.517**	**0.165**		**4.5**	**73.7**	**21.9**	
⊠	**NB- 2**	**0.0**	**0.075**						**24.7**	
▲	**NB- 3**	**2.0**	**0.075**						**36.8**	
★	**NB- 4**	**0.0**	**0.075**						**12.5**	
⊙	**NB- 5**	**0.0**	**9.5**	**0.515**	**0.154**		**8.4**	**68.8**	**22.8**	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	NB- 6	0.0	Silty SAND (SM)	NP	NP	NP		
⊠	NB- 7	0.0	Sandy SILT (ML)					
▲	NB- 8	0.0	Well Graded SAND with Silt (SW-SM)	NP	NP	NP	1.79	8.91
★	NB- 9	0.0	Silty SAND (SM)					
⊙	NB-10	0.0	Silty SAND (SM)	NP	NP	NP		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	NB- 6	0.0	0.075						14.0	
⊠	NB- 7	0.0	4.75				0.0	33.2	66.8	
▲	NB- 8	0.0	9.5	0.615	0.276		18.8	70.6	10.6	
★	NB- 9	0.0	9.5	0.69	0.25		16.5	69.4	14.0	
⊙	NB-10	0.0	9.5	0.635	0.197		11.3	70.2	18.6	

GRAIN SIZE 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

GRAIN SIZE DISTRIBUTION

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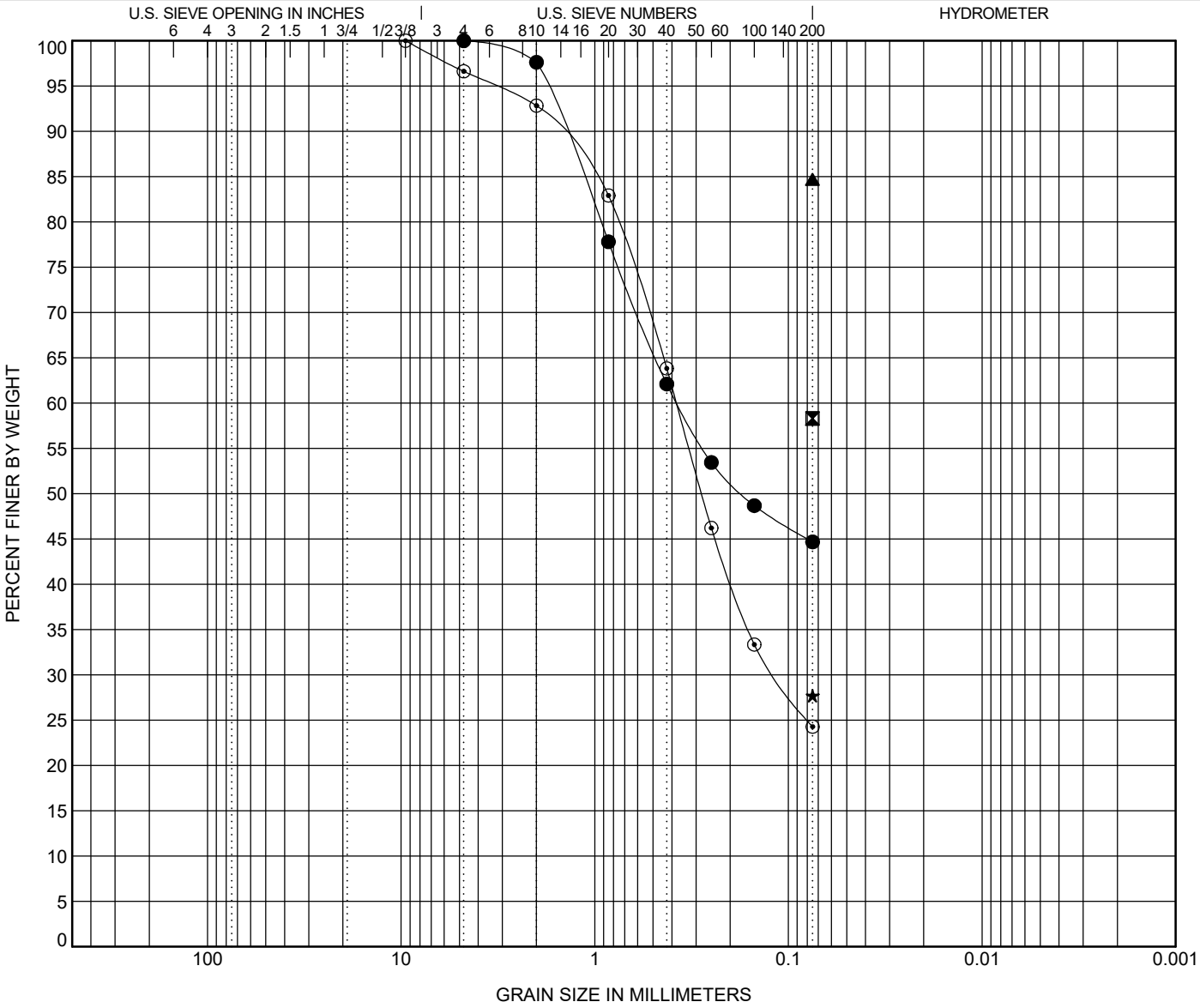
PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**NB-11**	**0.0**	**Silty SAND (SM)**					
⊠	**NB-12**	**0.0**	**Sandy Lean CLAY (CL)**	**33**	**16**	**17**		
▲	**NB-13**	**2.0**	**Sandy SILT (ML)**	**49**	**32**	**17**		
★	**NB-14**	**2.0**	**Clayey SAND (SC)**	**31**	**15**	**16**		
⊙	**NB-15**	**0.0**	**Silty SAND (SM)**					

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**NB-11**	**0.0**	**4.75**	**0.374**			**0.0**	**55.3**	**44.7**	
⊠	**NB-12**	**0.0**	**0.075**						**58.3**	
▲	**NB-13**	**2.0**	**0.075**						**84.7**	
★	**NB-14**	**2.0**	**0.075**						**27.7**	
⊙	**NB-15**	**0.0**	**9.5**	**0.379**	**0.116**		**3.4**	**72.3**	**24.3**	

GRAIN SIZE 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

GRAIN SIZE DISTRIBUTION

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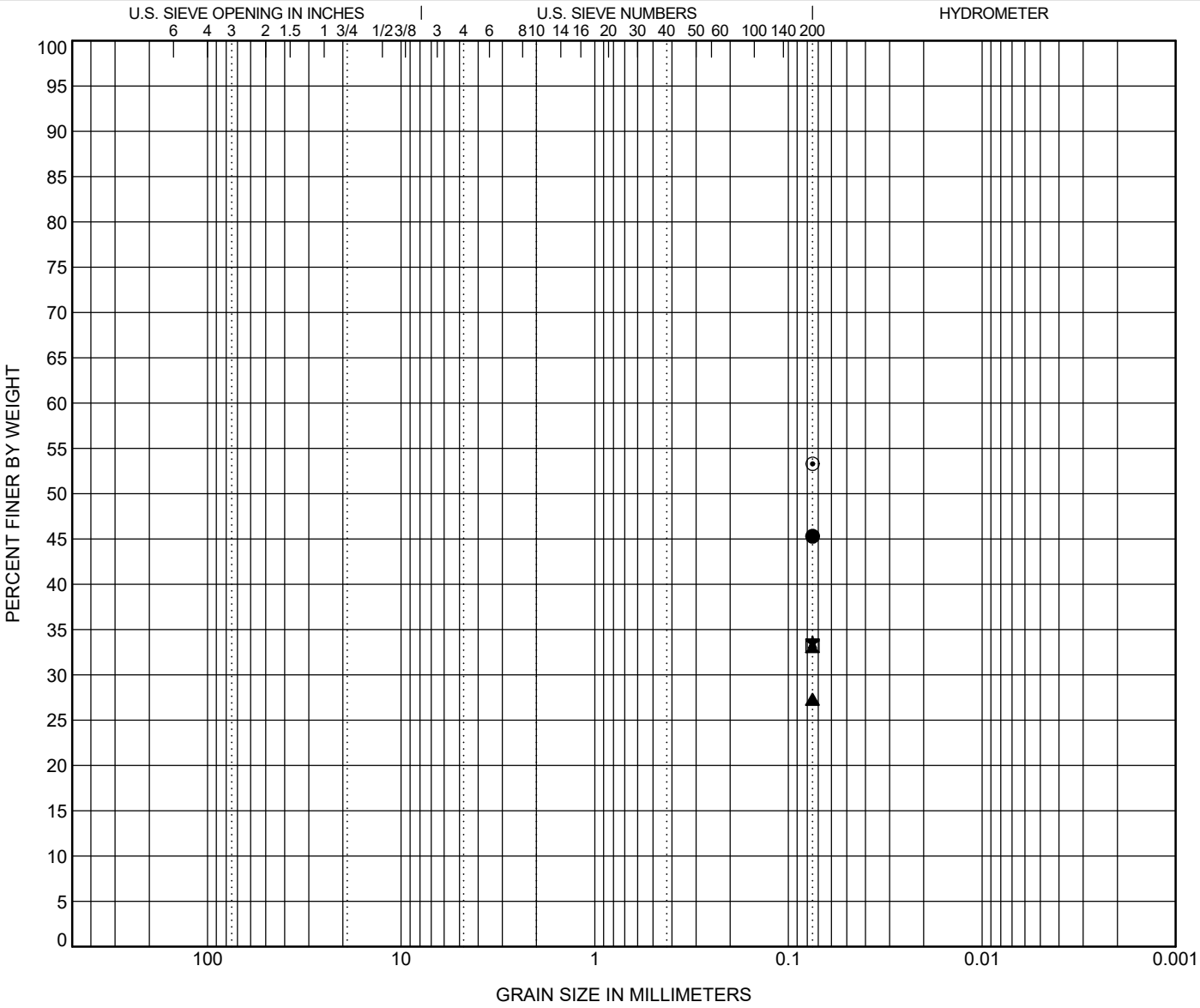
PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**NB-16**	**2.0**	**Clayey SAND (SC)**	**27**	**14**	**13**		
⊠	**NB-17**	**0.0**	**Silty SAND (SM)**					
▲	**NB-18**	**0.0**	**Clayey SAND (SM)**	**21**	**13**	**8**		
★	**NB-19**	**0.0**	**Silty SAND (SM)**					
⊙	**NB-20**	**2.0**	**Sandy SILT (ML)**	**34**	**25**	**9**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**NB-16**	**2.0**	**0.075**						**45.3**	
⊠	**NB-17**	**0.0**	**0.075**						**33.2**	
▲	**NB-18**	**0.0**	**0.075**						**27.3**	
★	**NB-19**	**0.0**	**0.075**						**33.6**	
⊙	**NB-20**	**2.0**	**0.075**						**53.3**	

GRAIN SIZE DISTRIBUTION

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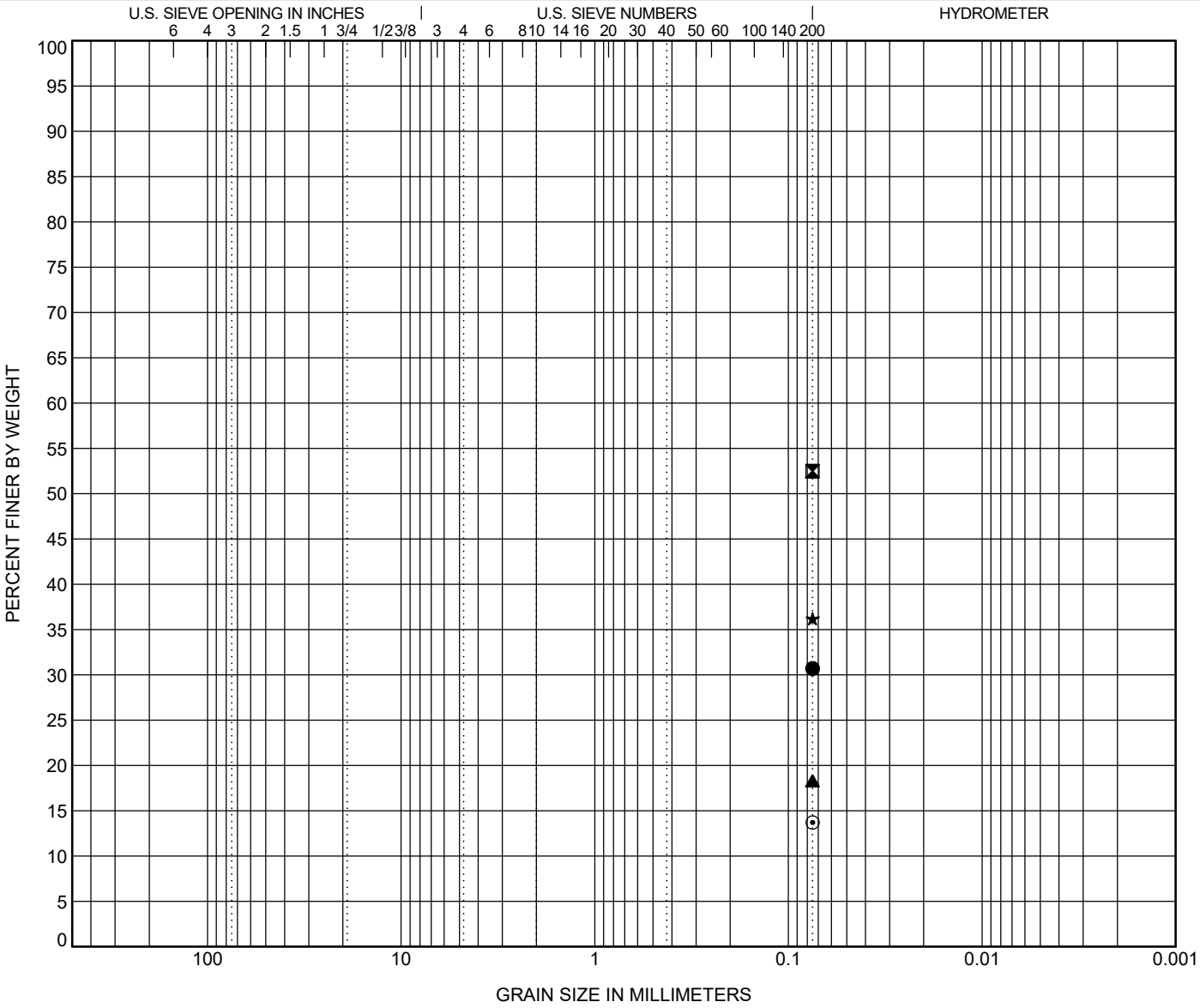
PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**NB-21**	**0.0**	**Silty SAND (SM)**					
⊠	**NB-22**	**2.0**	**Sandy SILT (ML)**	**35**	**24**	**11**		
▲	**NB-23**	**0.0**	**Silty, Clayey SAND (SC-SM)**	**21**	**15**	**6**		
★	**NB-24**	**0.0**	**Silty SAND (SM)**					
⊙	**NB-25**	**0.0**	**Silty SAND (SM)**					

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**NB-21**	**0.0**	**0.075**						**30.7**	
⊠	**NB-22**	**2.0**	**0.075**						**52.5**	
▲	**NB-23**	**0.0**	**0.075**						**18.3**	
★	**NB-24**	**0.0**	**0.075**						**36.2**	
⊙	**NB-25**	**0.0**	**0.075**						**13.7**	

GRAIN SIZE DISTRIBUTION

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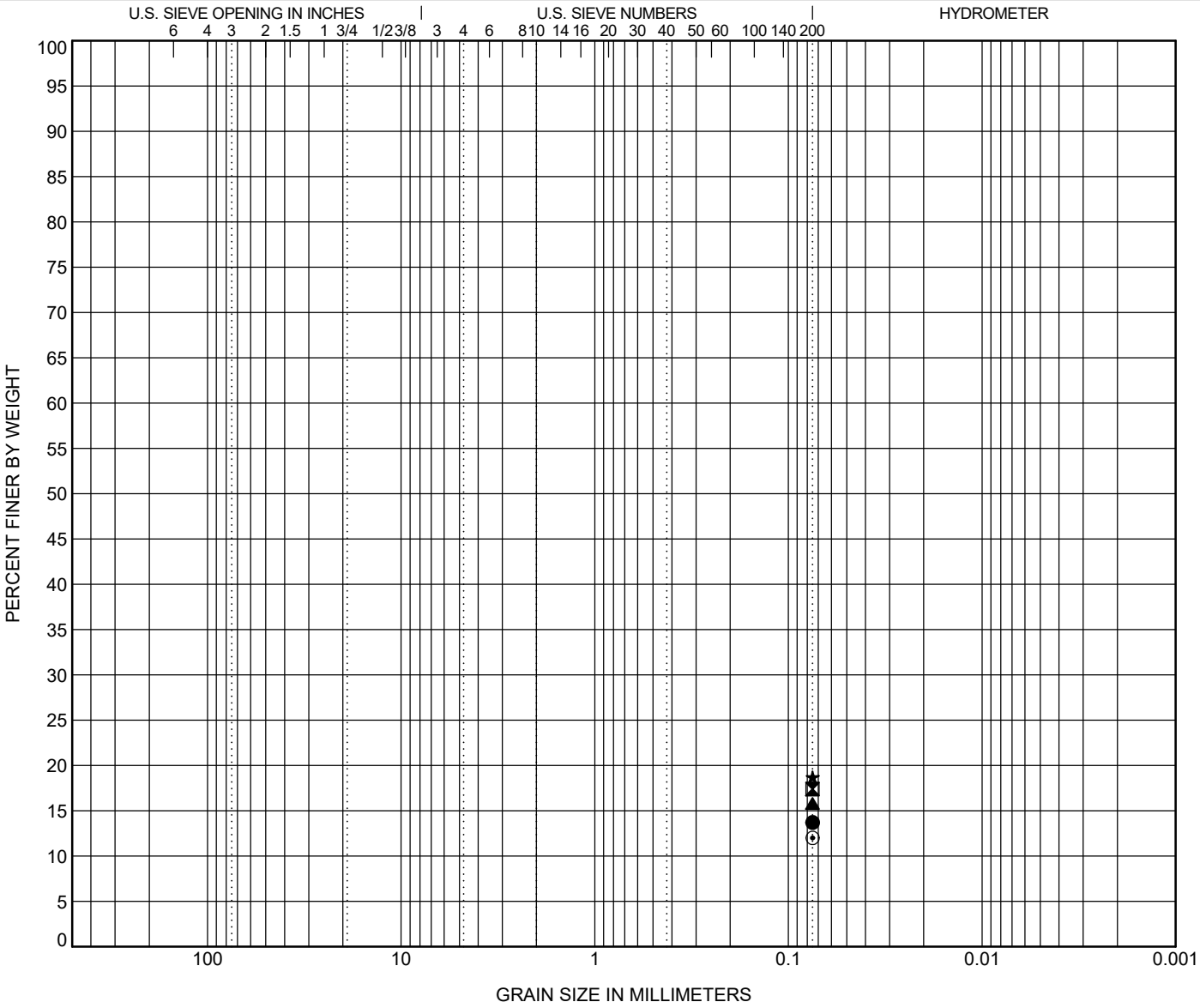

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**NB-26**	**0.0**	**Silty SAND (SM)**					
⊠	**NB-27**	**0.0**	**Silty SAND (SM)**	**NP**	**NP**	**NP**		
▲	**NB-28**	**0.0**	**Silty SAND (SM)**					
★	**NB-29**	**0.0**	**Silty SAND (SM)**					
⊙	**NB-30**	**0.0**	**Poorly Graded SAND with Silt (SP-SM)**					

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**NB-26**	**0.0**	**0.075**						**13.7**	
⊠	**NB-27**	**0.0**	**0.075**						**17.4**	
▲	**NB-28**	**0.0**	**0.075**						**15.8**	
★	**NB-29**	**0.0**	**0.075**						**18.7**	
⊙	**NB-30**	**0.0**	**0.075**						**12.0**	

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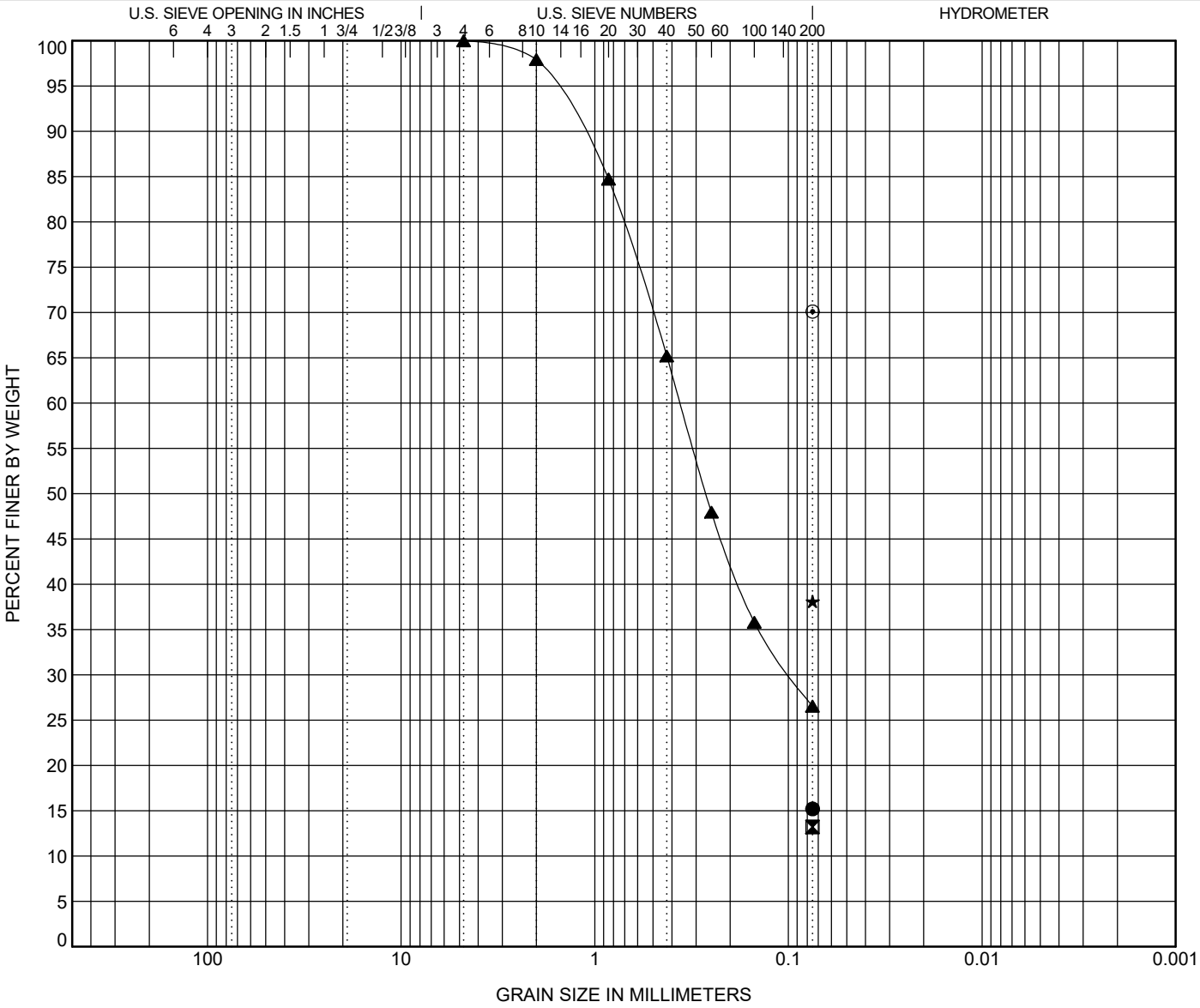

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**NB-31**	**0.0**	**Silty SAND (SM)**	**NP**	**NP**	**NP**		
⊠	**NB-32**	**0.0**	**Silty SAND (SM)**					
▲	**R- 1**	**0.0**	**Silty SAND (SM)**	**NP**	**NP**	**NP**		
★	**R- 2**	**2.0**	**Clayey SAND (SC)**	**34**	**20**	**14**		
⊙	**R- 2**	**6.0**	**Lean CLAY with Sand (CL)**	**40**	**24**	**16**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**NB-31**	**0.0**	**0.075**						**15.2**	
⊠	**NB-32**	**0.0**	**0.075**						**13.2**	
▲	**R- 1**	**0.0**	**4.75**	**0.362**	**0.097**		**0.0**	**73.4**	**26.6**	
★	**R- 2**	**2.0**	**0.075**						**38.1**	
⊙	**R- 2**	**6.0**	**0.075**						**70.1**	

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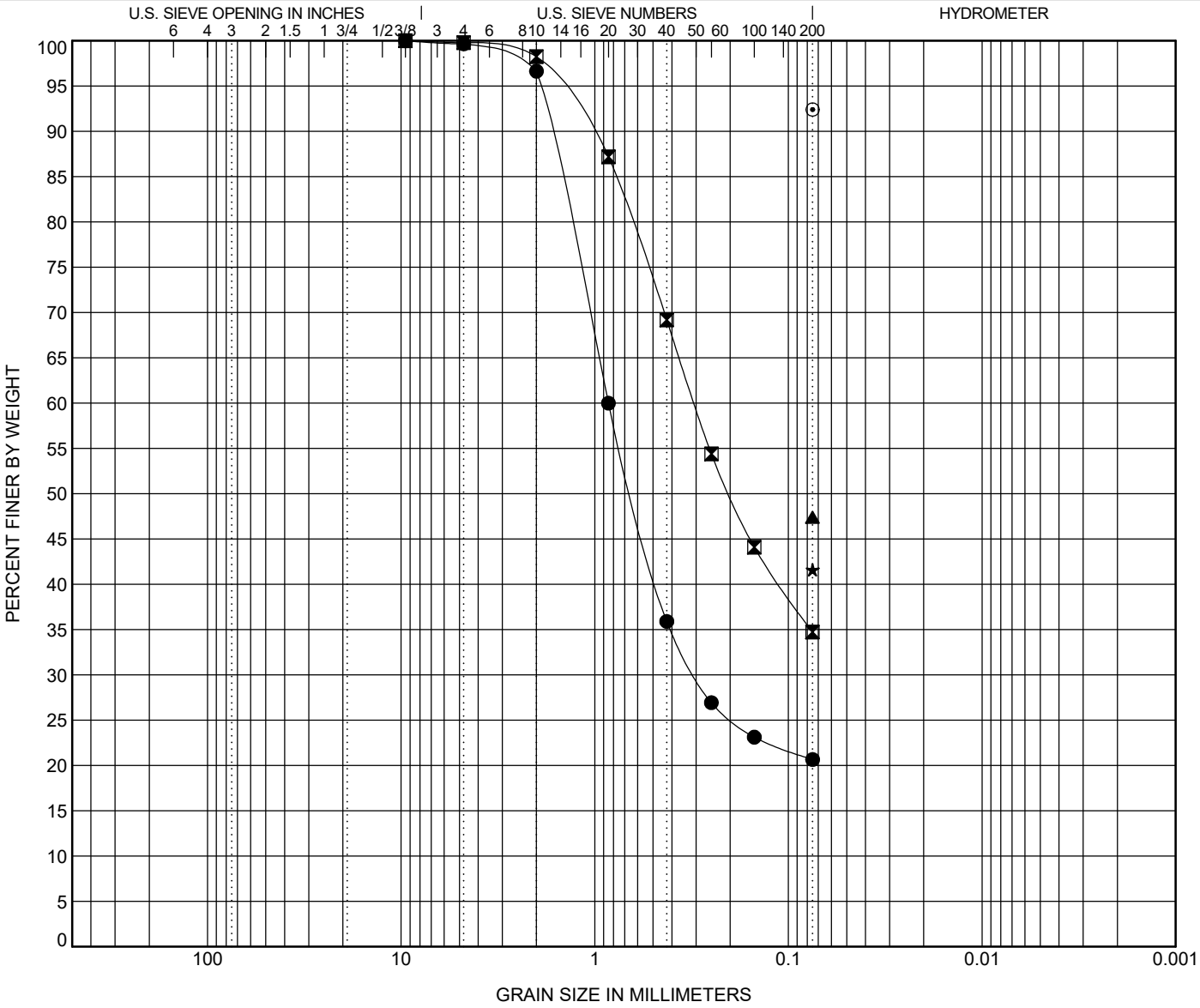

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	R- 2	13.5	Clayey SAND (SC)	34	18	16		
⊠	R- 3	0.0	Silty SAND (SM)					
▲	R- 3	2.0	Clayey SAND (SC)	45	24	21		
★	R- 4	0.0	Clayey SAND (SC)	36	19	17		
⊙	R- 4	6.0	Lean CLAY (CL)	36	16	20		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	R- 2	13.5	9.5	0.85	0.3		0.3	79.0	20.7	
⊠	R- 3	0.0	9.5	0.306			0.2	65.1	34.7	
▲	R- 3	2.0	0.075						47.4	
★	R- 4	0.0	0.075						41.6	
⊙	R- 4	6.0	0.075						92.4	

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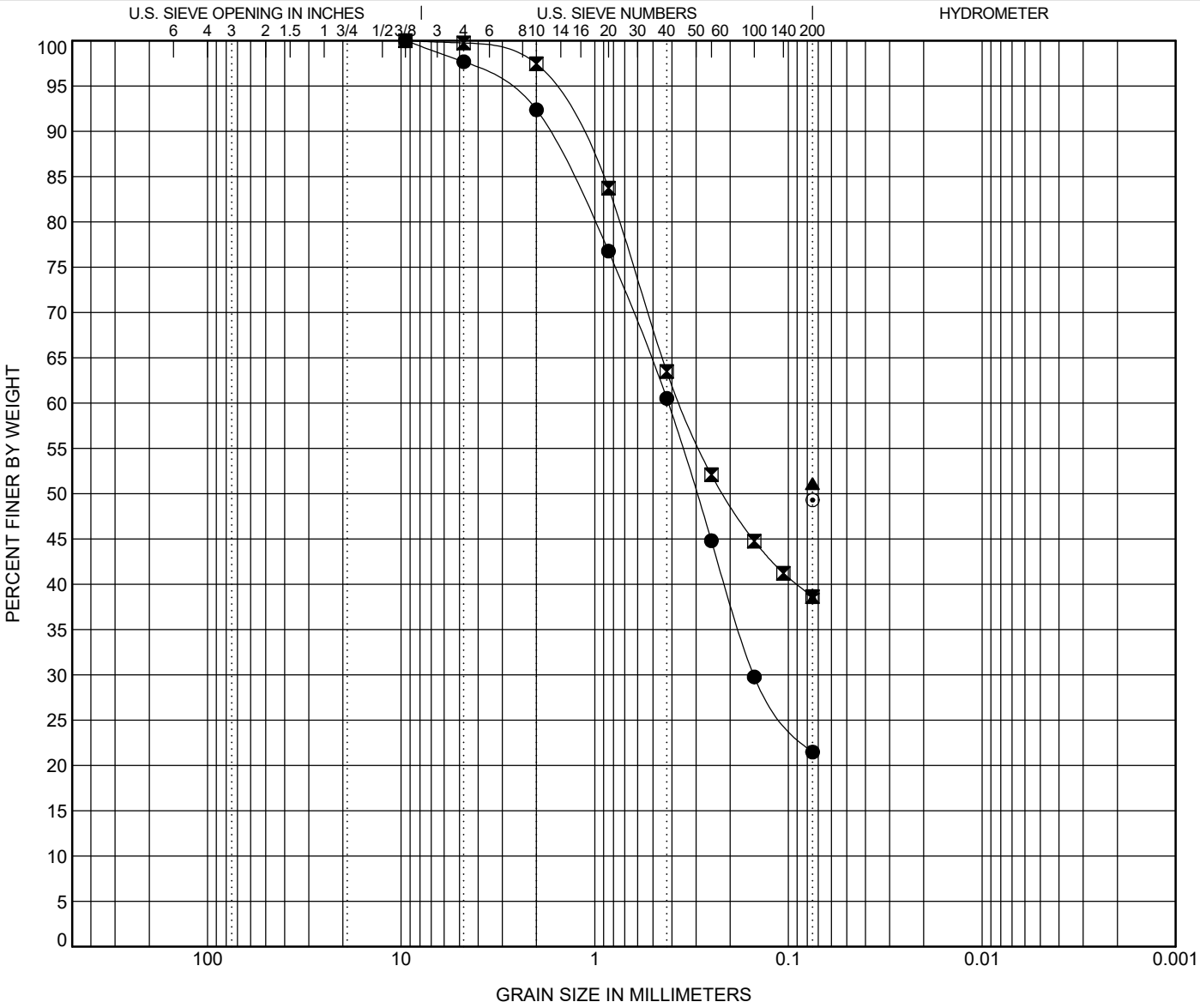
PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

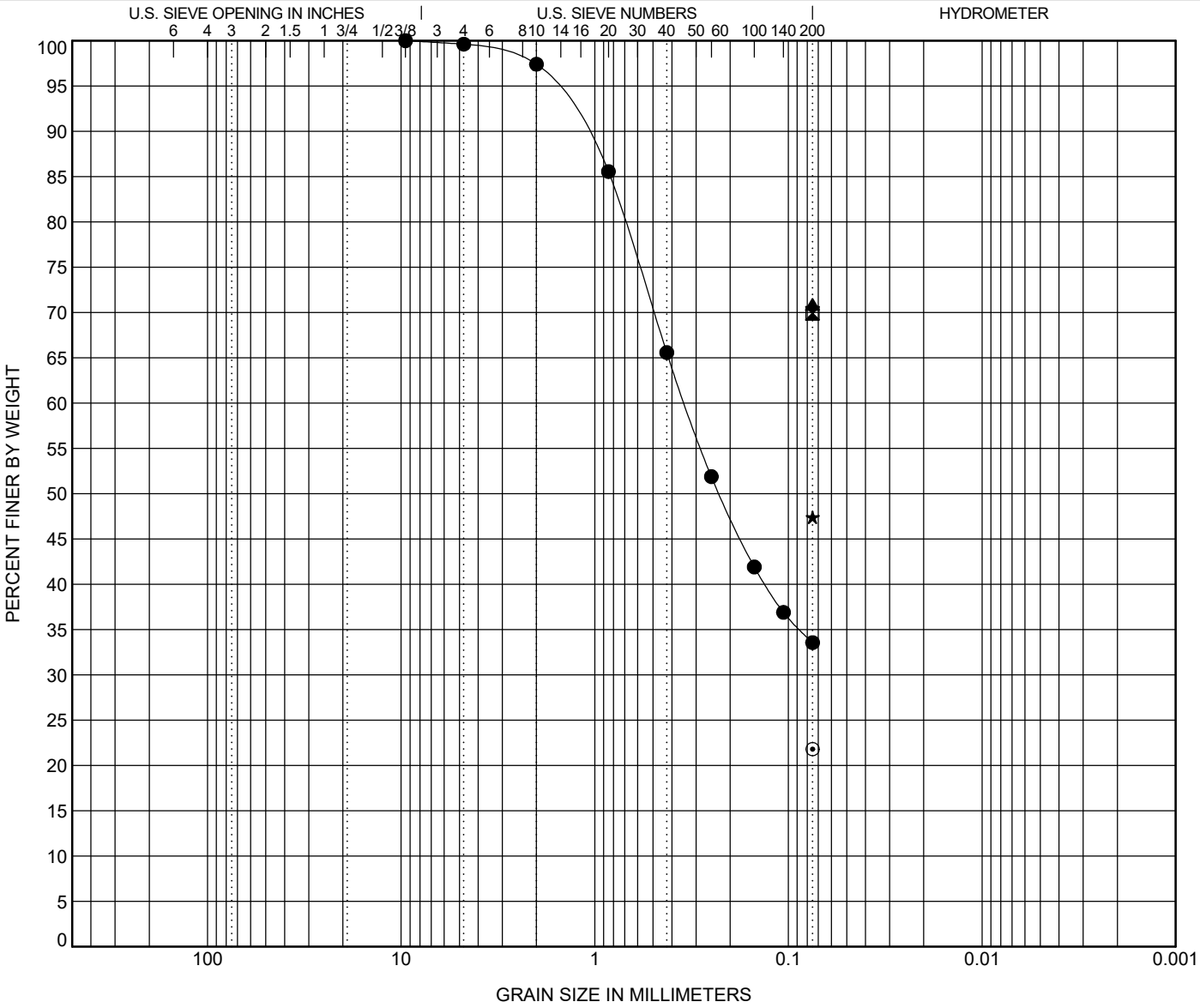
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	R- 4	13.5	Silty SAND (SM)					
⊠	R- 5	0.0	Silty SAND (SM)					
▲	R- 5	2.0	Sandy Lean CLAY (CL)	26	15	11		
★	R- 5	8.0	Clayey SAND (SC)	42	24	18		
⊙	R- 5	23.5	Clayey SAND (SC)	27	19	8		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	R- 4	13.5	9.5	0.418	0.151		2.3	76.2	21.5	
⊠	R- 5	0.0	9.5	0.361			0.2	61.1	38.6	
▲	R- 5	2.0	0.075						51.1	
★	R- 5	8.0	0.075						38.8	
⊙	R- 5	23.5	0.075						49.3	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	R- 6	0.0	**Silty SAND (SM)**					
⊠	R- 6	4.0	**Sandy Lean CLAY (CL)**	42	24	18		
▲	R- 6	8.0	**Lean CLAY with Sand (CL)**	27	19	8		
★	R- 7	2.0	**Silty SAND (SM)**	40	29	11		
⊙	R- 7	6.0	**Clayey SAND (SC)**	40	20	20		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	R- 6	0.0	9.5	0.342			0.4	66.1	33.6	
⊠	R- 6	4.0	0.075						69.9	
▲	R- 6	8.0	0.075						70.9	
★	R- 7	2.0	0.075						47.4	
⊙	R- 7	6.0	0.075						21.8	

GRAIN SIZE DISTRIBUTION

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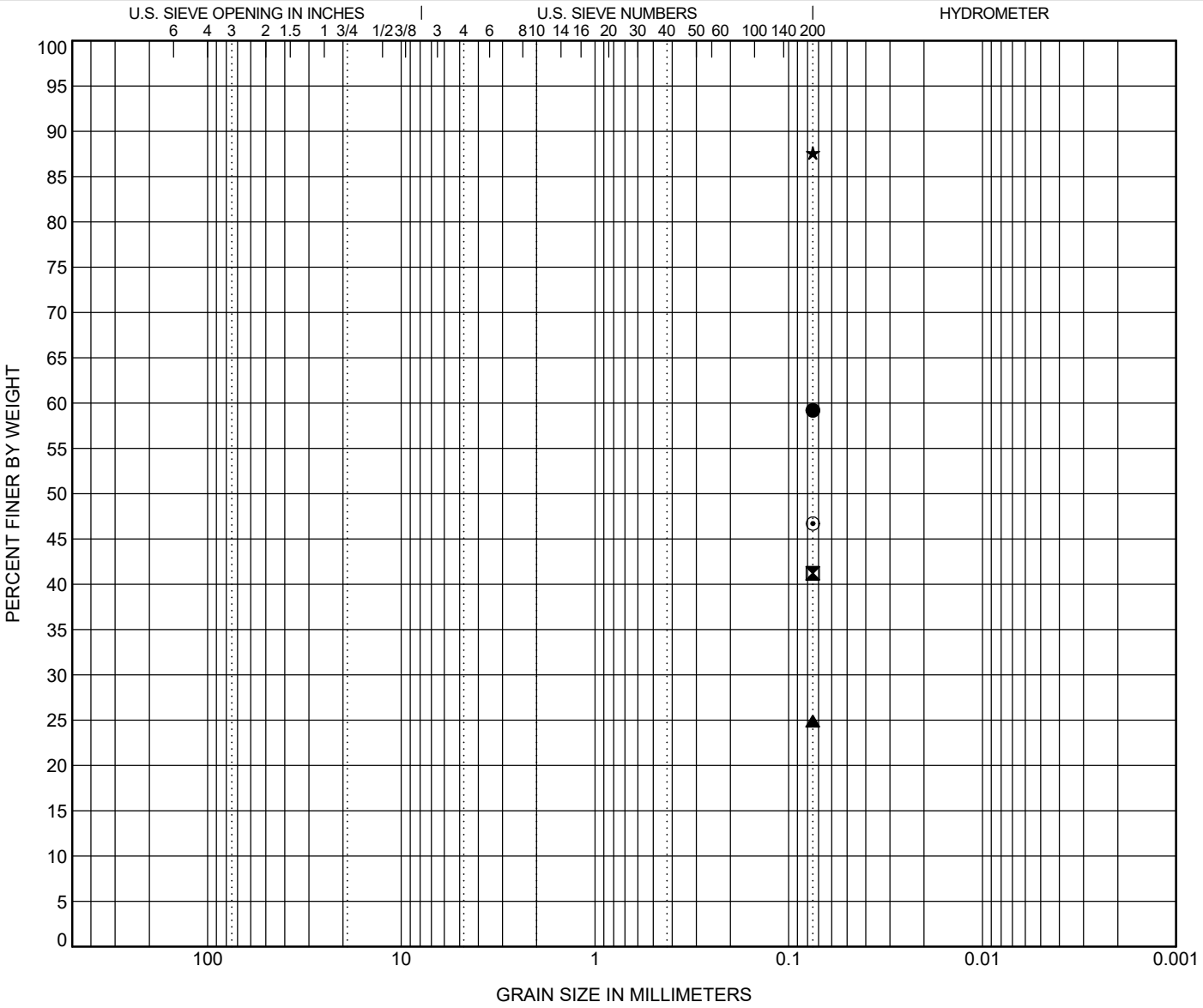
PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	R- 7	13.5	**Sandy Lean CLAY (CL)**	29	19	10		
⊠	R- 8	2.0	**Clayey SAND (SC)**	26	18	8		
▲	R- 8	8.0	**Clayey SAND (SC)**	29	19	10		
★	R- 8	13.5	**Elastic SILT with Sand (MH)**	57	35	22		
⊙	R- 9	0.0	**Clayey SAND (SC)**					

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	R- 7	13.5	0.075						59.2	
⊠	R- 8	2.0	0.075						41.2	
▲	R- 8	8.0	0.075						24.9	
★	R- 8	13.5	0.075						87.6	
⊙	R- 9	0.0	0.075						46.7	

GRAIN SIZE DISTRIBUTION

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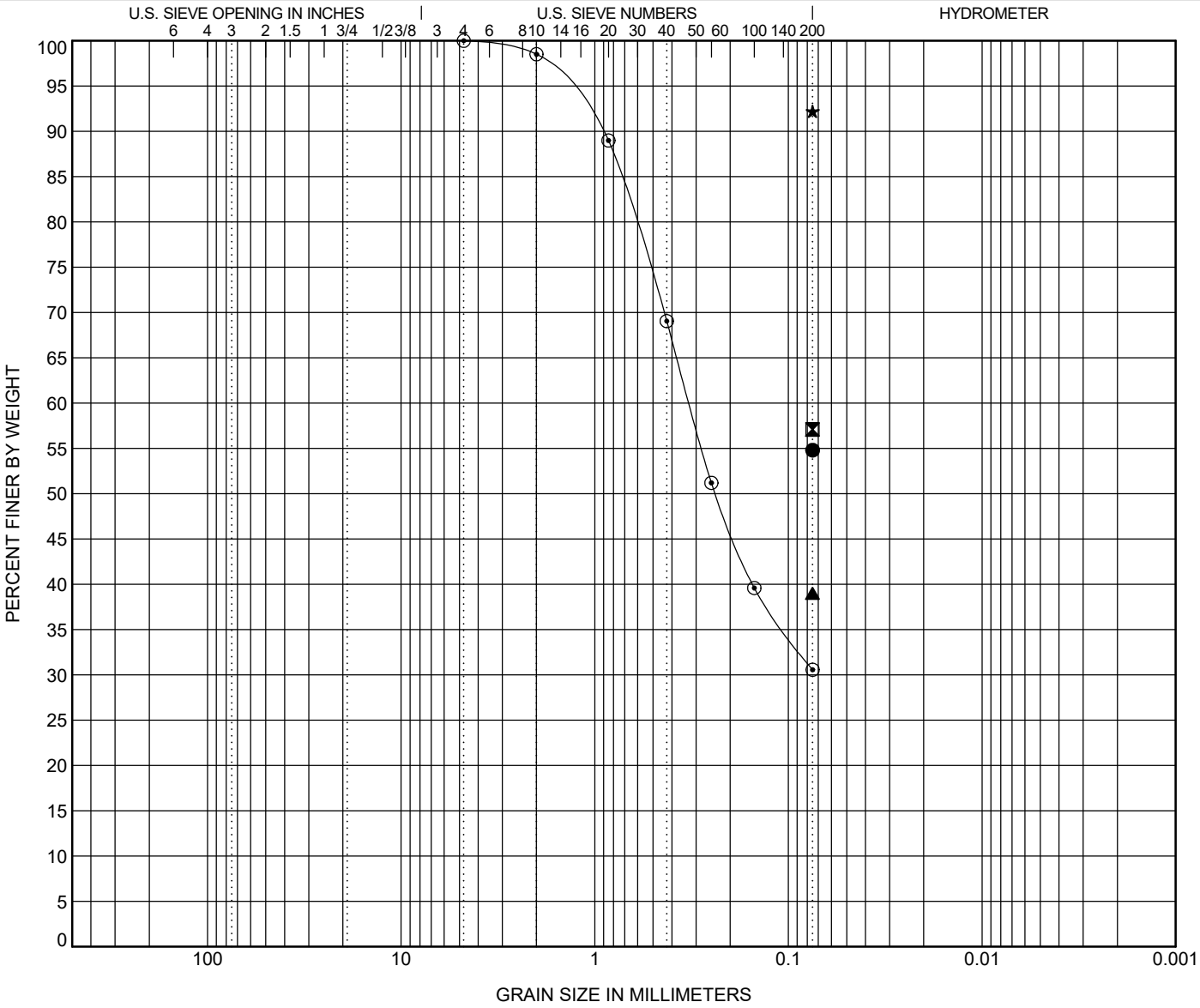
PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

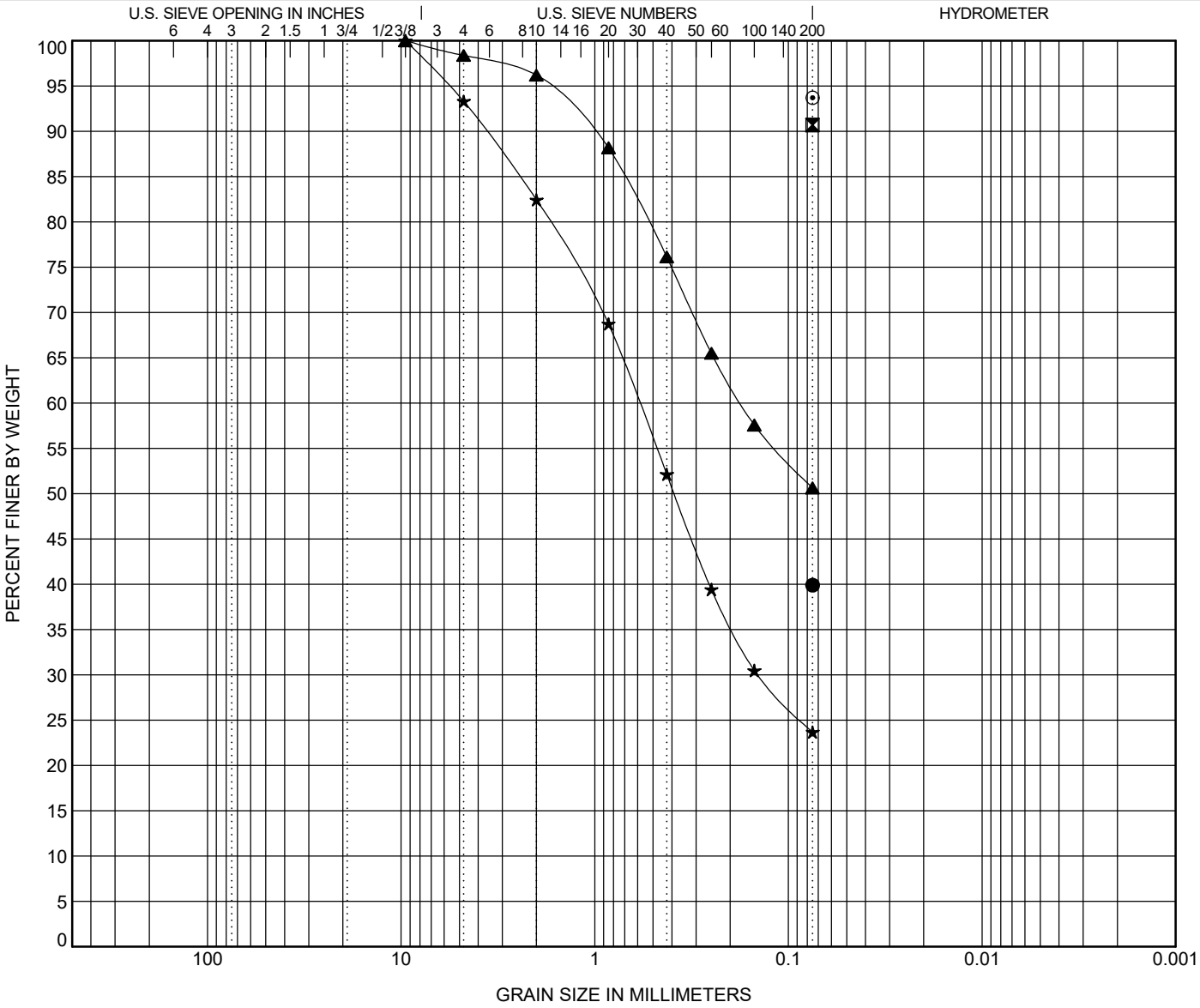
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**R- 9**	**4.0**	**Sandy SILT (ML)**	**34**	**26**	**8**		
⊠	**R-10**	**0.0**	**Sandy Lean CLAY (CL)**					
▲	**R-10**	**4.0**	**Clayey SAND (SC)**					
★	**R-10**	**13.5**	**SILT (ML)**	**44**	**35**	**9**		
⊙	**R-11**	**0.0**	**Silty SAND (SM)**	**NP**	**NP**	**NP**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**R- 9**	**4.0**	**0.075**						**54.8**	
⊠	**R-10**	**0.0**	**0.075**						**57.1**	
▲	**R-10**	**4.0**	**0.075**						**39.0**	
★	**R-10**	**13.5**	**0.075**						**92.2**	
⊙	**R-11**	**0.0**	**4.75**	**0.325**			**0.0**	**69.4**	**30.6**	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	R-11	4.0	Clayey SAND (SC)	29	19	10		
⊠	R-11	8.0	SILT (ML)	42	31	11		
▲	R-12	0.0	Sandy SILT (ML)	NP	NP	NP		
★	SB-12	0.0	Silty SAND (SM)					
⊙	SB-13	2.0	Elastic SILT (MH)	60	40	20		

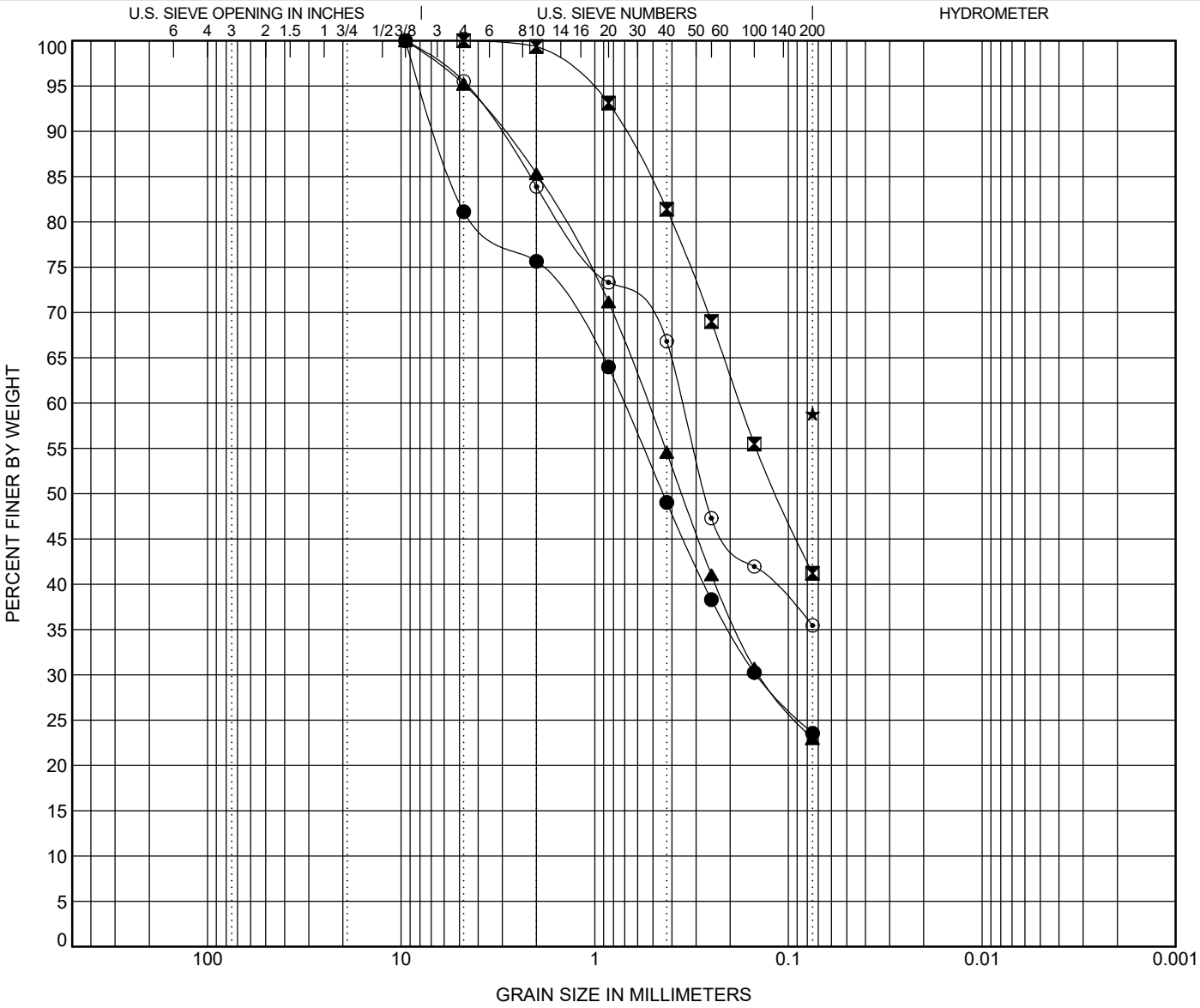
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	R-11	4.0	0.075						39.9	
⊠	R-11	8.0	0.075						90.7	
▲	R-12	0.0	9.5	0.175			1.6	47.7	50.6	
★	SB-12	0.0	9.5	0.59	0.143		6.7	69.6	23.7	
⊙	SB-13	2.0	0.075						93.7	

GRAIN SIZE 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**SB-14**	**0.0**	**Silty SAND (SM)**					
⊠	**SB-15**	**0.0**	**Silty SAND (SM)**	**NP**	**NP**	**NP**		
▲	**SB-16**	**0.0**	**Silty SAND (SM)**					
★	**SB-17**	**2.0**	**Sandy Lean CLAY (CL)**	**42**	**19**	**23**		
⊙	**SB-18**	**0.0**	**Silty SAND (SM)**					

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**SB-14**	**0.0**	**9.5**	**0.707**	**0.146**		**18.9**	**57.6**	**23.5**	
⊠	**SB-15**	**0.0**	**4.75**	**0.178**			**0.0**	**58.8**	**41.2**	
▲	**SB-16**	**0.0**	**9.5**	**0.533**	**0.141**		**4.8**	**72.3**	**23.0**	
★	**SB-17**	**2.0**	**0.075**						**58.8**	
⊙	**SB-18**	**0.0**	**9.5**	**0.353**			**4.5**	**60.1**	**35.5**	

GRAIN SIZE DISTRIBUTION

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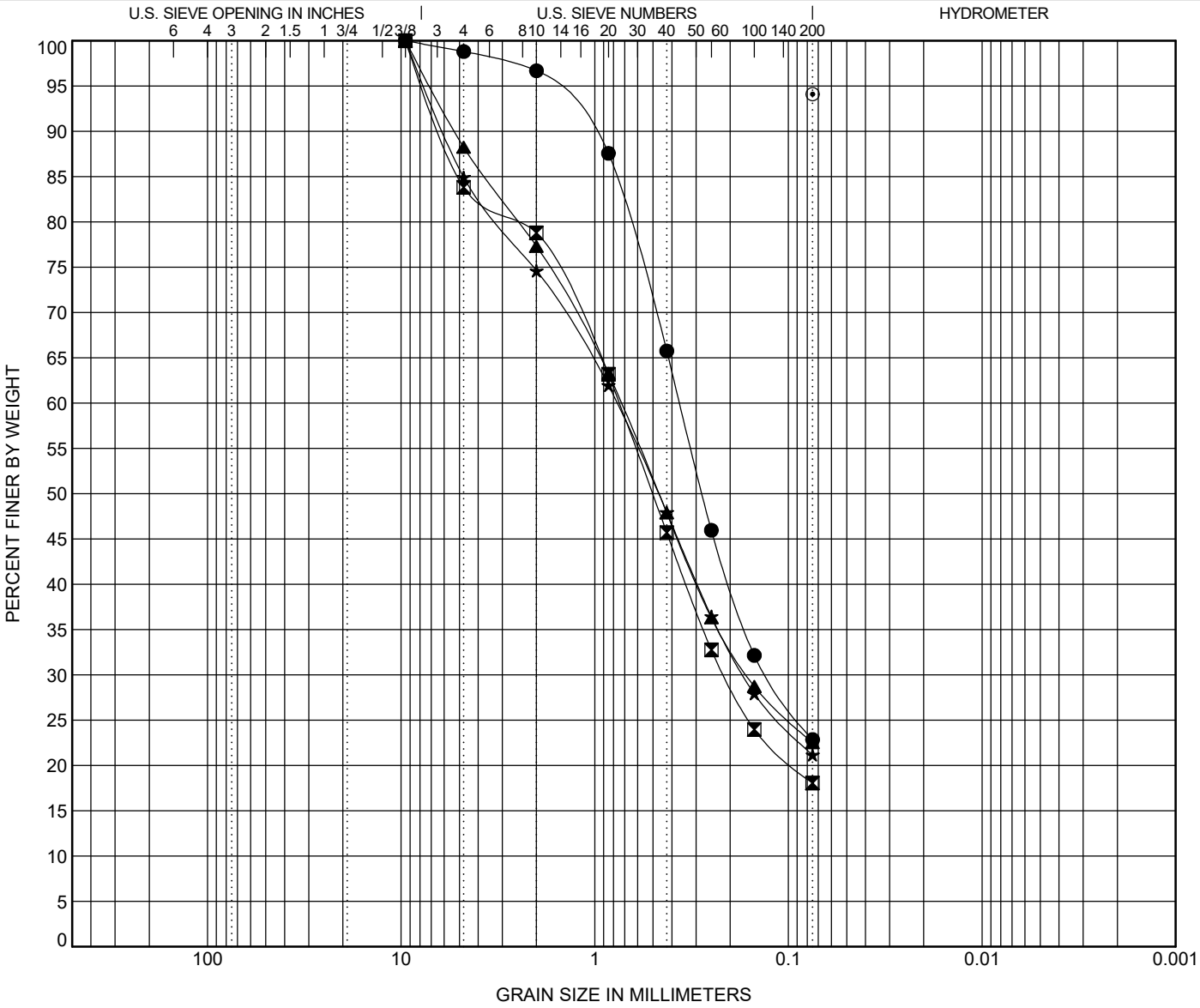
PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**SB-19**	**0.0**	**Silty SAND (SM)**	**NP**	**NP**	**NP**		
⊠	**SB-20**	**0.0**	**Clayey SAND (SC)**	**24**	**15**	**9**		
▲	**SB-21**	**0.0**	**Silty SAND (SM)**					
★	**SB-22**	**0.0**	**Silty SAND (SM)**					
⊙	**SB-23**	**0.0**	**Lean CLAY (CL)**	**39**	**20**	**19**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**SB-19**	**0.0**	**9.5**	**0.364**	**0.128**		**1.2**	**76.0**	**22.9**	
⊠	**SB-20**	**0.0**	**9.5**	**0.749**	**0.213**		**16.2**	**65.8**	**18.1**	
▲	**SB-21**	**0.0**	**9.5**	**0.734**	**0.164**		**11.8**	**65.7**	**22.5**	
★	**SB-22**	**0.0**	**9.5**	**0.772**	**0.17**		**15.1**	**63.8**	**21.2**	
⊙	**SB-23**	**0.0**	**0.075**						**94.1**	

GRAIN SIZE DISTRIBUTION

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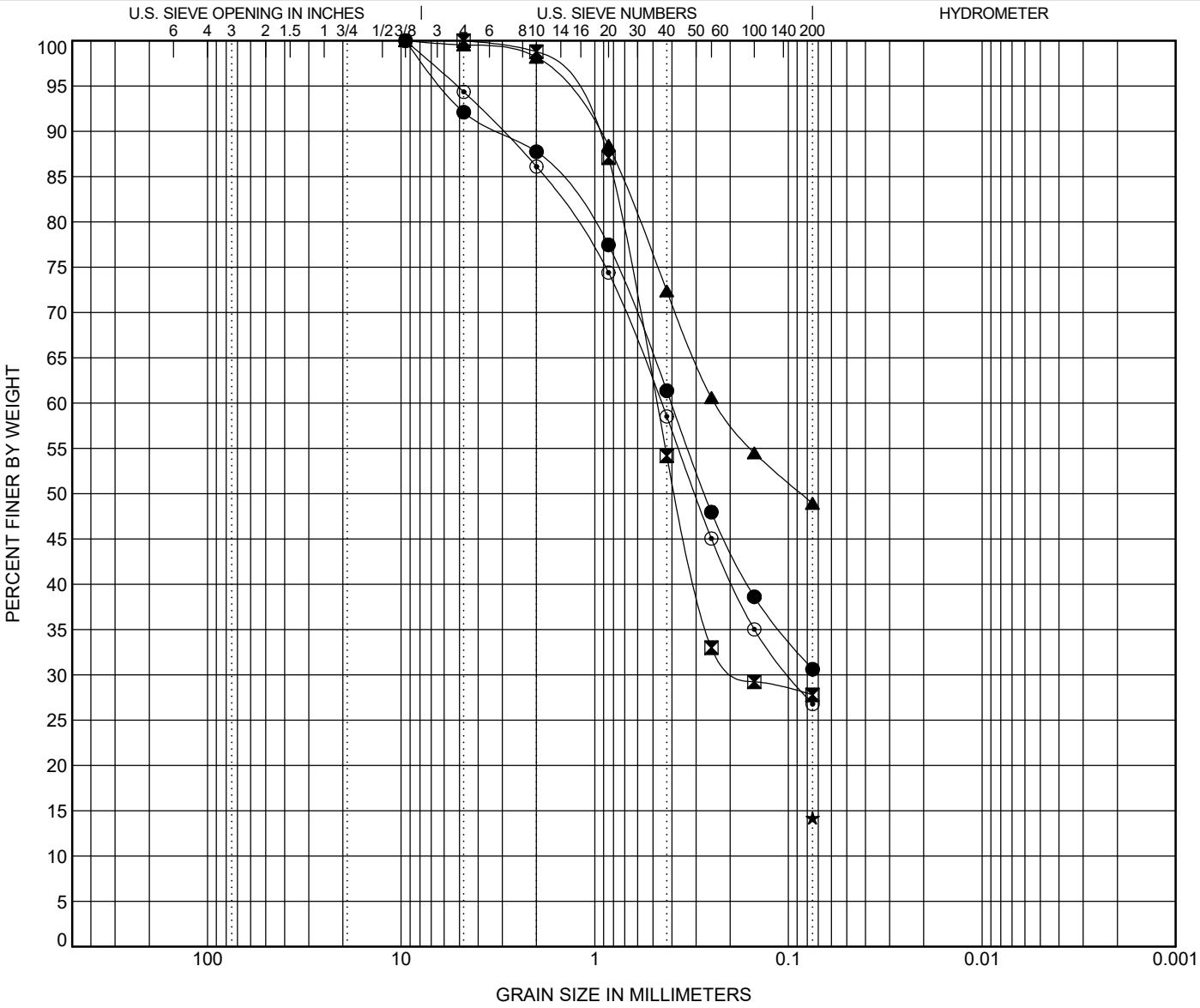

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**SB-24**	**0.0**	**Silty SAND (SM)**					
⊠	**SB-25**	**0.0**	**Clayey SAND (SC)**	**42**	**22**	**20**		
▲	**SB-26**	**2.0**	**Clayey SAND (SC)**	**34**	**18**	**16**		
★	**SB-27**	**0.0**	**Silty SAND (SM)**					
⊙	**SB-28**	**0.0**	**Silty SAND (SM)**					

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**SB-24**	**0.0**	**9.5**	**0.403**			**7.9**	**61.5**	**30.6**	
⊠	**SB-25**	**0.0**	**4.75**	**0.48**	**0.166**		**0.0**	**72.2**	**27.8**	
▲	**SB-26**	**2.0**	**9.5**	**0.238**			**0.5**	**50.6**	**48.9**	
★	**SB-27**	**0.0**	**0.075**						**14.2**	
⊙	**SB-28**	**0.0**	**9.5**	**0.453**	**0.098**		**5.6**	**67.6**	**26.8**	

GRAIN SIZE DISTRIBUTION

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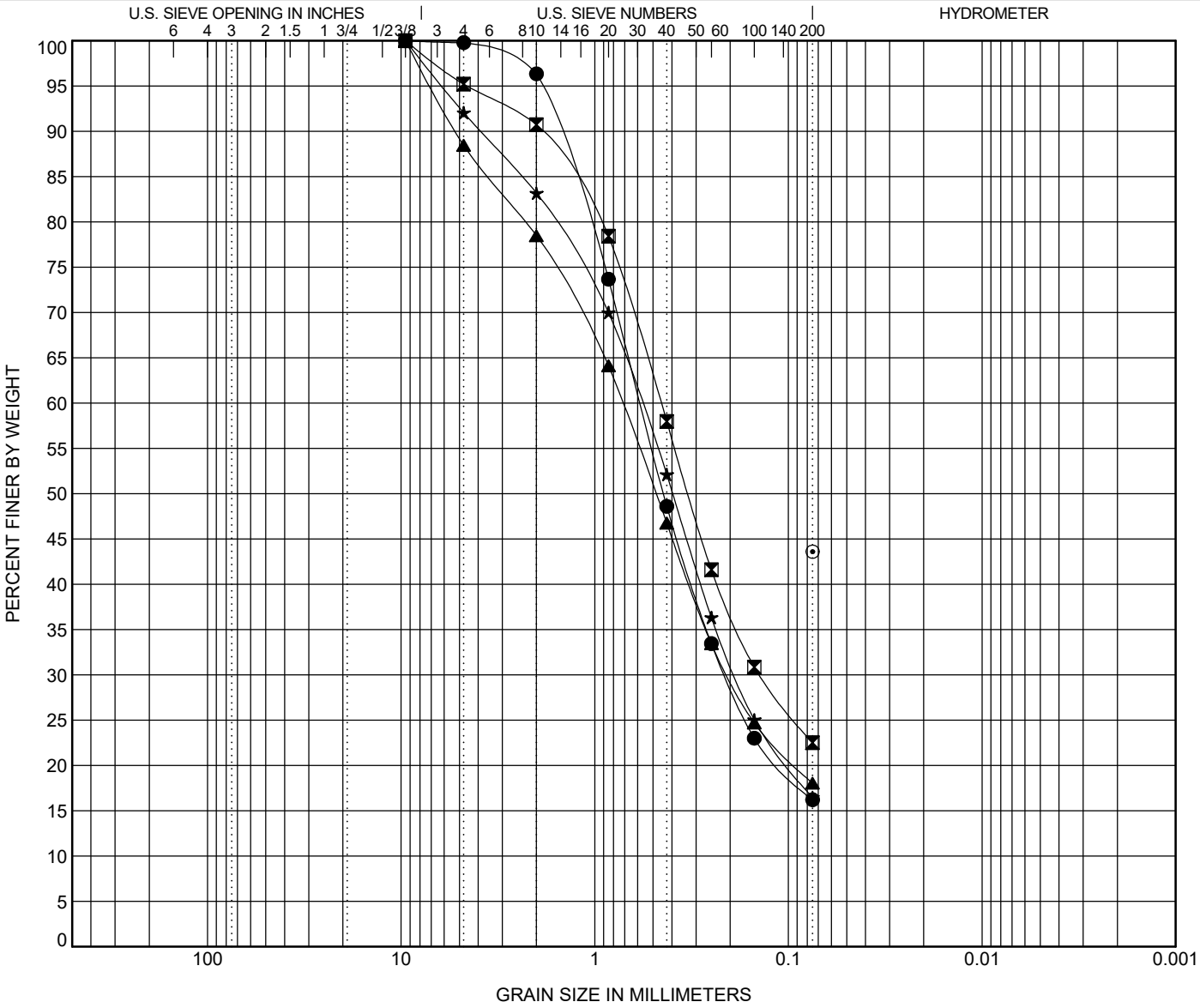

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**SB-29**	**0.0**	**Silty SAND (SM)**	**NP**	**NP**	**NP**		
⊠	**SB-30**	**0.0**	**Silty SAND (SM)**					
▲	**SB-31**	**0.0**	**Silty SAND (SM)**					
★	**SB-32**	**0.0**	**Silty SAND (SM)**					
⊙	**W-35**	**2.0**	**Silty SAND (SM)**	**41**	**31**	**10**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**SB-29**	**0.0**	**9.5**	**0.582**	**0.211**		**0.2**	**83.6**	**16.2**	
⊠	**SB-30**	**0.0**	**9.5**	**0.455**	**0.14**		**4.8**	**72.7**	**22.5**	
▲	**SB-31**	**0.0**	**9.5**	**0.721**	**0.204**		**11.5**	**70.4**	**18.0**	
★	**SB-32**	**0.0**	**9.5**	**0.577**	**0.188**		**7.9**	**75.6**	**16.5**	
⊙	**W-35**	**2.0**	**0.075**						**43.6**	

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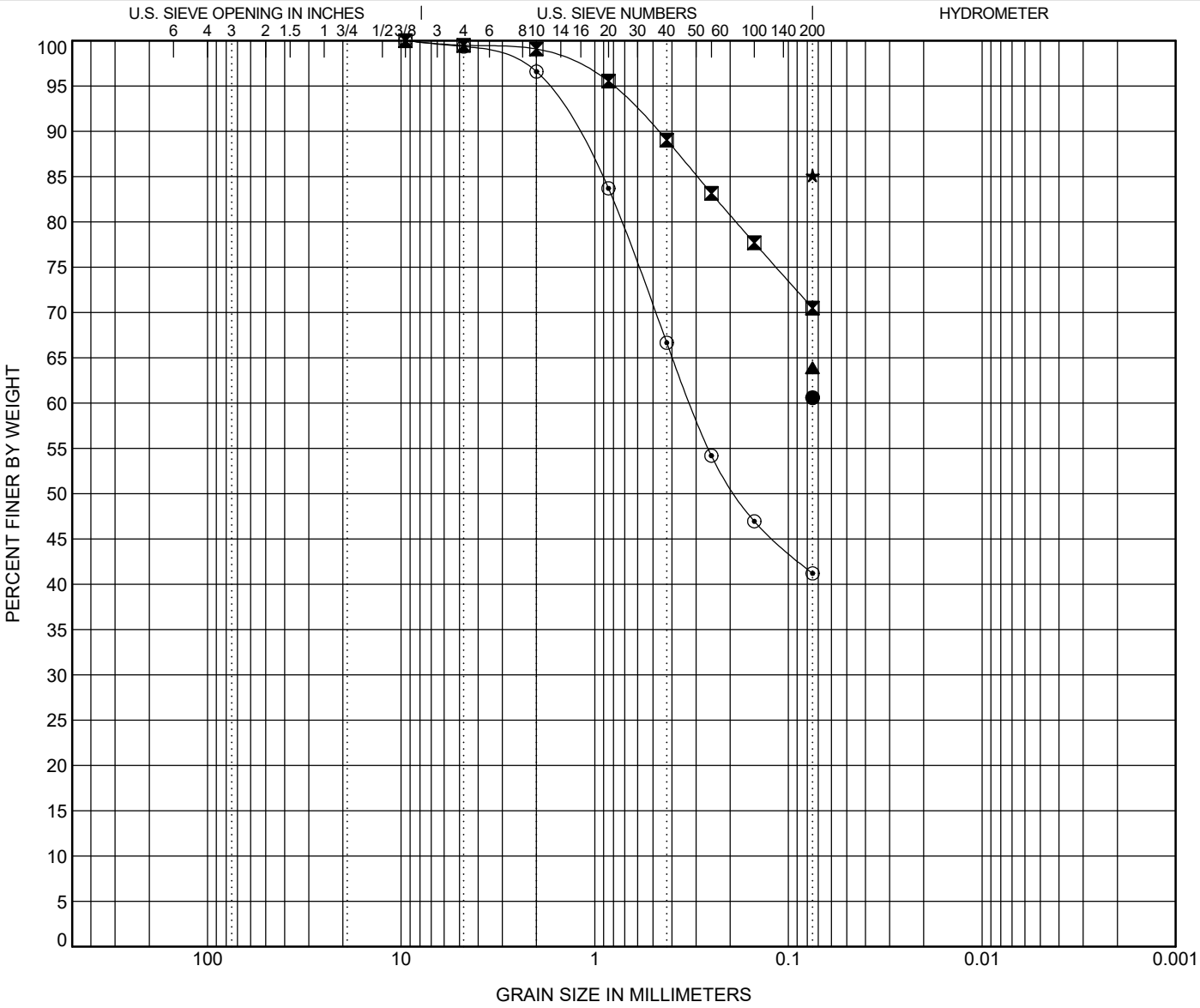

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	W-35	13.5	Sandy SILT (ML)	NP	NP	NP		
⊠	W-36	0.0	Lean SILTY CLAY with Sand (CL-ML)	22	15	7		
▲	W-36	4.0	Sandy SILT (ML)	47	30	17		
★	W-36	13.5	Elastic SILT with Sand (MH)	57	33	24		
⊙	W-37	0.0	Clayey SAND (SC)	36	19	17		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	W-35	13.5	0.075						60.6	
⊠	W-36	0.0	9.5				0.5	29.0	70.5	
▲	W-36	4.0	0.075						63.9	
★	W-36	13.5	0.075						85.1	
⊙	W-37	0.0	9.5	0.32			0.6	58.2	41.2	

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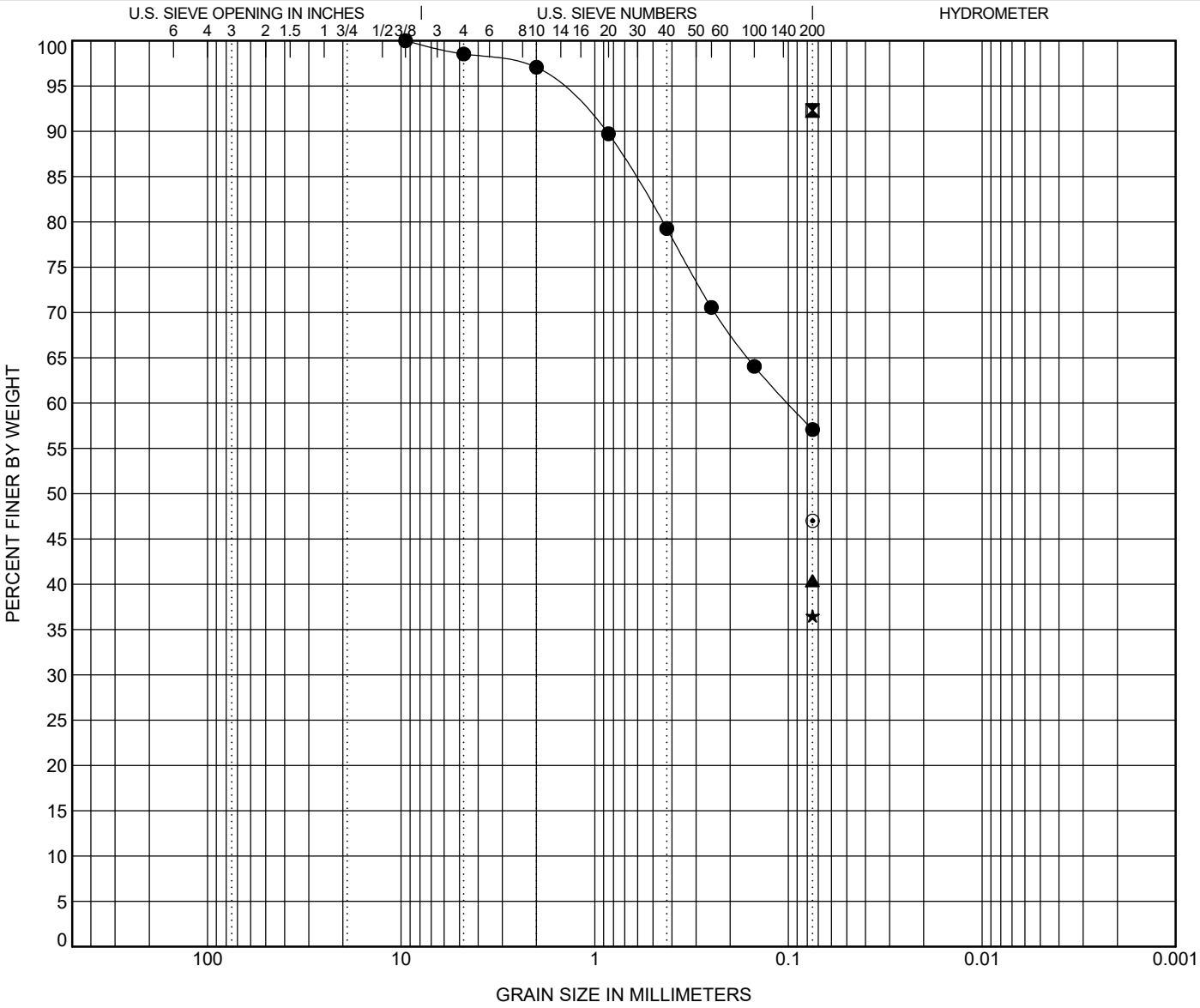

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**W-37**	**4.0**	**Sandy Lean CLAY (CL)**	**27**	**18**	**9**		
⊠	**W-37**	**18.5**	**SILT (ML)**	**46**	**35**	**11**		
▲	**W-38**	**0.0**	**Clayey SAND (SC)**	**29**	**17**	**12**		
★	**W-38**	**4.0**	**Clayey SAND (SC)**	**24**	**16**	**8**		
⊙	**W-38**	**13.5**	**Silty, Clayey SAND (SC-SM)**	**27**	**21**	**6**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**W-37**	**4.0**	**9.5**	**0.1**			**1.5**	**41.5**	**57.1**	
⊠	**W-37**	**18.5**	**0.075**						**92.3**	
▲	**W-38**	**0.0**	**0.075**						**40.4**	
★	**W-38**	**4.0**	**0.075**						**36.5**	
⊙	**W-38**	**13.5**	**0.075**						**47.0**	

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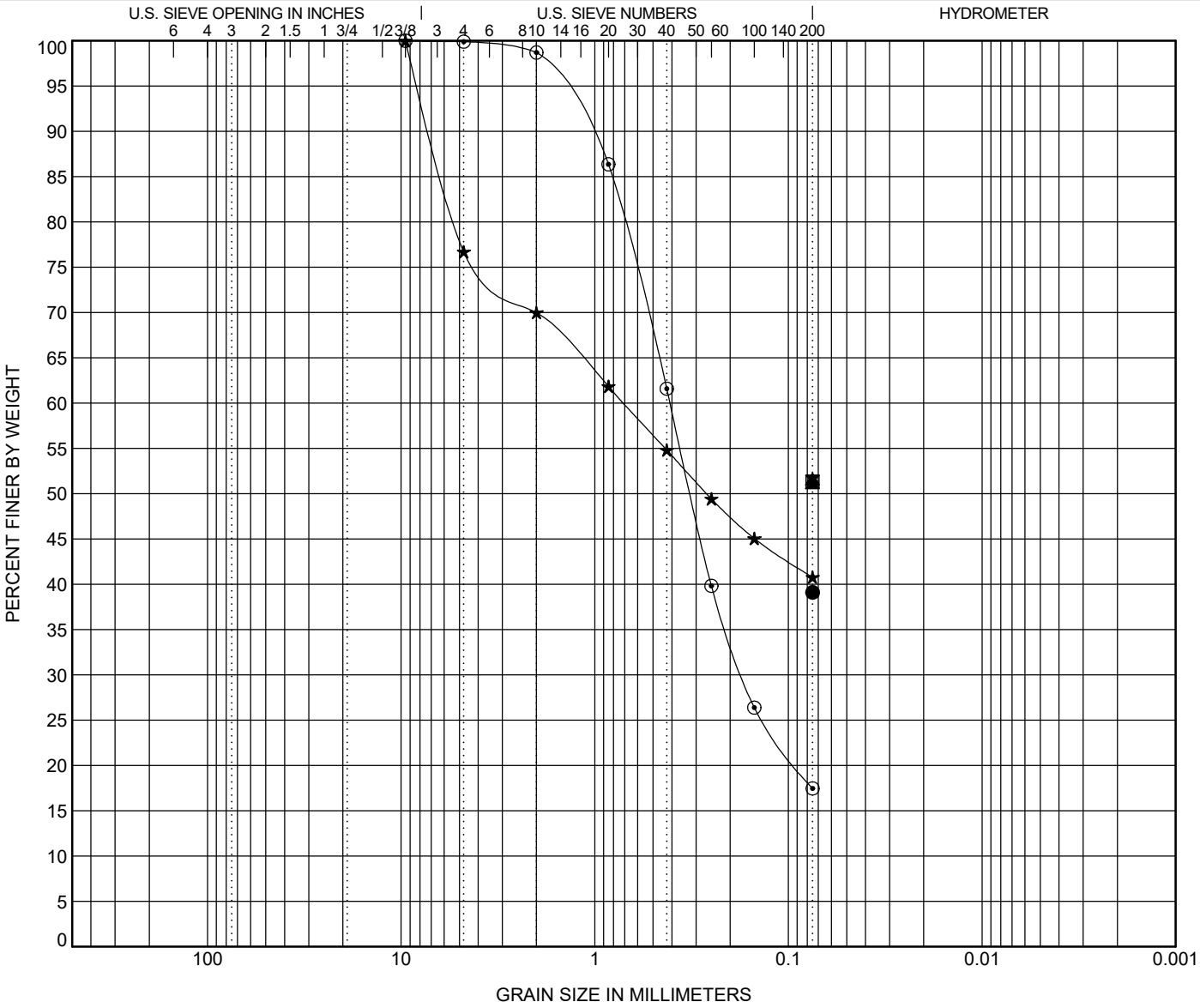

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	W-39	0.0	Clayey SAND (SC)					
⊠	W-39	2.0	Sandy SILT (ML)					
▲	W-39	8.0	Sandy Lean CLAY (CL)	25	17	8		
★	W-40	0.0	Silty SAND (SM)	35	26	9		
⊙	W-41	2.0	Silty SAND (SM)					

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	W-39	0.0	0.075						39.1	
⊠	W-39	2.0	0.075						51.3	
▲	W-39	8.0	0.075						51.6	
★	W-40	0.0	9.5	0.709			23.3	35.9	40.8	
⊙	W-41	2.0	9.5	0.409	0.172		0.1	82.4	17.5	

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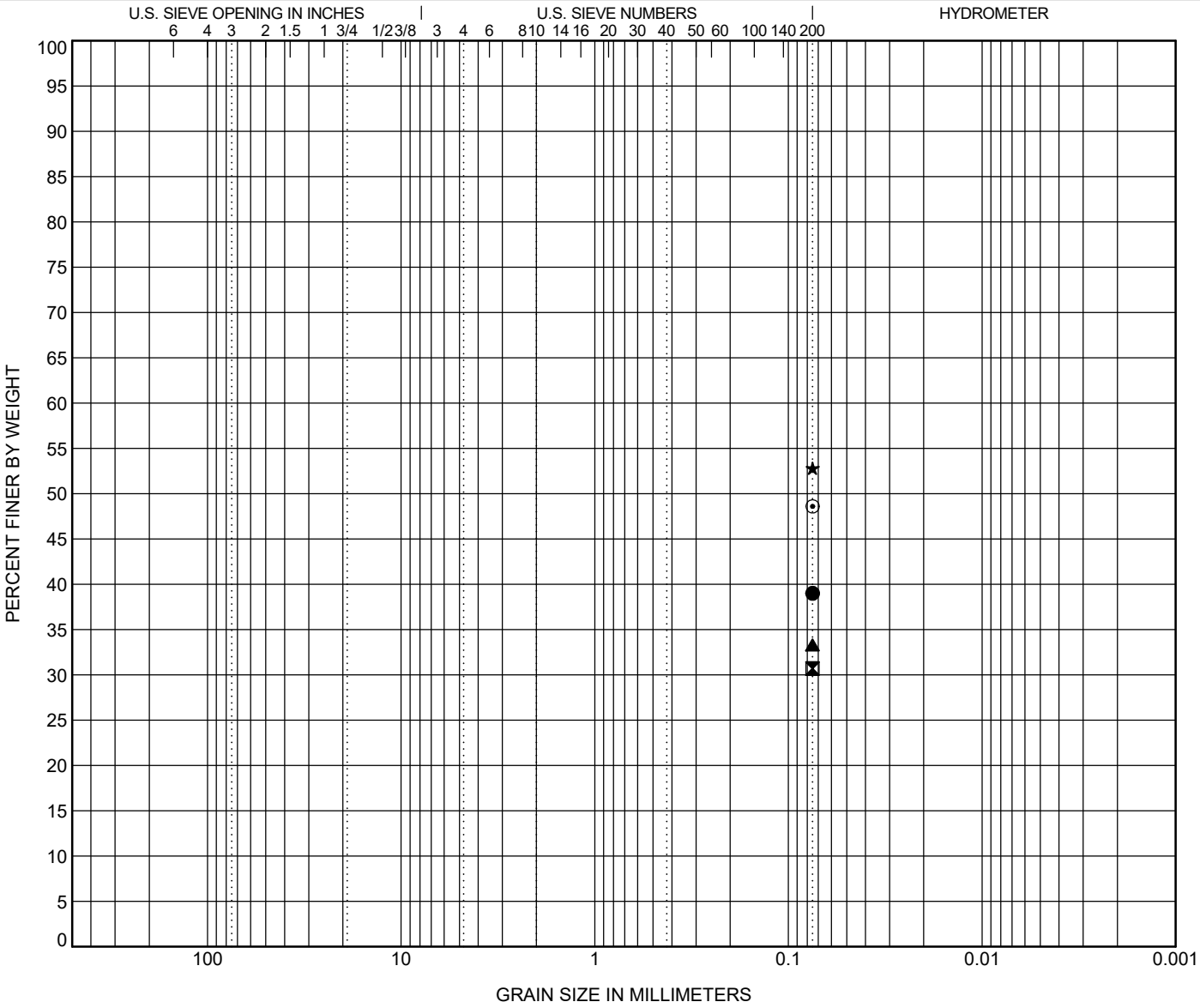

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**W-42**	**0.0**	**Silty SAND (SM)**					
⊠	**W-42**	**2.0**	**Silty, Clayey SAND (SC-SM)**	**21**	**15**	**6**		
▲	**W-43**	**0.0**	**Clayey SAND (SC)**	**27**	**17**	**10**		
★	**W-43**	**6.0**	**Sandy Lean CLAY (CL)**	**28**	**16**	**12**		
⊙	**W-44**	**0.0**	**Silty SAND (SM)**	**NP**	**NP**	**NP**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**W-42**	**0.0**	**0.075**						**39.0**	
⊠	**W-42**	**2.0**	**0.075**						**30.7**	
▲	**W-43**	**0.0**	**0.075**						**33.3**	
★	**W-43**	**6.0**	**0.075**						**52.8**	
⊙	**W-44**	**0.0**	**0.075**						**48.6**	

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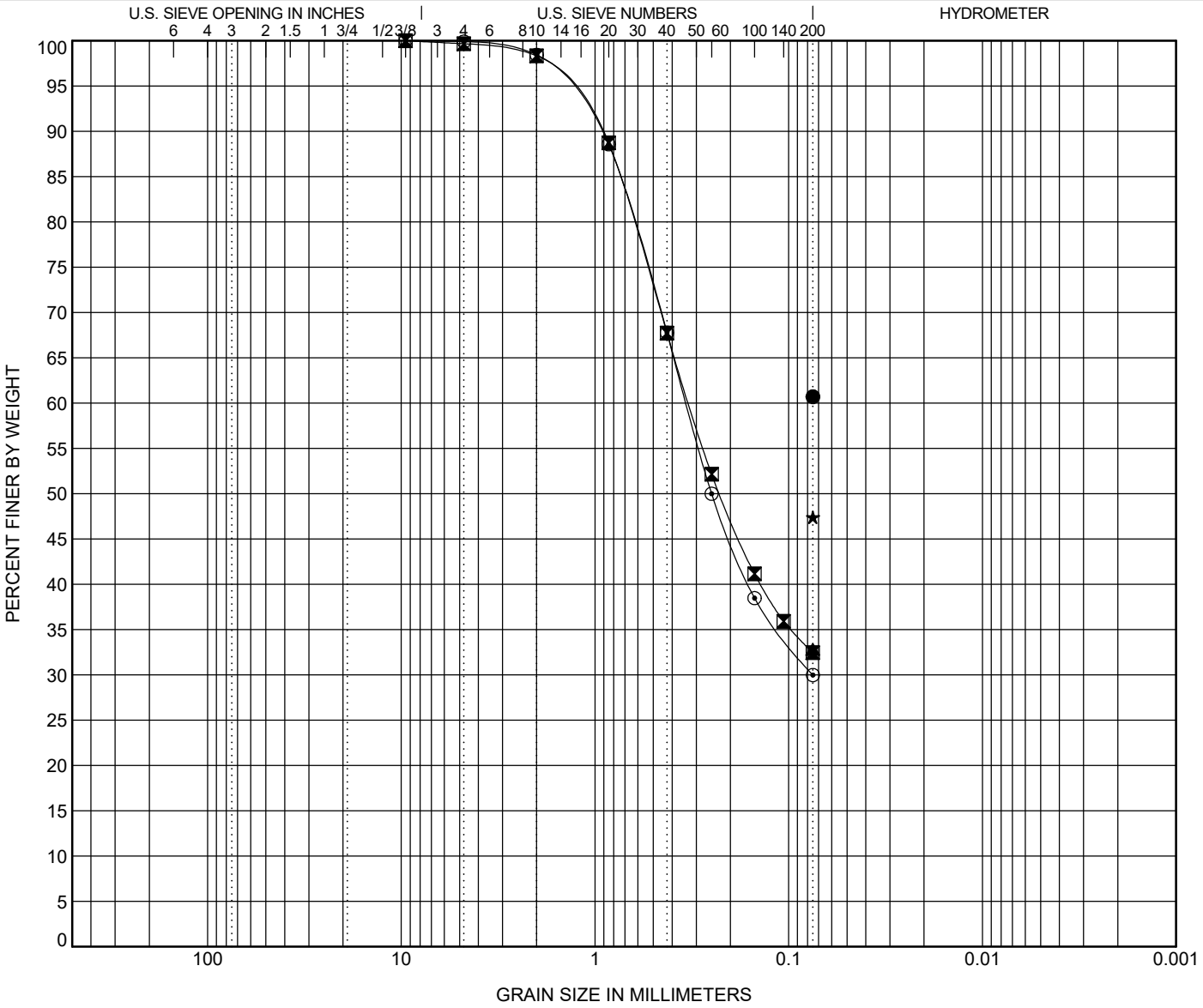
PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

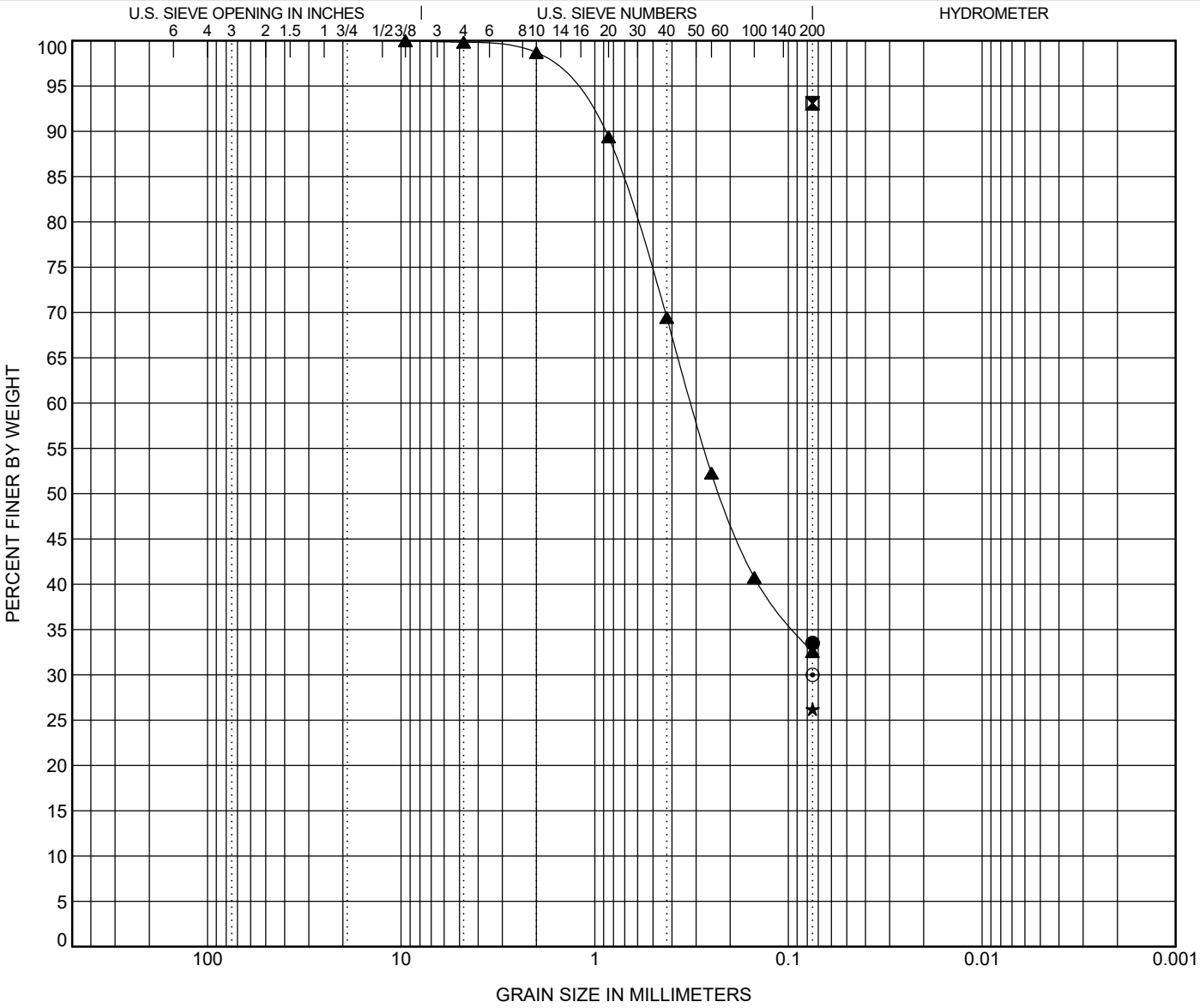
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	W-44	4.0	Sandy SILT (ML)	38	27	11		
⊠	W-45	0.0	Silty SAND (SM)					
▲	W-45	8.0	Clayey SAND (SC)	37	22	15		
★	W-45	18.5	Silty, Clayey SAND (SC-SM)	24	19	5		
⊙	W-46	0.0	Silty SAND (SM)	NP	NP	NP		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	W-44	4.0	0.075						60.7	
⊠	W-45	0.0	9.5	0.327			0.3	67.2	32.5	
▲	W-45	8.0	0.075						32.8	
★	W-45	18.5	0.075						47.4	
⊙	W-46	0.0	9.5	0.337	0.075		0.1	69.9	30.0	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

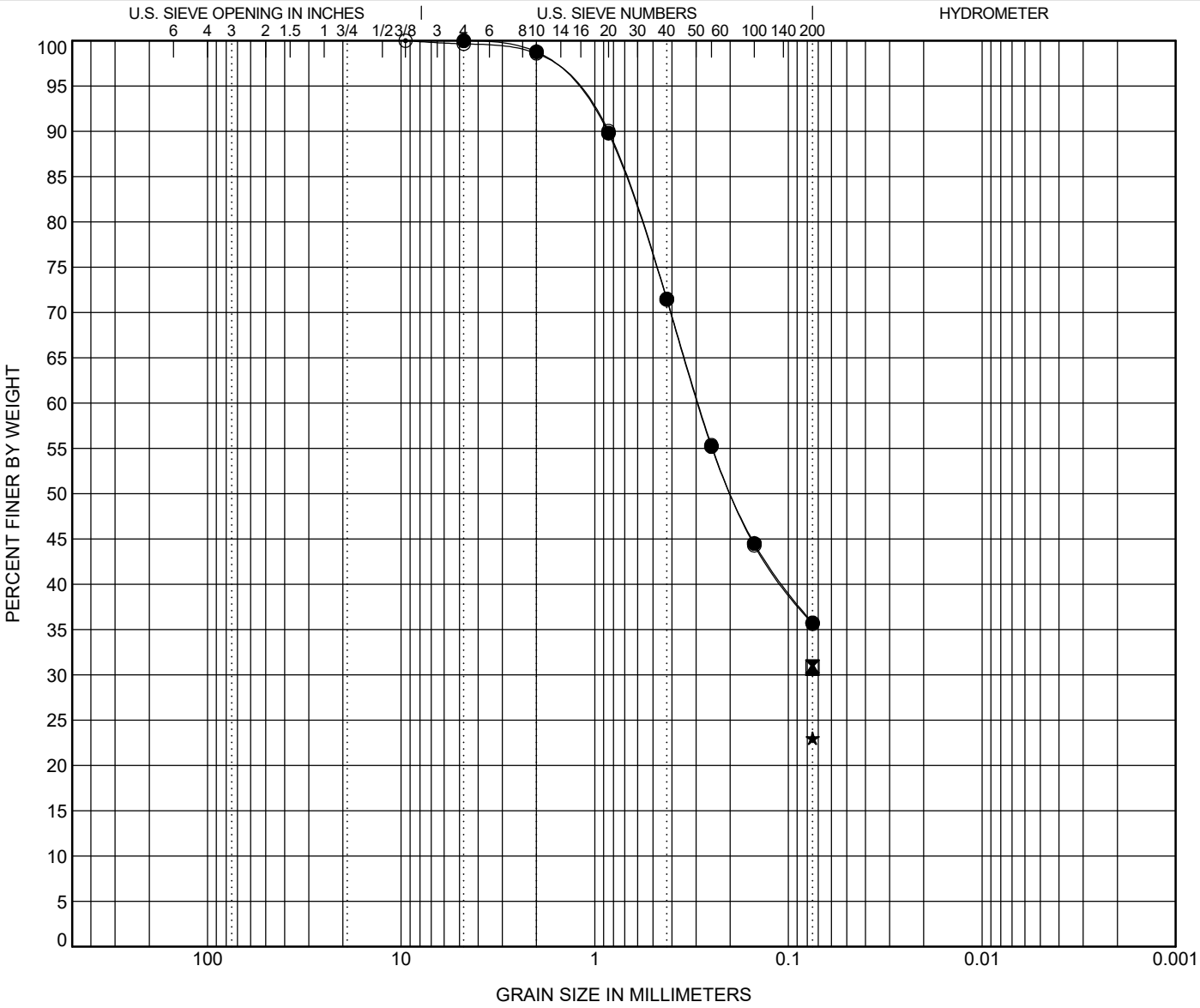
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**W-46**	**8.0**	**Silty SAND (SM)**	**NP**	**NP**	**NP**		
⊠	**W-46**	**18.5**	**Elastic SILT (MH)**	**57**	**33**	**24**		
▲	**W-47**	**0.0**	**Silty SAND (SM)**					
★	**W-47**	**2.0**	**Silty SAND (SM)**					
⊙	**W-47**	**8.0**	**Silty SAND (SM)**	**NP**	**NP**	**NP**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**W-46**	**8.0**	**0.075**						**33.5**	
⊠	**W-46**	**18.5**	**0.075**						**93.1**	
▲	**W-47**	**0.0**	**9.5**	**0.318**			**0.2**	**67.3**	**32.6**	
★	**W-47**	**2.0**	**0.075**						**26.2**	
⊙	**W-47**	**8.0**	**0.075**		**0.075**				**30.0**	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

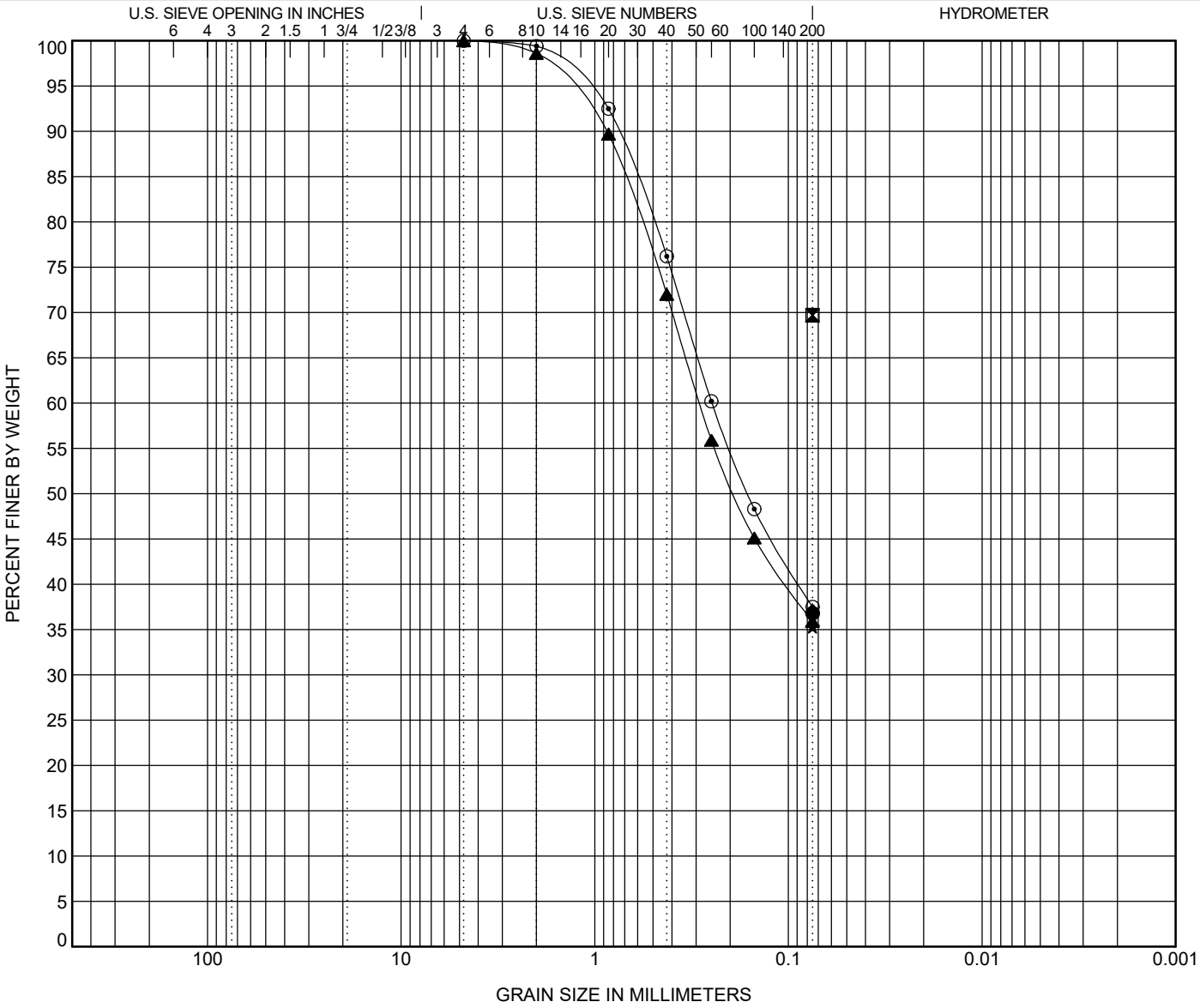
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**W-48**	**0.0**	**Silty SAND (SM)**					
⊠	**W-48**	**6.0**	**Silty SAND (SM)**					
▲	**W-48**	**8.0**	**Silty SAND (SM)**	**NP**	**NP**	**NP**		
★	**W-48**	**18.5**	**Silty SAND (SM)**					
⊙	**W-49**	**0.0**	**Silty SAND (SM)**					

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**W-48**	**0.0**	**4.75**	**0.292**			**0.0**	**64.3**	**35.7**	
⊠	**W-48**	**6.0**	**0.075**						**30.9**	
▲	**W-48**	**8.0**	**0.075**						**30.6**	
★	**W-48**	**18.5**	**0.075**						**23.0**	
⊙	**W-49**	**0.0**	**9.5**	**0.291**			**0.3**	**64.0**	**35.6**	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	W-49	4.0	Silty SAND (SM)	NP	NP	NP		
⊠	W-49	23.5	Sandy SILT (ML)	44	27	17		
▲	W-50	0.0	Silty SAND (SM)	16	13	3		
★	W-50	4.0	Clayey SAND (SC)	29	18	11		
⊙	W-51	0.0	Silty SAND (SM)	NP	NP	NP		

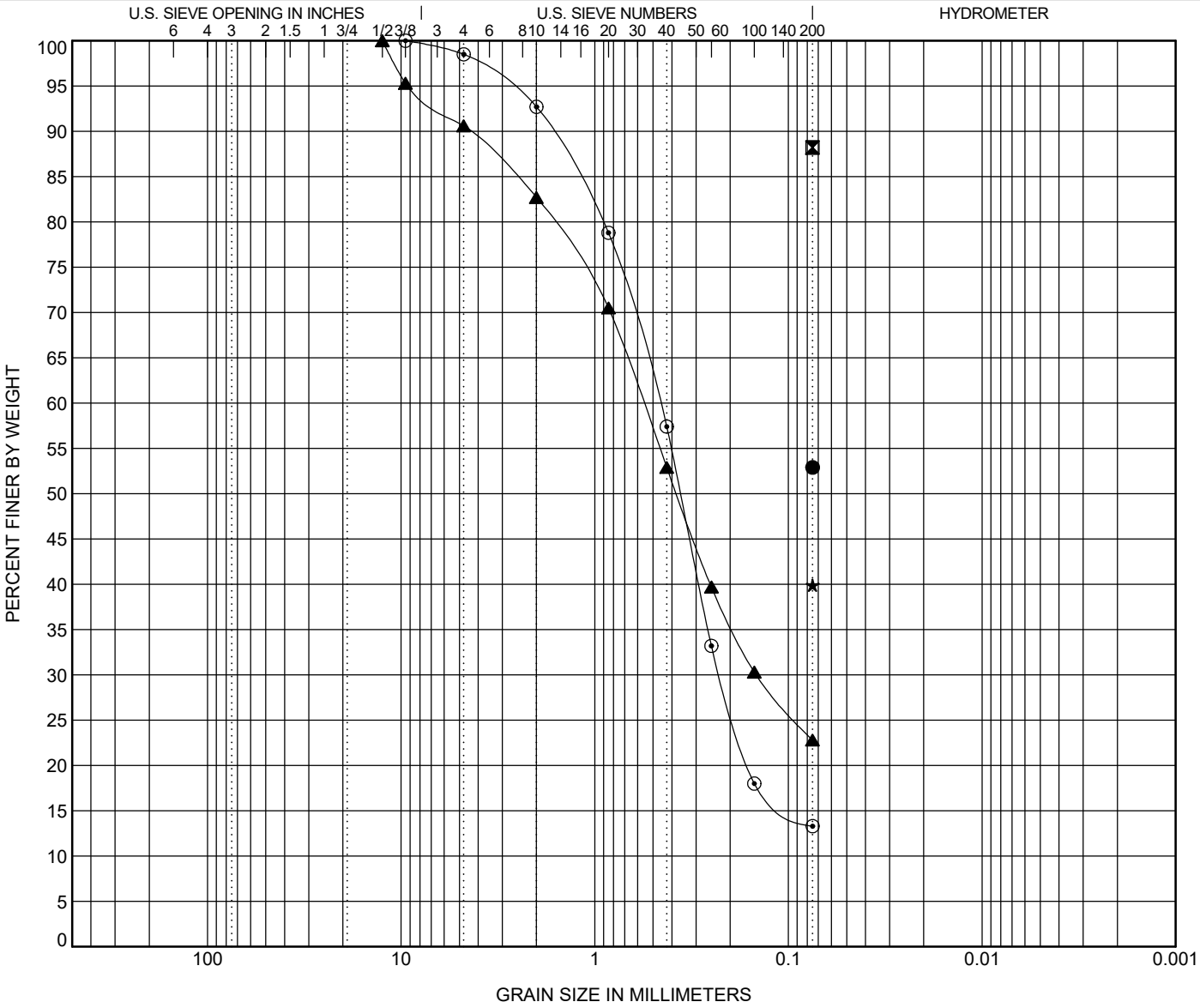
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	W-49	4.0	0.075						36.8	
⊠	W-49	23.5	0.075						69.7	
▲	W-50	0.0	4.75	0.286			0.0	64.1	35.9	
★	W-50	4.0	0.075						35.3	
⊙	W-51	0.0	4.75	0.248			0.0	62.5	37.5	

GRAIN SIZE 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

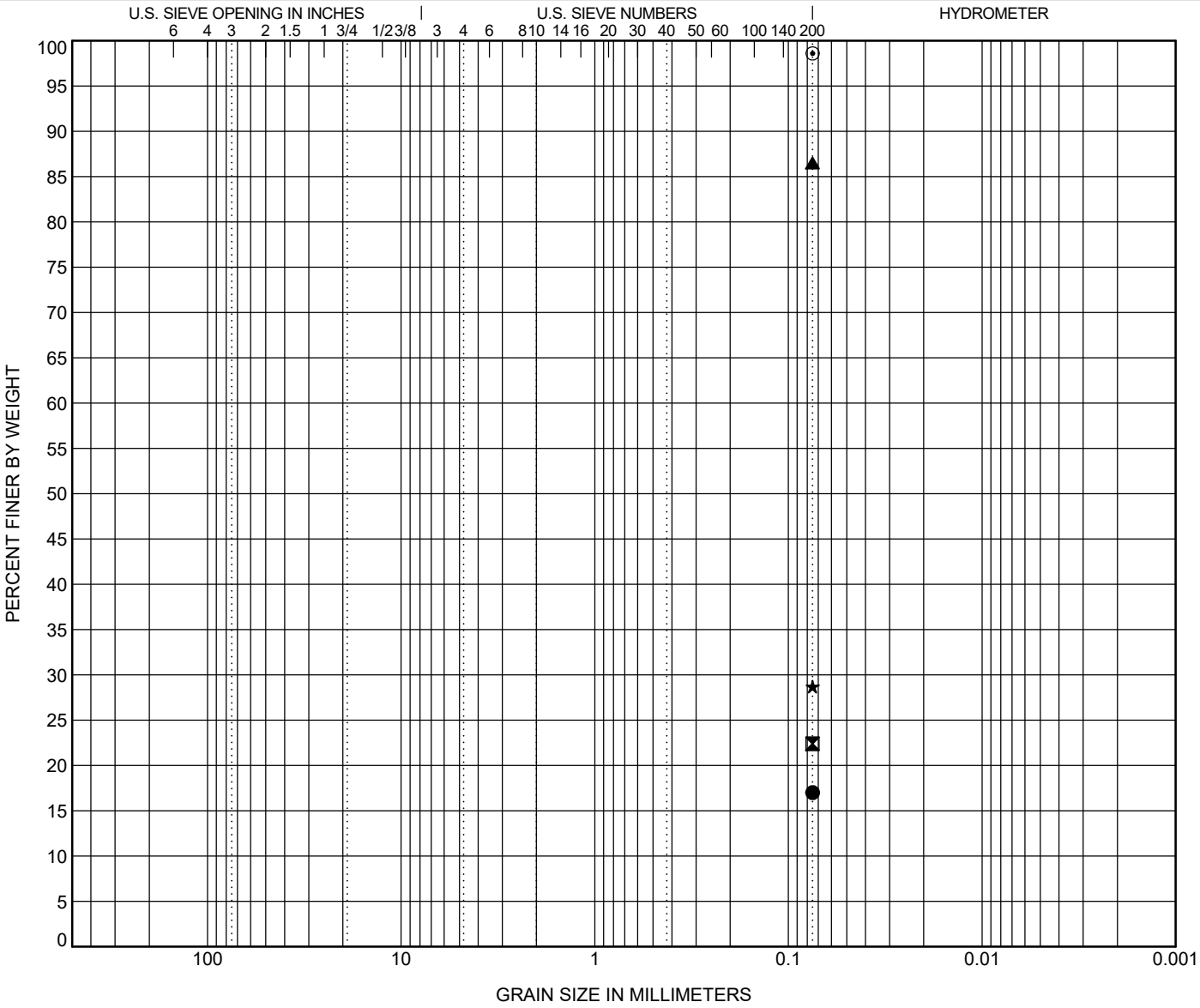
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**W-51**	**2.0**	**Sandy Lean CLAY (CL)**					
⊠	**W-51**	**8.0**	**SILT (ML)**					
▲	**W-52**	**0.0**	**Silty SAND (SM)**	**NP**	**NP**	**NP**		
★	**W-52**	**4.0**	**Silty SAND (SM)**	**49**	**30**	**19**		
⊙	**W-52**	**13.5**	**Silty SAND (SM)**					

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**W-51**	**2.0**	**0.075**						**52.9**	
⊠	**W-51**	**8.0**	**0.075**						**88.2**	
▲	**W-52**	**0.0**	**12.5**	**0.562**	**0.146**		**9.4**	**67.8**	**22.8**	
★	**W-52**	**4.0**	**0.075**						**39.9**	
⊙	**W-52**	**13.5**	**9.5**	**0.462**	**0.225**		**1.5**	**85.2**	**13.3**	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

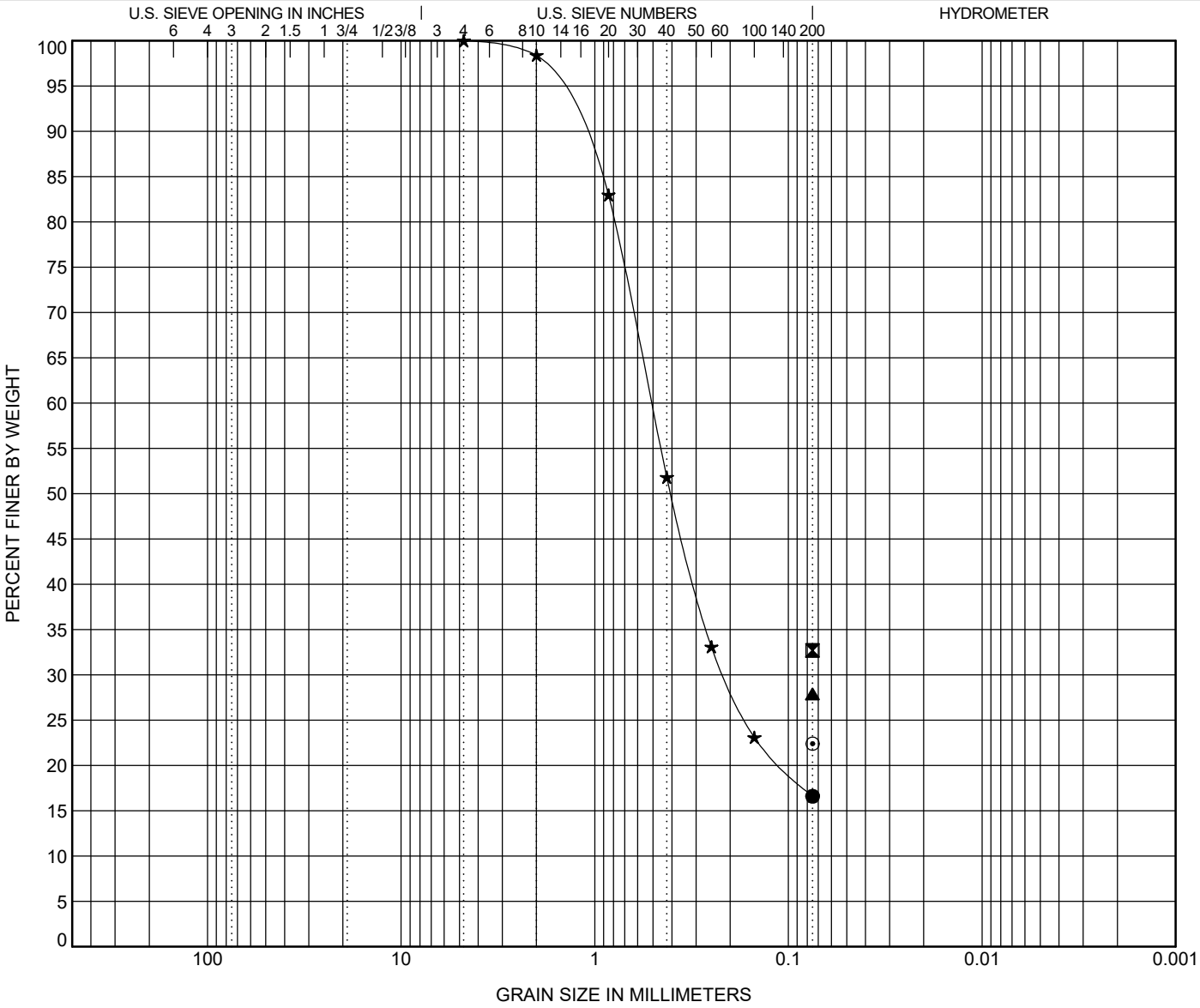
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**W-53**	**0.0**	**Silty SAND (SM)**					
⊠	**W-53**	**4.0**	**Clayey SAND (SC)**	**37**	**19**	**18**		
▲	**W-53**	**8.0**	**Elastic SILT with Sand (MH)**	**53**	**32**	**21**		
★	**W-54**	**2.0**	**Clayey SAND (SC)**	**34**	**18**	**16**		
⊙	**W-54**	**13.5**	**Elastic SILT (MH)**	**58**	**33**	**25**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**W-53**	**0.0**	**0.075**						**17.0**	
⊠	**W-53**	**4.0**	**0.075**						**22.4**	
▲	**W-53**	**8.0**	**0.075**						**86.5**	
★	**W-54**	**2.0**	**0.075**						**28.7**	
⊙	**W-54**	**13.5**	**0.075**						**98.6**	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

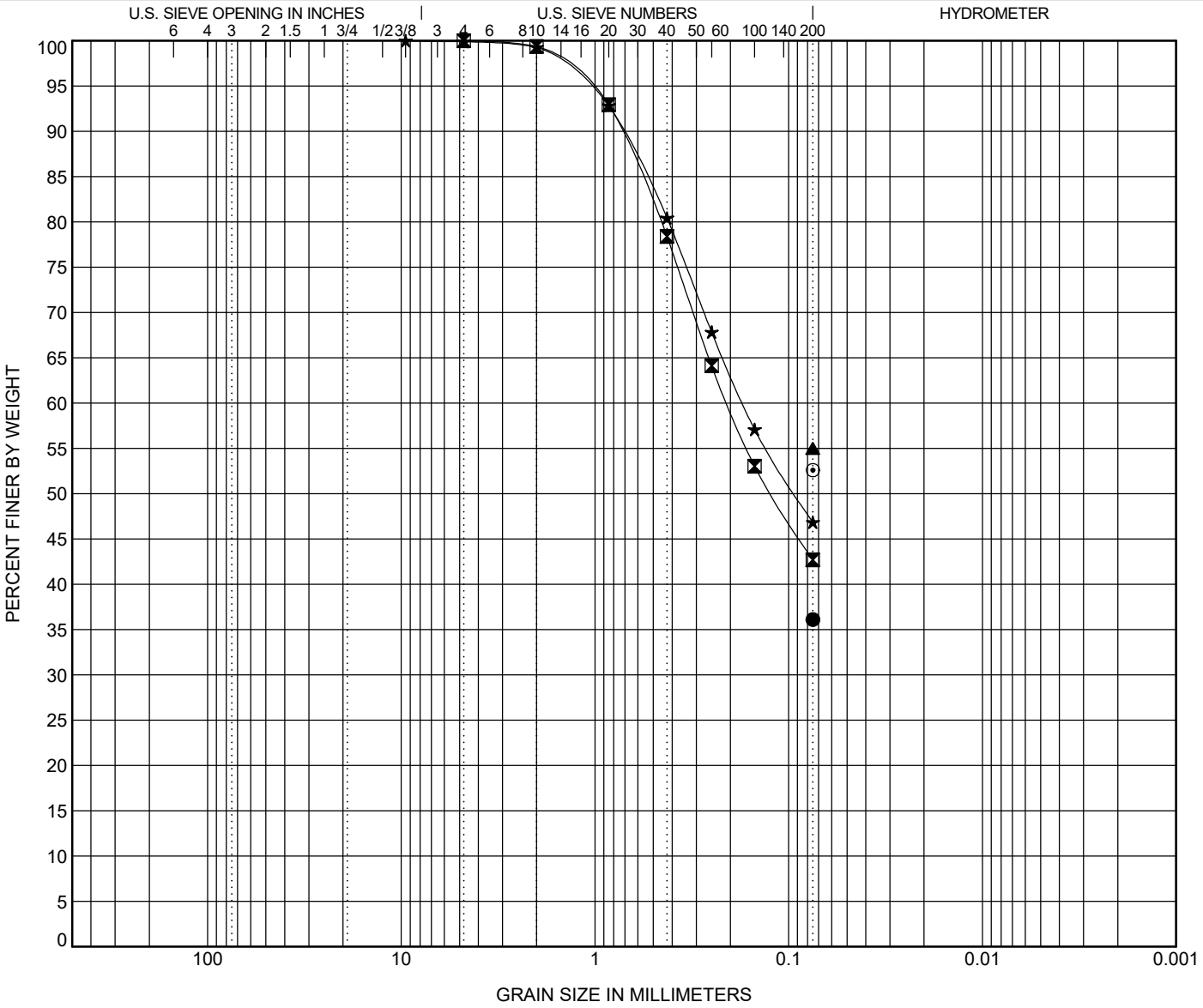
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**W-55**	**0.0**	**Silty SAND (SM)**	**NP**	**NP**	**NP**		
⊠	**W-55**	**4.0**	**Clayey SAND (SC)**	**45**	**23**	**22**		
▲	**W-56**	**2.0**	**Silty SAND (SM)**	**NP**	**NP**	**NP**		
★	**W-56**	**8.0**	**Silty SAND (SM)**					
⊙	**W-57**	**0.0**	**Silty SAND (SM)**	**NP**	**NP**	**NP**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**W-55**	**0.0**	**0.075**						**16.6**	
⊠	**W-55**	**4.0**	**0.075**						**32.7**	
▲	**W-56**	**2.0**	**0.075**						**27.9**	
★	**W-56**	**8.0**	**4.75**	**0.51**	**0.213**		**0.0**	**83.4**	**16.6**	
⊙	**W-57**	**0.0**	**0.075**						**22.4**	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

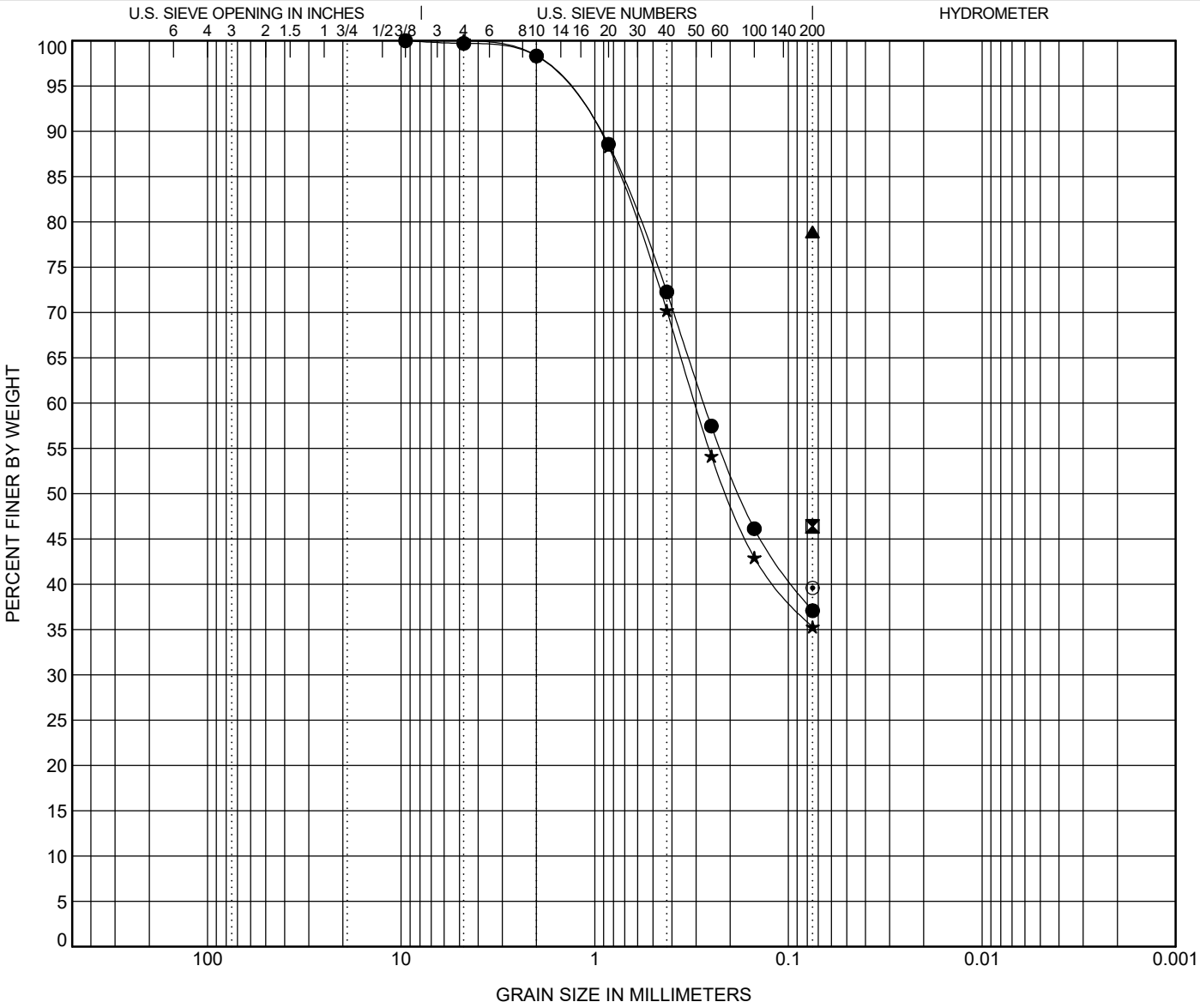
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**W-57**	**4.0**	**Clayey SAND (SC)**	**40**	**22**	**18**		
⊠	**W-58**	**0.0**	**Silty SAND (SM)**	**NP**	**NP**	**NP**		
▲	**W-58**	**4.0**	**Sandy Lean CLAY (CL)**					
★	**W-59**	**0.0**	**Silty SAND (SM)**	**NP**	**NP**	**NP**		
⊙	**W-59**	**2.0**	**Sandy Lean CLAY (CL)**	**43**	**22**	**21**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**W-57**	**4.0**	**0.075**						**36.1**	
⊠	**W-58**	**0.0**	**4.75**	**0.207**			**0.0**	**57.3**	**42.7**	
▲	**W-58**	**4.0**	**0.075**						**55.0**	
★	**W-59**	**0.0**	**9.5**	**0.172**			**0.1**	**53.0**	**46.9**	
⊙	**W-59**	**2.0**	**0.075**						**52.6**	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

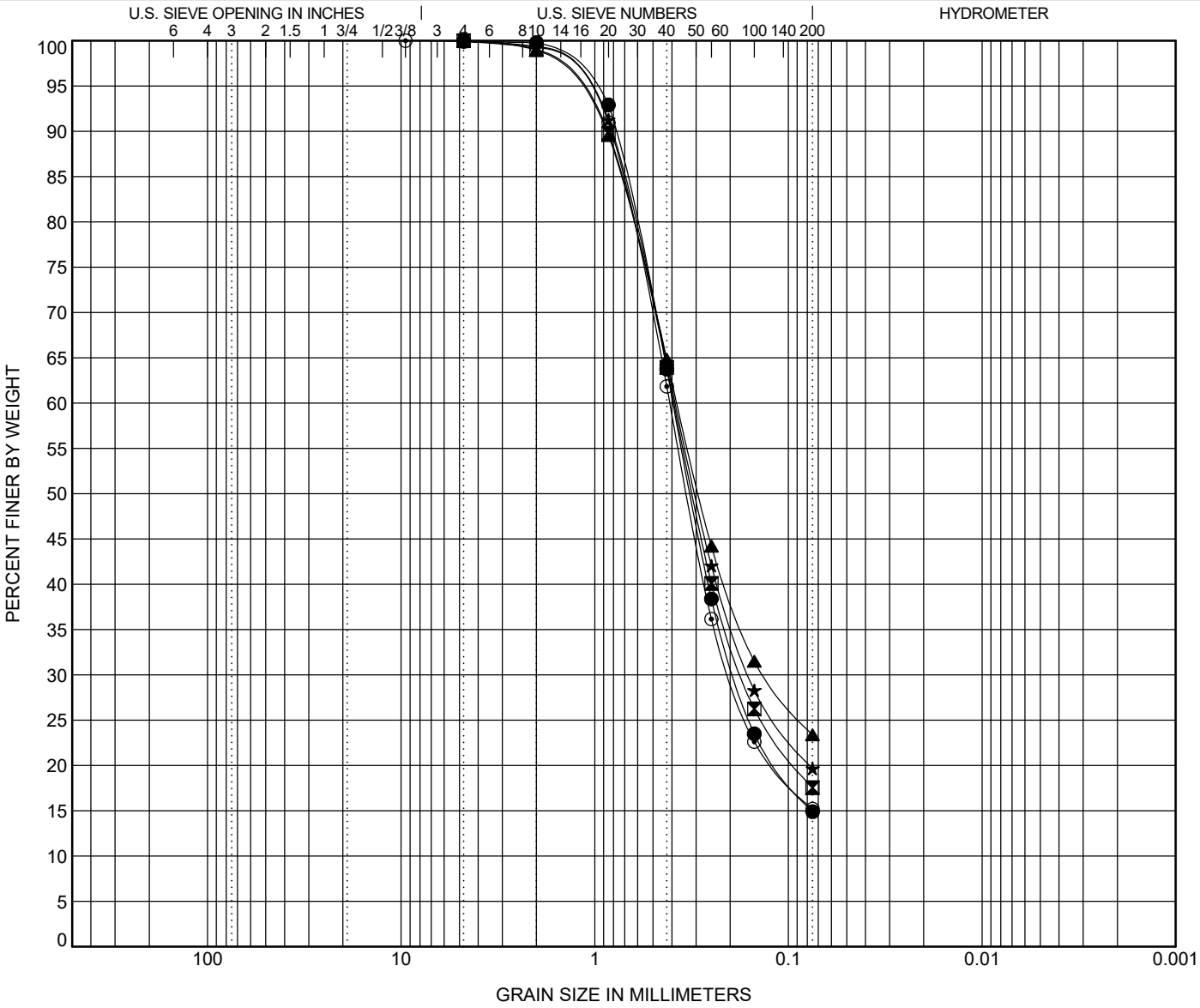
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**W-60**	**0.0**	**Silty, Clayey SAND (SC-SM)**	**17**	**12**	**5**		
⊠	**W-60**	**4.0**	**Silty SAND (SM)**					
▲	**W-60**	**6.0**	**SILT with Sand (ML)**					
★	**W-61**	**0.0**	**Silty, Clayey SAND (SC-SM)**	**21**	**15**	**6**		
⊙	**W-61**	**4.0**	**Silty, Clayey SAND (SC-SM)**	**21**	**15**	**6**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**W-60**	**0.0**	**9.5**	**0.274**			**0.3**	**62.6**	**37.1**	
⊠	**W-60**	**4.0**	**0.075**						**46.4**	
▲	**W-60**	**6.0**	**0.075**						**78.9**	
★	**W-61**	**0.0**	**4.75**	**0.303**			**0.0**	**64.7**	**35.3**	
⊙	**W-61**	**4.0**	**0.075**						**39.6**	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**WR- 2**	**2.0**	**Silty SAND (SM)**					
⊠	**WR- 6**	**0.0**	**Silty SAND (SM)**					
▲	**WR- 7**	**0.0**	**Silty SAND (SM)**					
★	**WR- 8**	**0.0**	**Silty SAND (SM)**					
⊙	**WR- 9**	**0.0**	**Silty SAND (SM)**					

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**WR- 2**	**2.0**	**4.75**	**0.393**	**0.188**		**0.0**	**85.1**	**14.9**	
⊠	**WR- 6**	**0.0**	**4.75**	**0.389**	**0.172**		**0.0**	**82.4**	**17.6**	
▲	**WR- 7**	**0.0**	**4.75**	**0.375**	**0.132**		**0.0**	**76.6**	**23.4**	
★	**WR- 8**	**0.0**	**4.75**	**0.382**	**0.16**		**0.0**	**80.3**	**19.7**	
⊙	**WR- 9**	**0.0**	**9.5**	**0.409**	**0.198**		**0.1**	**84.7**	**15.2**	

GRAIN SIZE DISTRIBUTION

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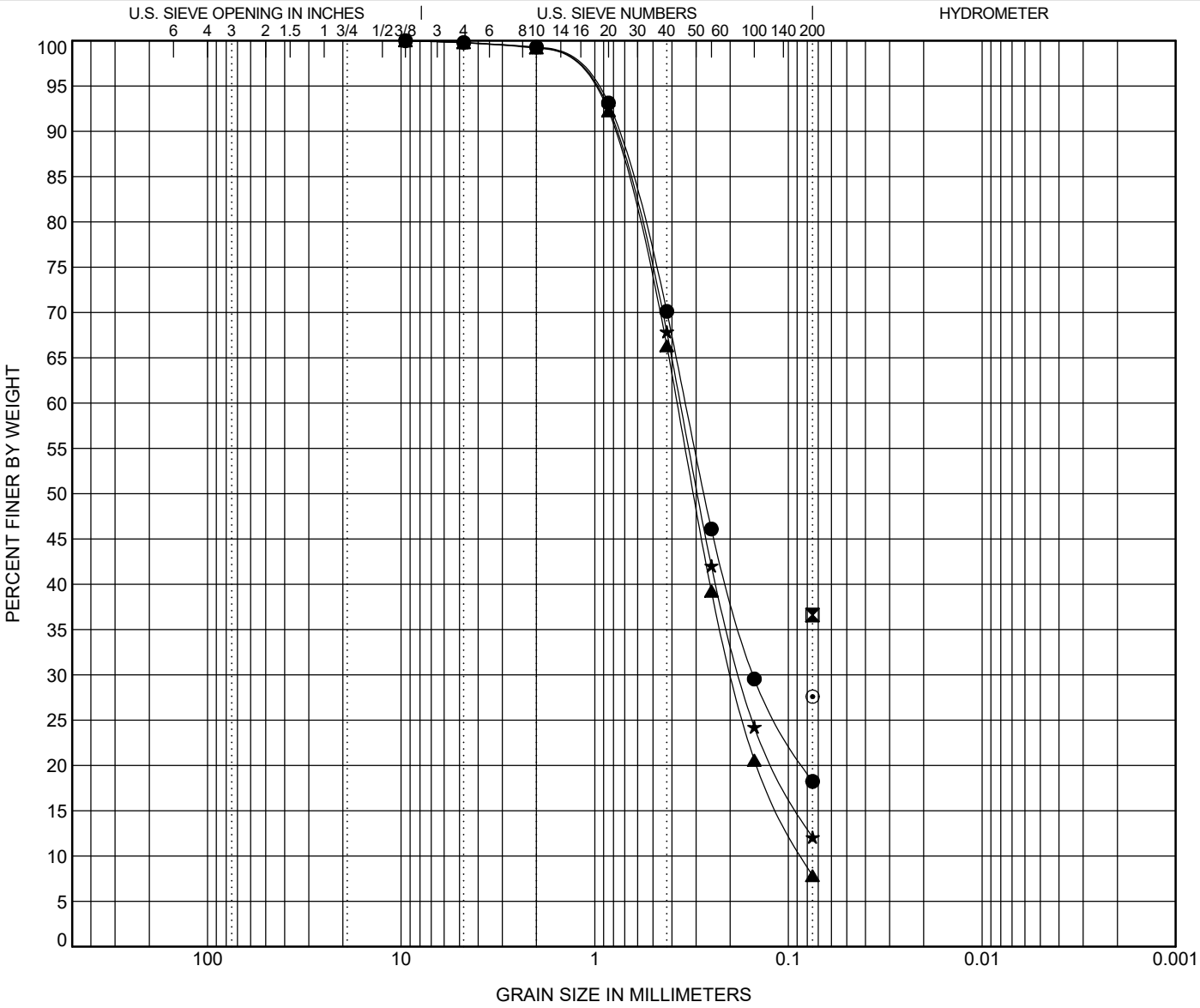
PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**WR-10**	**0.0**	**Silty SAND (SM)**					
⊠	**WR-10**	**4.0**	**Clayey SAND (SC)**	**32**	**17**	**15**		
▲	**WR-10**	**8.0**	**Poorly Graded SAND with Clay (SP-SC)**				**1.19**	**4.45**
★	**WR-11**	**0.0**	**Clayey SAND (SC)**	**27**	**17**	**10**	**1.30**	**5.43**
⊙	**WR-11**	**8.0**	**Clayey SAND (SC)**	**36**	**18**	**18**		

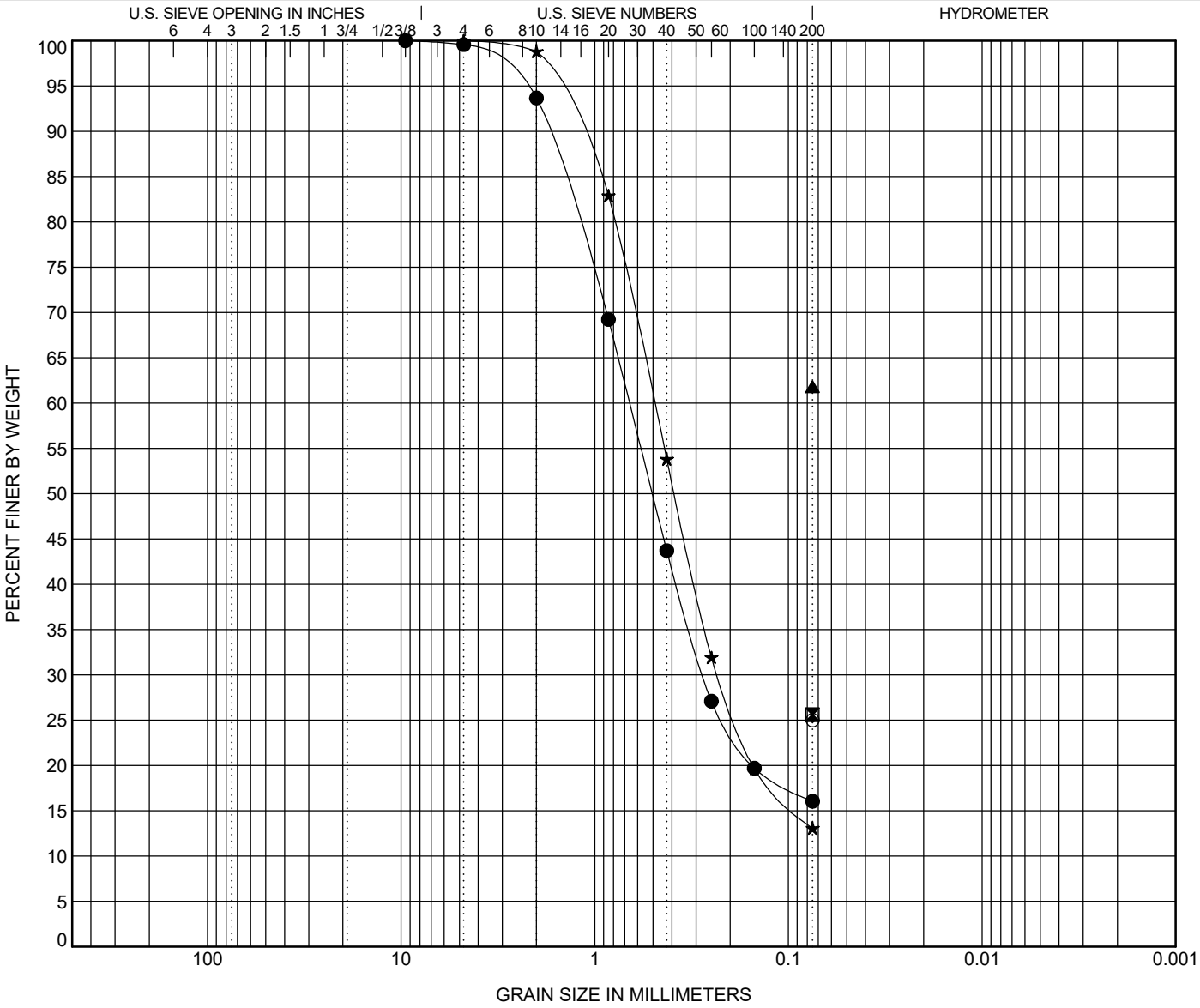
	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**WR-10**	**0.0**	**9.5**	**0.34**	**0.152**		**0.2**	**81.6**	**18.2**	
⊠	**WR-10**	**4.0**	**0.075**						**36.6**	
▲	**WR-10**	**8.0**	**9.5**	**0.375**	**0.194**	**0.084**	**0.2**	**91.9**	**7.8**	
★	**WR-11**	**0.0**	**9.5**	**0.362**	**0.177**		**0.2**	**87.7**	**12.1**	
⊙	**WR-11**	**8.0**	**0.075**						**27.6**	

GRAIN SIZE 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

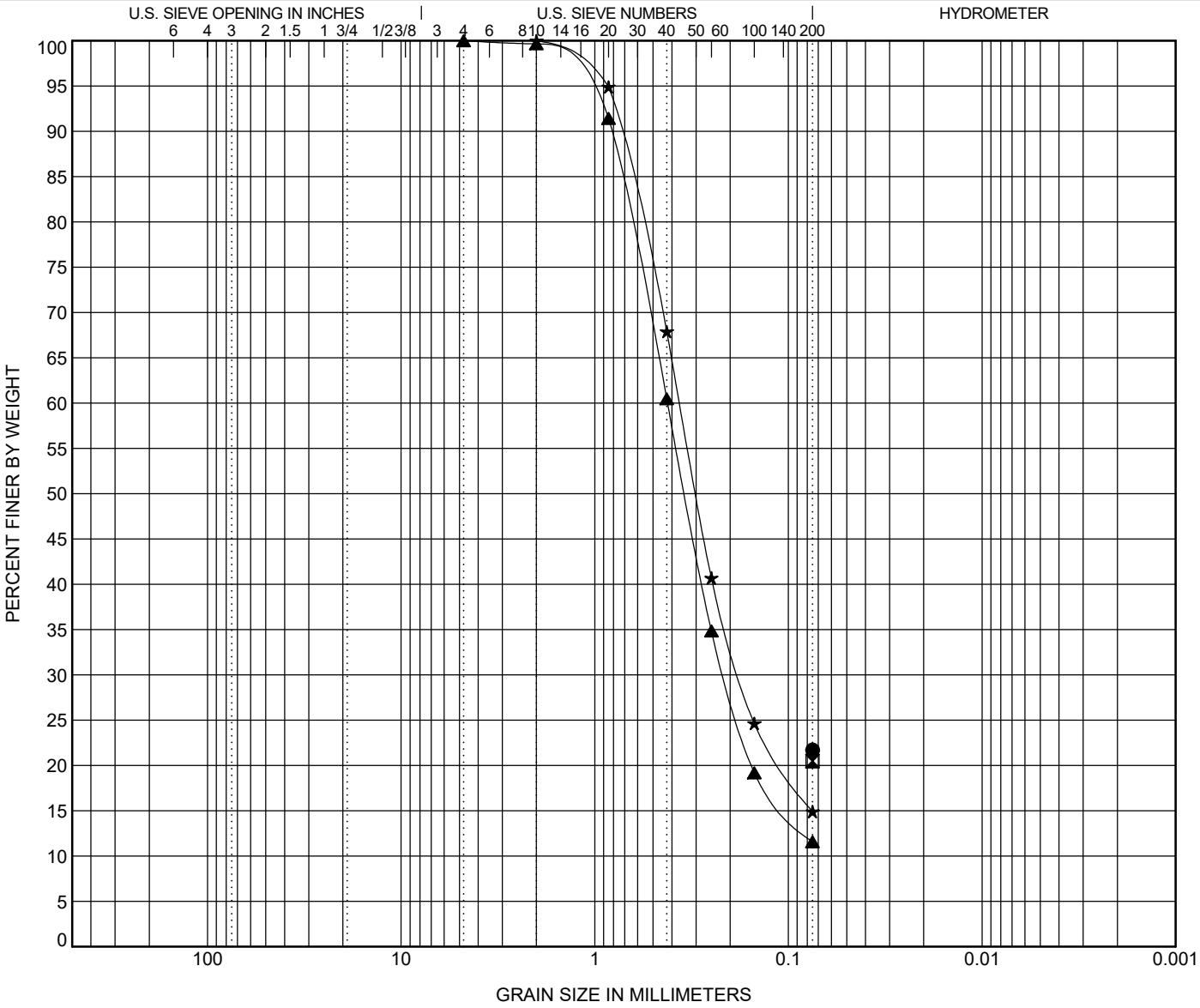
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**WR-11**	**13.5**	**Clayey SAND (SC)**	**28**	**15**	**13**		
⊠	**WR-12**	**2.0**	**Clayey SAND (SC)**	**27**	**16**	**11**		
▲	**WR-12**	**6.0**	**Sandy Lean CLAY (CL)**	**40**	**22**	**18**		
★	**WR-13**	**2.0**	**Silty SAND (SM)**					
⊙	**WR-14**	**2.0**	**Silty, Clayey SAND (SC-SM)**	**24**	**17**	**7**		

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**WR-11**	**13.5**	**9.5**	**0.662**	**0.274**		**0.4**	**83.5**	**16.1**	
⊠	**WR-12**	**2.0**	**0.075**						**25.6**	
▲	**WR-12**	**6.0**	**0.075**						**61.8**	
★	**WR-13**	**2.0**	**4.75**	**0.492**	**0.231**		**0.0**	**86.9**	**13.1**	
⊙	**WR-14**	**2.0**	**0.075**						**25.0**	

GRAIN SIZE DISTRIBUTION

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

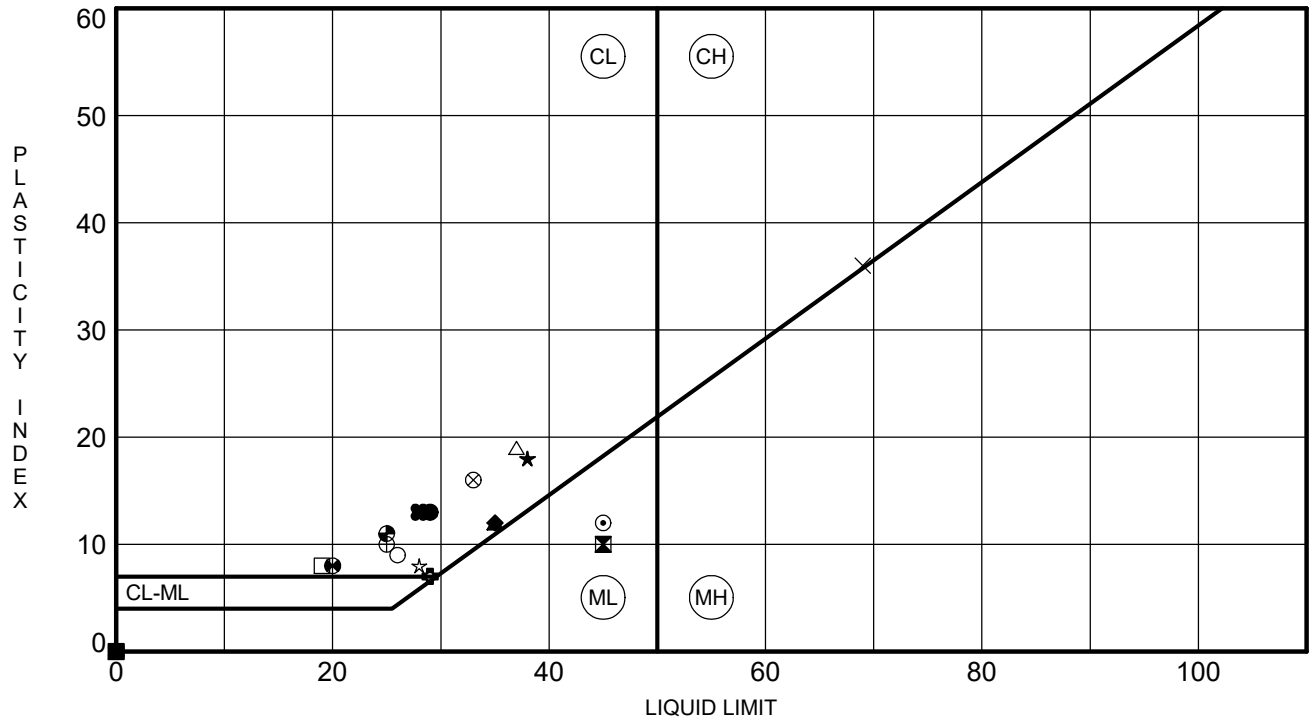
	BOREHOLE	DEPTH	Classification	LL	PL	PI	Cc	Cu
●	**WR-15**	**4.0**	**Silty SAND (SM)**	**NP**	**NP**	**NP**		
⊠	**WR-16**	**2.0**	**Silty SAND (SM)**	**NP**	**NP**	**NP**		
▲	**WR-26**	**2.0**	**Poorly Graded SAND with Silt (SP-SM)**				**1.67**	**6.48**
★	**WR-27**	**2.0**	**Silty SAND (SM)**					

	BOREHOLE	DEPTH	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**WR-15**	**4.0**	**0.075**						**21.7**	
⊠	**WR-16**	**2.0**	**0.075**						**20.5**	
▲	**WR-26**	**2.0**	**4.75**	**0.421**	**0.213**		**0.0**	**88.4**	**11.6**	
★	**WR-27**	**2.0**	**2**	**0.364**	**0.178**		**0.0**	**85.1**	**14.9**	

ATTERBERG LIMITS' RESULTS

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



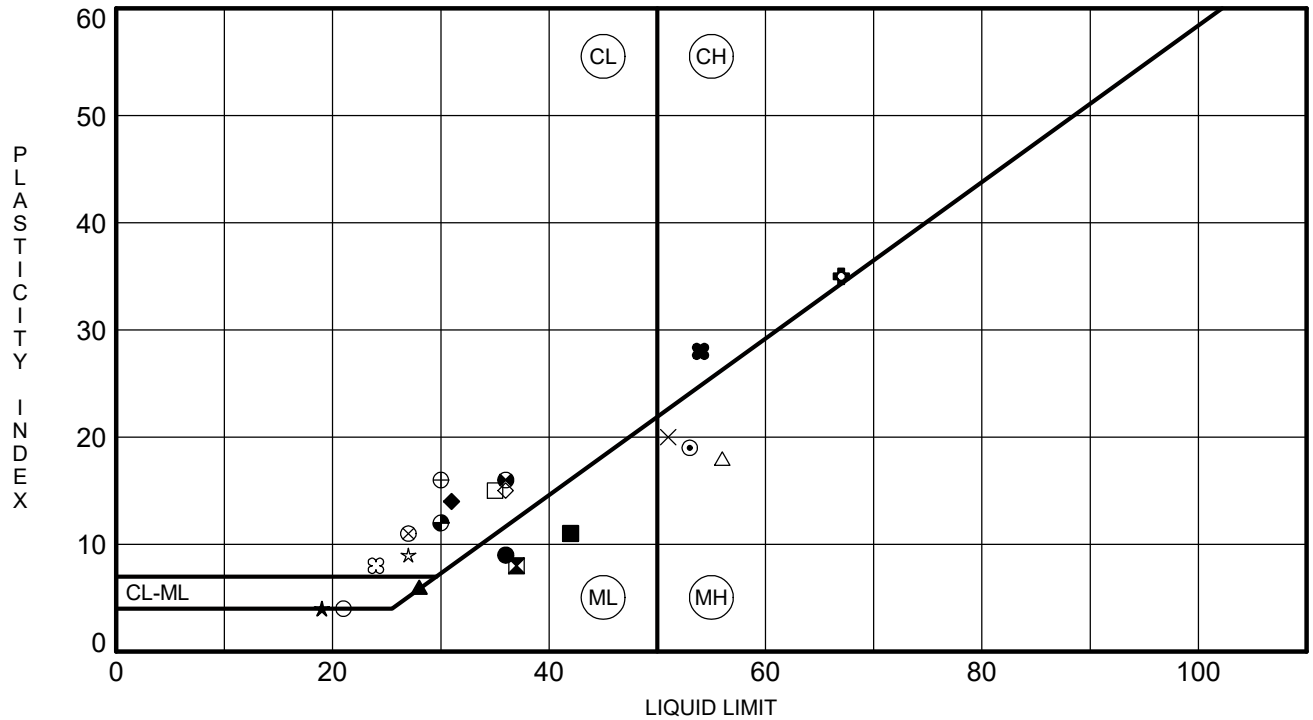
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	C- 1	8.0	29	16	13	47	Clayey SAND (SC)
⊠	C- 1	18.5	45	35	10	78	SILT with Sand (ML)
▲	C- 2	4.0	35	23	12	44	Clayey SAND (SC)
★	C- 3	2.0	38	20	18	42	Clayey SAND (SC)
⊙	C- 3	13.5	45	33	12	49	Silty SAND (SM)
✪	C- 4	2.0	29	22	7	49	Clayey-Silty SAND (SC-SM)
○	C- 4	13.5	26	17	9	23	Clayey SAND (SC)
△	C- 5	2.0	37	18	19	25	Clayey SAND (SC)
⊗	C- 5	6.0	33	17	16	77	Lean CLAY with Sand (CL)
⊕	C- 6	4.0	25	15	10	68	Sandy Lean CLAY (CL)
□	C- 6	8.0	19	11	8	38	Clayey SAND (SC)
⊗	C- 7	2.0	20	12	8	67	Sandy Lean CLAY (CL)
◕	C- 7	8.0	25	14	11	22	Clayey SAND (SC)
☆	C- 8	4.0	28	20	8	29	Clayey SAND (SC)
⊠	C- 9	2.0	NP	NP	NP	24	Silty SAND (SM)
■	C- 9	8.0	NP	NP	NP	12	Poorly Graded SAND with Silt (SP-SM)
◆	C-10	18.5	35	23	12	16	Clayey SAND (SC)
◇	C-13	2.0	NP	NP	NP	8	Poorly Graded SAND with Silt (SP-SM)
×	C-15	8.0	69	33	36	80	Fat CLAY with Sand (CH)
✖	C-16	2.0	28	15	13	46	Clayey SAND (SC)

ATTERBERG LIMITS' RESULTS

PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



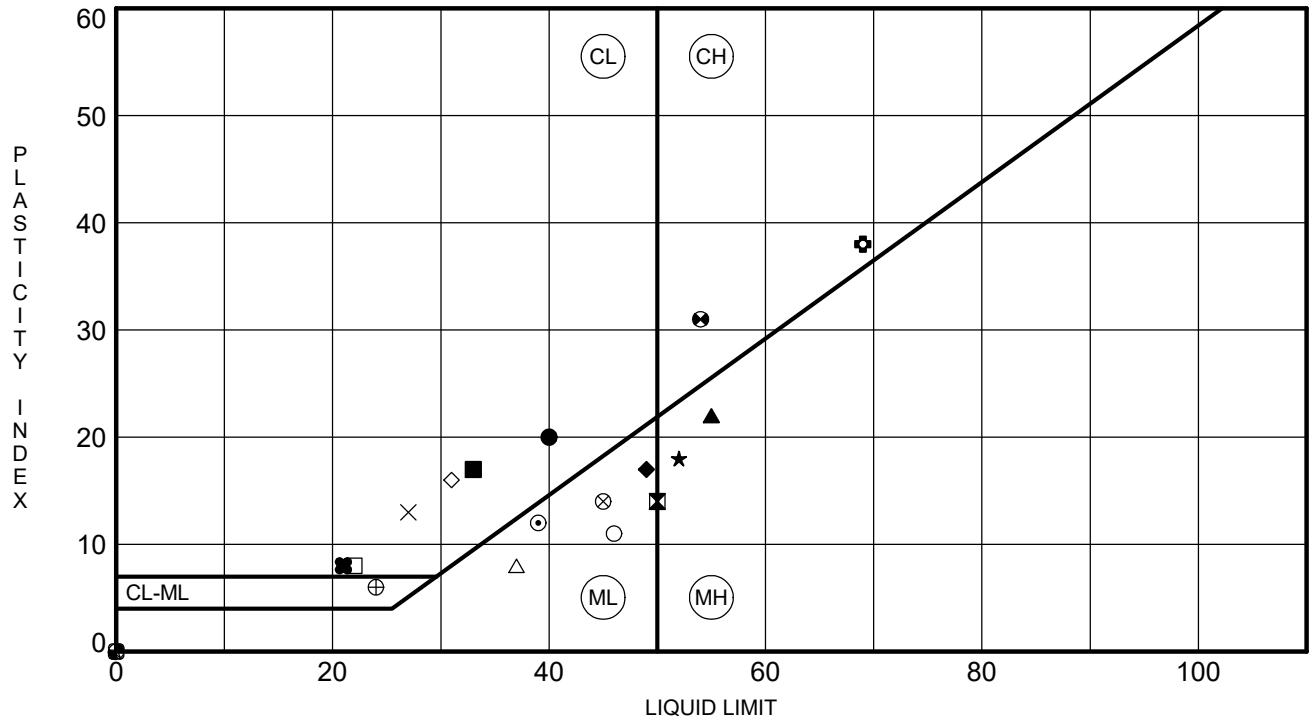
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	C-17	2.0	36	27	9	73	SILT with Sand (ML)
⊠	C-17	8.0	37	29	8	47	Silty SAND (SM)
▲	C-18	0.0	28	22	6	35	Silty, Clayey SAND (SC-SM)
★	C-19	2.0	19	15	4	31	Silty, Clayey SAND (SC-SM)
⊙	C-19	13.5	53	34	19	70	Sandy Elastic SILT (MH)
✿	C-19	18.5	67	32	35	79	Fat CLAY with Sand (CH)
○	C-20	2.0	21	17	4	33	Silty, Clayey SAND (SC-SM)
△	C-20	13.5	56	38	18	92	Elastic SILT (MH)
⊗	C-21	4.0	27	16	11	22	Clayey SAND (SC)
⊕	C-22	2.0	30	14	16	27	Clayey SAND (SC)
□	C-23	2.0	35	20	15	38	Clayey SAND (SC)
✠	C-23	8.0	36	20	16	84	Lean CLAY with Sand (CL)
◕	C-24	4.0	30	18	12	84	Lean CLAY with Sand (CL)
☆	C-24	8.0	27	18	9	24	Clayey SAND (SC)
⊠	CN-1	4.0	24	16	8	38	Clayey SAND (SC)
■	CN-1	8.0	42	31	11	78	SILT with Sand (ML)
◆	CN-2	4.0	31	17	14	57	Sandy Lean CLAY (CL)
◇	CN-3	4.0	36	21	15	24	Clayey SAND (SC)
×	CN-3	13.5	51	31	20	21	Silty SAND (SM)
✖	CN-5	4.0	54	26	28	31	Clayey SAND (SC)

ATTERBERG LIMITS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

ATTERBERG LIMITS' RESULTS

PROJECT ID P042443 (S&ME 23610178A) **PROJECT NAME** I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	CR-2	2.0	40	20	20	30	Clayey SAND (SC)
⊠	CR-2	8.0	50	36	14	66	Sandy Elastic SILT (MH)
▲	CR-3	2.0	55	33	22	71	Elastic SILT with Sand (MH)
★	CR-3	18.5	52	34	18	76	Elastic SILT with Sand (MH)
⊙	CR-5	0.0	39	27	12	63	Sandy SILT (ML)
✿	CR-6	2.0	69	31	38	88	Fat CLAY (CH)
○	CR-6	8.0	46	35	11	71	SILT with Sand (ML)
△	CR-7	2.0	37	29	8	63	Sandy SILT (ML)
⊗	CR-7	8.0	45	31	14	58	Sandy SILT (ML)
⊕	CR-8	0.0	24	18	6	51	Sandy Lean SILTY CLAY (CL-ML)
□	NB- 2	0.0	22	14	8	25	Clayey SAND (SC)
⊗	NB- 3	2.0	54	23	31	37	Clayey SAND (SC)
◕	NB- 6	0.0	NP	NP	NP	14	Silty SAND (SM)
☆	NB- 8	0.0	NP	NP	NP	11	Well Graded SAND with Silt (SW-SM)
✿	NB-10	0.0	NP	NP	NP	19	Silty SAND (SM)
■	NB-12	0.0	33	16	17	58	Sandy Lean CLAY (CL)
◆	NB-13	2.0	49	32	17	85	Sandy SILT (ML)
◇	NB-14	2.0	31	15	16	28	Clayey SAND (SC)
×	NB-16	2.0	27	14	13	45	Clayey SAND (SC)
✖	NB-18	0.0	21	13	8	27	Clayey SAND (SM)

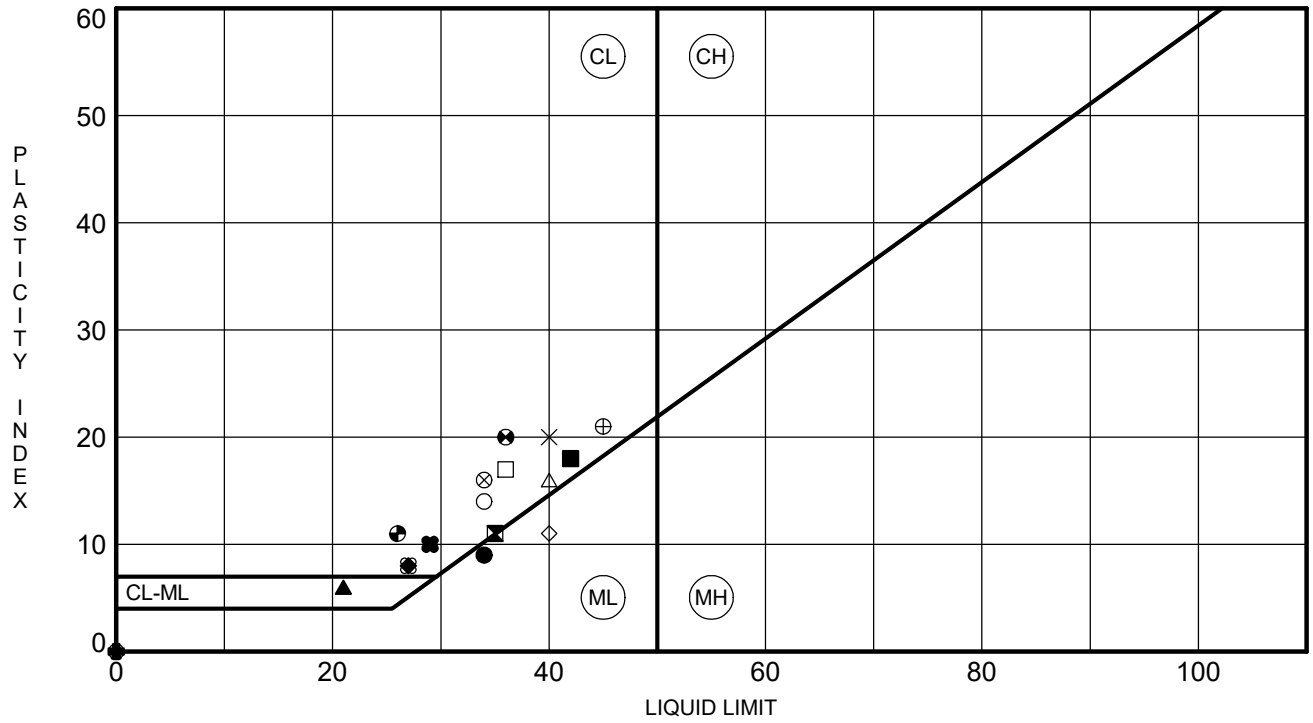
ATTERBERG LIMITS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

ATTERBERG LIMITS' RESULTS

PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	NB-20	2.0	34	25	9	53	Sandy SILT (ML)
⊠	NB-22	2.0	35	24	11	53	Sandy SILT (ML)
▲	NB-23	0.0	21	15	6	18	Silty, Clayey SAND (SC-SM)
★	NB-27	0.0	NP	NP	NP	17	Silty SAND (SM)
⊙	NB-31	0.0	NP	NP	NP	15	Silty SAND (SM)
✪	R- 1	0.0	NP	NP	NP	27	Silty SAND (SM)
○	R- 2	2.0	34	20	14	38	Clayey SAND (SC)
△	R- 2	6.0	40	24	16	70	Lean CLAY with Sand (CL)
⊗	R- 2	13.5	34	18	16	21	Clayey SAND (SC)
⊕	R- 3	2.0	45	24	21	47	Clayey SAND (SC)
□	R- 4	0.0	36	19	17	42	Clayey SAND (SC)
⊗	R- 4	6.0	36	16	20	92	Lean CLAY (CL)
◕	R- 5	2.0	26	15	11	51	Sandy Lean CLAY (CL)
☆	R- 5	8.0	42	24	18	39	Clayey SAND (SC)
✪	R- 5	23.5	27	19	8	49	Clayey SAND (SC)
■	R- 6	4.0	42	24	18	70	Sandy Lean CLAY (CL)
◆	R- 6	8.0	27	19	8	71	Lean CLAY with Sand (CL)
◇	R- 7	2.0	40	29	11	47	Silty SAND (SM)
×	R- 7	6.0	40	20	20	22	Clayey SAND (SC)
✖	R- 7	13.5	29	19	10	59	Sandy Lean CLAY (CL)

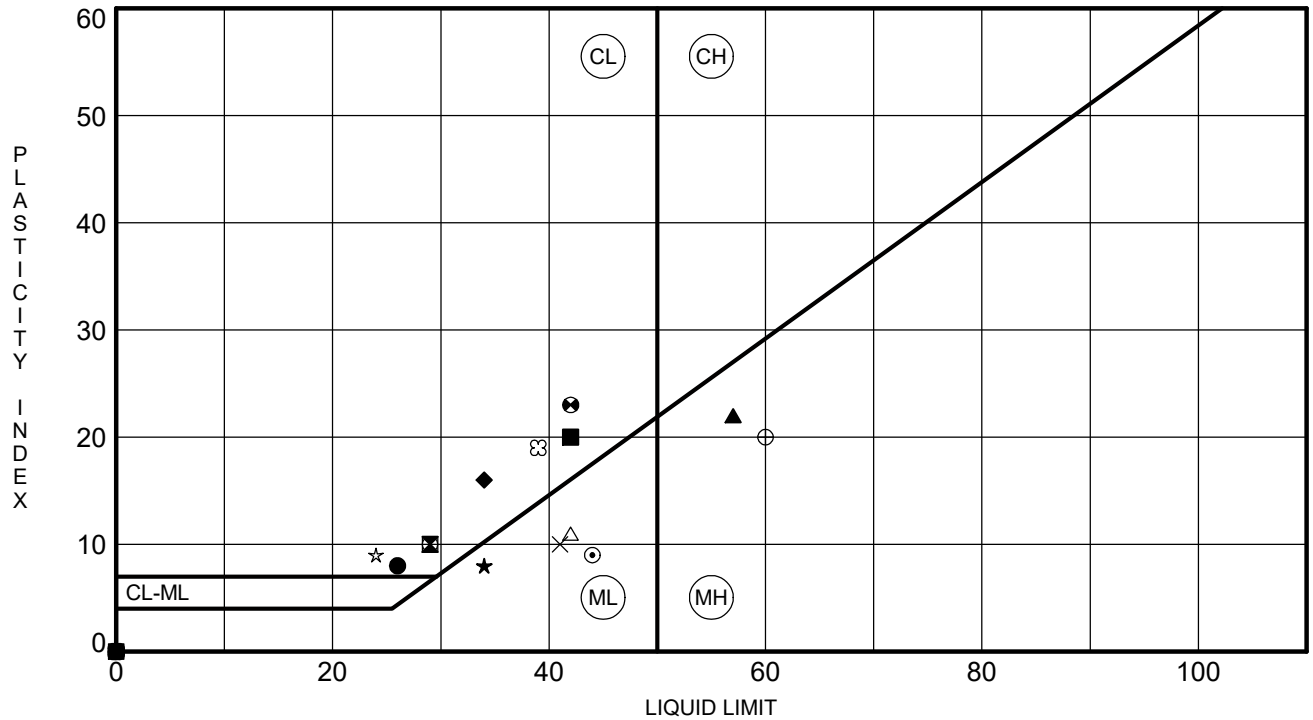
ATTERBERG LIMITS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

ATTERBERG LIMITS' RESULTS

PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



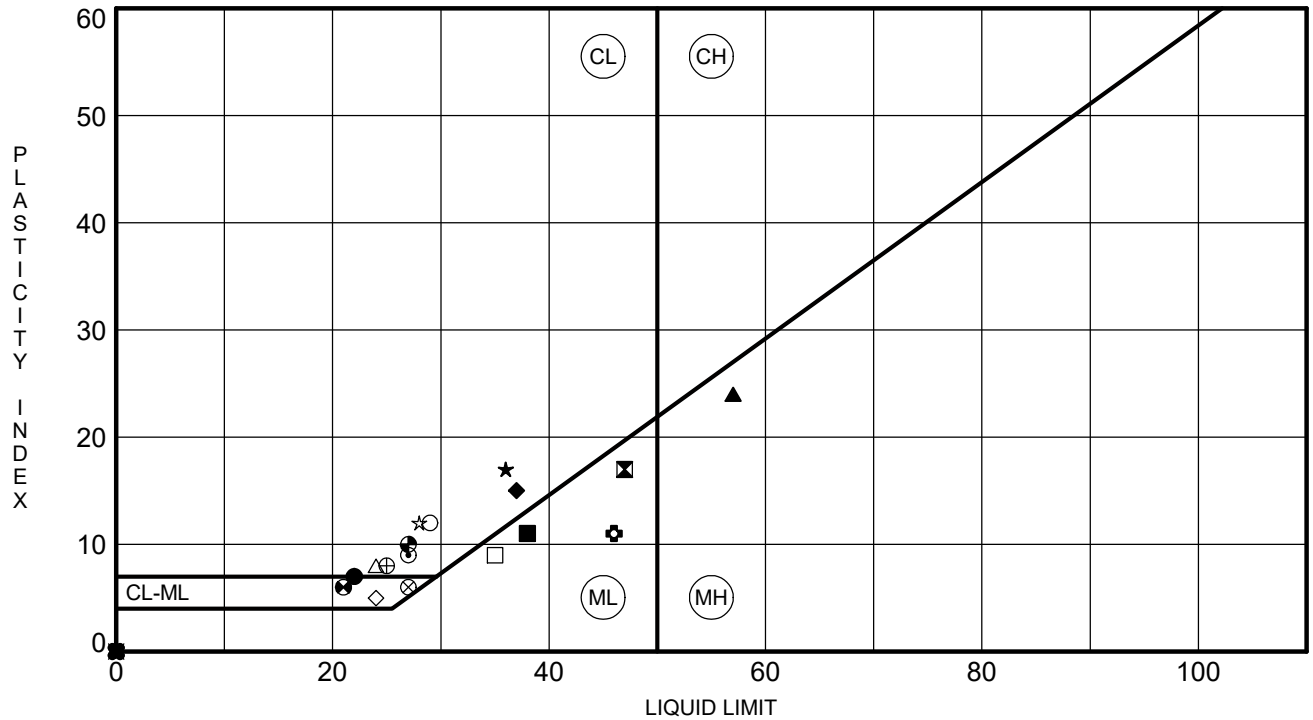
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	R- 8	2.0	26	18	8	41	Clayey SAND (SC)
⊠	R- 8	8.0	29	19	10	25	Clayey SAND (SC)
▲	R- 8	13.5	57	35	22	88	Elastic SILT with Sand (MH)
★	R- 9	4.0	34	26	8	55	Sandy SILT (ML)
⊙	R-10	13.5	44	35	9	92	SILT (ML)
✿	R-11	0.0	NP	NP	NP	31	Silty SAND (SM)
○	R-11	4.0	29	19	10	40	Clayey SAND (SC)
△	R-11	8.0	42	31	11	91	SILT (ML)
⊗	R-12	0.0	NP	NP	NP	51	Sandy SILT (ML)
⊕	SB-13	2.0	60	40	20	94	Elastic SILT (MH)
□	SB-15	0.0	NP	NP	NP	41	Silty SAND (SM)
⊗	SB-17	2.0	42	19	23	59	Sandy Lean CLAY (CL)
◕	SB-19	0.0	NP	NP	NP	23	Silty SAND (SM)
☆	SB-20	0.0	24	15	9	18	Clayey SAND (SC)
✿	SB-23	0.0	39	20	19	94	Lean CLAY (CL)
■	SB-25	0.0	42	22	20	28	Clayey SAND (SC)
◆	SB-26	2.0	34	18	16	49	Clayey SAND (SC)
◇	SB-29	0.0	NP	NP	NP	16	Silty SAND (SM)
×	W-35	2.0	41	31	10	44	Silty SAND (SM)
✖	W-35	13.5	NP	NP	NP	61	Sandy SILT (ML)

ATTERBERG LIMITS' RESULTS

PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	W-36	0.0	22	15	7	70	Lean SILTY CLAY with Sand (CL-ML)
⊠	W-36	4.0	47	30	17	64	Sandy SILT (ML)
▲	W-36	13.5	57	33	24	85	Elastic SILT with Sand (MH)
★	W-37	0.0	36	19	17	41	Clayey SAND (SC)
⊙	W-37	4.0	27	18	9	57	Sandy Lean CLAY (CL)
✿	W-37	18.5	46	35	11	92	SILT (ML)
○	W-38	0.0	29	17	12	40	Clayey SAND (SC)
△	W-38	4.0	24	16	8	37	Clayey SAND (SC)
⊗	W-38	13.5	27	21	6	47	Silty, Clayey SAND (SC-SM)
⊕	W-39	8.0	25	17	8	52	Sandy Lean CLAY (CL)
□	W-40	0.0	35	26	9	41	Silty SAND (SM)
⊗	W-42	2.0	21	15	6	31	Silty, Clayey SAND (SC-SM)
◕	W-43	0.0	27	17	10	33	Clayey SAND (SC)
☆	W-43	6.0	28	16	12	53	Sandy Lean CLAY (CL)
⊠	W-44	0.0	NP	NP	NP	49	Silty SAND (SM)
■	W-44	4.0	38	27	11	61	Sandy SILT (ML)
◆	W-45	8.0	37	22	15	33	Clayey SAND (SC)
◇	W-45	18.5	24	19	5	47	Silty, Clayey SAND (SC-SM)
×	W-46	0.0	NP	NP	NP	30	Silty SAND (SM)
✖	W-46	8.0	NP	NP	NP	34	Silty SAND (SM)

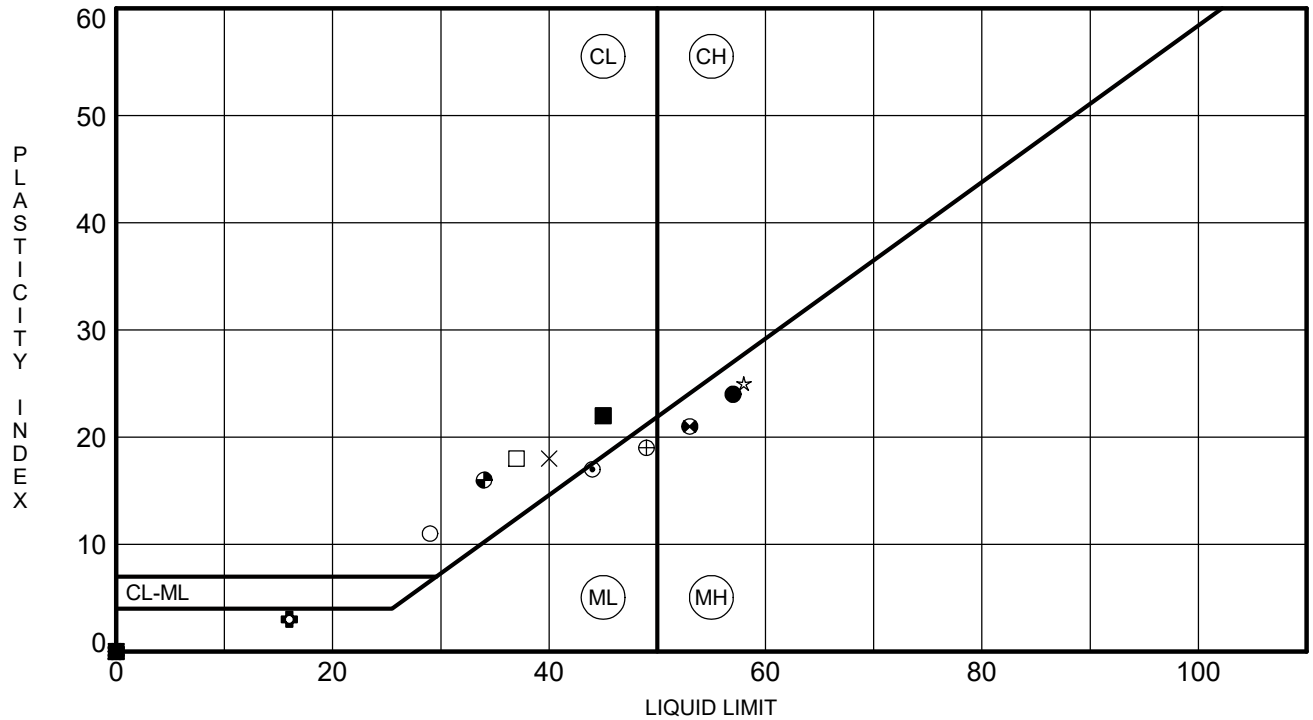
ATTERBERG LIMITS 23610178A ROADWAY.GPJ SCDOT DATA TEMPLATE_01_30_2015.GDT 1/12/24

ATTERBERG LIMITS' RESULTS

PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



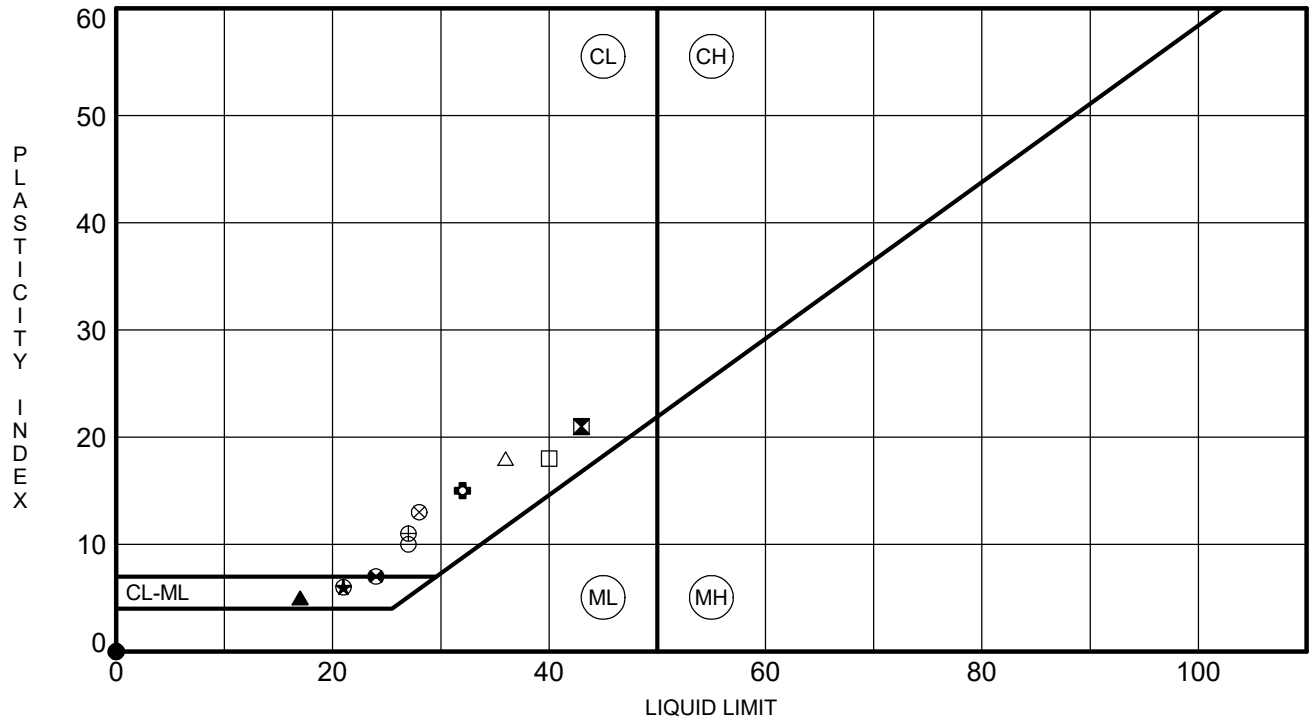
	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	W-46	18.5	57	33	24	93	Elastic SILT (MH)
⊠	W-47	8.0	NP	NP	NP	30	Silty SAND (SM)
▲	W-48	8.0	NP	NP	NP	31	Silty SAND (SM)
★	W-49	4.0	NP	NP	NP	37	Silty SAND (SM)
⊙	W-49	23.5	44	27	17	70	Sandy SILT (ML)
✿	W-50	0.0	16	13	3	36	Silty SAND (SM)
○	W-50	4.0	29	18	11	35	Clayey SAND (SC)
△	W-51	0.0	NP	NP	NP	38	Silty SAND (SM)
⊗	W-52	0.0	NP	NP	NP	23	Silty SAND (SM)
⊕	W-52	4.0	49	30	19	40	Silty SAND (SM)
□	W-53	4.0	37	19	18	22	Clayey SAND (SC)
⊗	W-53	8.0	53	32	21	87	Elastic SILT with Sand (MH)
◕	W-54	2.0	34	18	16	29	Clayey SAND (SC)
☆	W-54	13.5	58	33	25	99	Elastic SILT (MH)
⊠	W-55	0.0	NP	NP	NP	17	Silty SAND (SM)
■	W-55	4.0	45	23	22	33	Clayey SAND (SC)
◆	W-56	2.0	NP	NP	NP	28	Silty SAND (SM)
◇	W-57	0.0	NP	NP	NP	22	Silty SAND (SM)
×	W-57	4.0	40	22	18	36	Clayey SAND (SC)
✖	W-58	0.0	NP	NP	NP	43	Silty SAND (SM)

ATTERBERG LIMITS' RESULTS

PROJECT ID P042443 (S&ME 23610178A)

PROJECT NAME I-77 Exit 26 - Roadways

PROJECT COUNTY Richland



	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**W-59**	**0.0**	**NP**	**NP**	**NP**	**47**	**Silty SAND (SM)**
⊠	**W-59**	**2.0**	**43**	**22**	**21**	**53**	**Sandy Lean CLAY (CL)**
▲	**W-60**	**0.0**	**17**	**12**	**5**	**37**	**Silty, Clayey SAND (SC-SM)**
★	**W-61**	**0.0**	**21**	**15**	**6**	**35**	**Silty, Clayey SAND (SC-SM)**
⊙	**W-61**	**4.0**	**21**	**15**	**6**	**40**	**Silty, Clayey SAND (SC-SM)**
✿	**WR-10**	**4.0**	**32**	**17**	**15**	**37**	**Clayey SAND (SC)**
○	**WR-11**	**0.0**	**27**	**17**	**10**	**12**	**Clayey SAND (SC)**
△	**WR-11**	**8.0**	**36**	**18**	**18**	**28**	**Clayey SAND (SC)**
⊗	**WR-11**	**13.5**	**28**	**15**	**13**	**16**	**Clayey SAND (SC)**
⊕	**WR-12**	**2.0**	**27**	**16**	**11**	**26**	**Clayey SAND (SC)**
□	**WR-12**	**6.0**	**40**	**22**	**18**	**62**	**Sandy Lean CLAY (CL)**
⊗	**WR-14**	**2.0**	**24**	**17**	**7**	**25**	**Silty, Clayey SAND (SC-SM)**
◕	**WR-15**	**4.0**	**NP**	**NP**	**NP**	**22**	**Silty SAND (SM)**
☆	**WR-16**	**2.0**	**NP**	**NP**	**NP**	**21**	**Silty SAND (SM)**

Appendix V – Laboratory Test Data Sheets – Bulk Samples

Form No: TR-D2216-T265-1
Revision No. 1
Revision Date: 08/16/17

LABORATORY DETERMINATION OF WATER CONTENT

ASTM D 2216 ☑ *AASHTO T 265* ☐

S&ME, Inc. - Columbia: 134 Suber Road, Columbia, SC 29210

Project #:	23610178A	Report Date:	10/3/23
Project Name:	I-77 Exit 26 Interchange	Test Date(s):	9/26 - 10/3/23
Client Name:	RS&H, Inc.		
Client Address:	1520 South Boulevard 200, Charlotte, NC 28203		
Sample by:	S&ME	Sample Date(s):	Various
Sampling Method:	Split Spoon	Drill Rig :	N/A

Method: **A (1%)** ☑ **B (0.1%)** ☐

Balance ID.	28686	Calibration Date:	12/2/22
Oven ID.	28883	Calibration Date:	3/20/23

Boring No.	Sample No.	Sample Depth	Tare #	Tare Weight	Tare Wt.+ Wet Wt	Tare Wt. + Dry Wt	Water Weight	Percent Moisture	Note
		ft. or m.		grams	grams	grams	grams	%	
NB-8	BS-1	0-10 ft	310	130.84	409.86	372.86	37.00	15.3%	

Notes / Deviations / References

ASTM D 2216: Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass

John Thornton	John Thornton	Lab Technician	10/3/2023
Technician Name	*Signature*	*Position*	*Date*
Michael Frisina	Michael Frisina	Lab Services Manager	10/3/2023
Technical Responsibility	*Signature*	*Position*	*Date*

Form No: TR-D422-WH-1Ga
Revision No. 1
Revision Date: 8/10/17

SIEVE ANALYSIS OF SOILS

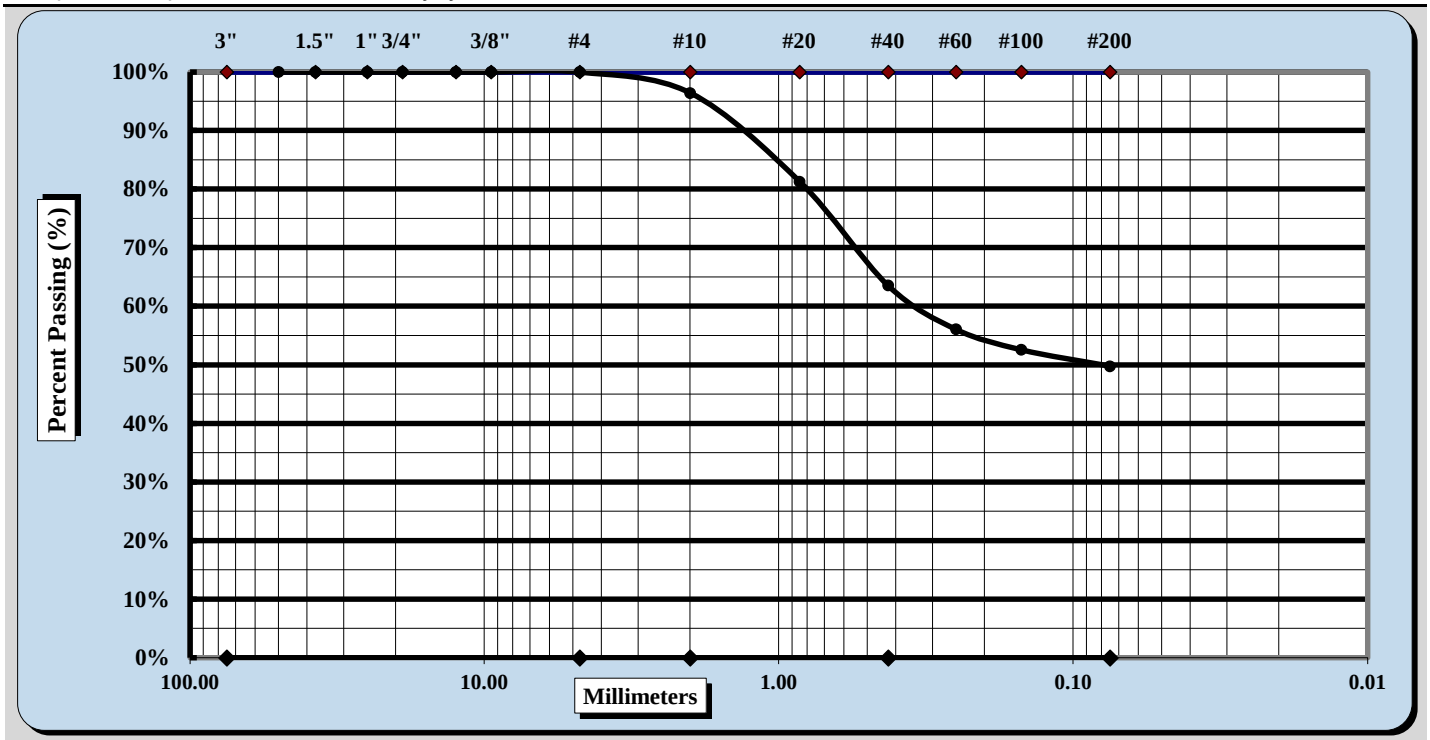
ASTM D 422

S&ME, Inc. - Columbia: 134 Suber Road, Columbia, SC 29210

Project #:	23610178A	Report Date:	10/3/23
Project Name:	I-77 Exit 26 Interchange	Test Date(s):	9/25 - 10/3/23
Client Name:	RS&H, Inc.		
Client Address:	1520 South Boulevard 200, Charlotte, NC 28203		

Boring:	NB-8	Type:	N/A	Sample Date:	Various
Location:	Borings	Sample:	BS-1	Elevation:	0-10'

Sample Description: Tan Clayey SAND (SC)



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm
Gravel	< 75 mm and > 4.75 mm (#4)	Silt	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and >2.00 mm (#10)	Clay	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Maximum Particle Size	#10		Coarse Sand		3.6%	Fine Sand	13.8%
Gravel	0.0%		Medium Sand		32.9%	Silt & Clay	49.8%
Liquid Limit	43		Plastic Limit		21	Plastic Index	22
Specific Gravity	NT	Cc =	N/A	Cu =	N/A	Moisture Content	0.7%
Coarse Sand	3.6%		Medium Sand		32.9%	Fine Sand	13.8%

Description of Sand & Gravel Particles: Rounded ☐ Angular ☒
Hard & Durable ☒ Soft ☐ Weathered & Friable ☒

Notes / Deviations / References:

Michael Frisina		Lab Services Manager	10/3/2023
Technical Responsibility	*Signature*	*Position*	*Date*

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Form No. TR-D4318-T89-90
Revision No. 1
Revision Date: 7/26/17

LIQUID LIMIT, PLASTIC LIMIT, & PLASTIC INDEX

ASTM D 4318 ☒ AASHTO T 89 ☐ AASHTO T 90 ☐

S&ME, Inc. - Columbia: 134 Suber Road, Columbia, SC 29210

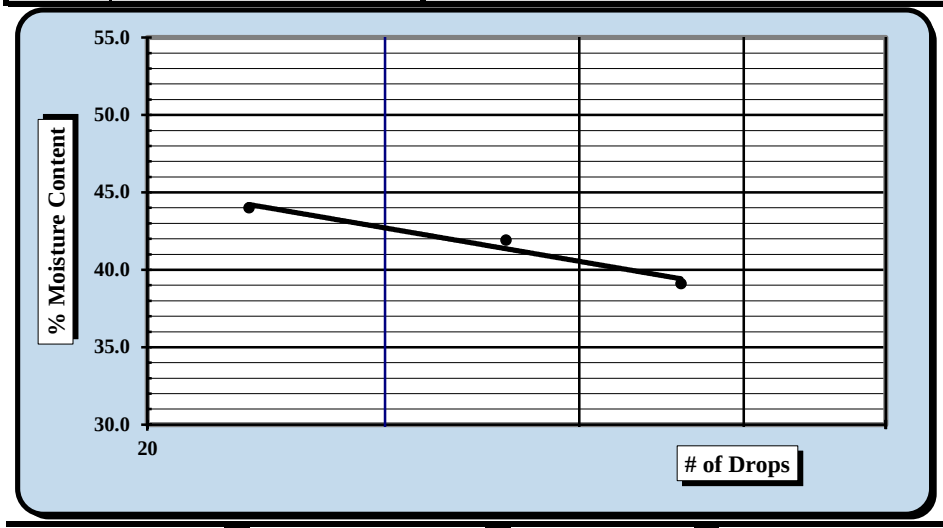
Project #:	23610178A	Report Date:	10/3/23
Project Name:	I-77 Exit 26 Interchange	Test Date(s)	9/25 - 10/3/23
Client Name:	RS&H, Inc.		
Client Address:	1520 South Boulevard 200, Charlotte, NC 28203		

Boring #:	NB-8	Sample #:	BS-1	Sample Date:	Various
Location:	Borings	Offset:	N/A	Elevation:	0-10'

Sample Description: Tan Clayey SAND (SC)

Type and Specification	*S&ME ID #*	*Cal Date:*	*Type and Specification*	*S&ME ID #*	*Cal Date:*
Balance (0.01 g)	15425	12/2/2022	Grooving tool	28897	6/20/2023
LL Apparatus	28651	12/19/2022	Grooving tool		
Oven	28883	3/20/2023	Grooving tool		

Pan #		Liquid Limit						Plastic Limit		
	Tare #:	1	2	3	4	5	6	7	8	9
A	Tare Weight	20.79	20.81	20.71				20.88	20.94	
B	Wet Soil Weight + A	29.61	30.70	30.20				27.26	27.52	
C	Dry Soil Weight + A	27.13	27.78	27.30				26.18	26.35	
D	Water Weight (B-C)	2.48	2.92	2.90				1.08	1.17	
E	Dry Soil Weight (C-A)	6.34	6.97	6.59				5.30	5.41	
F	% Moisture (D/E)*100	39.1%	41.9%	44.0%				20.4%	21.6%	
N	# OF DROPS	33	28	22				*Moisture Contents determined by ASTM D 2216*		
LL	LL = **F** * FACTOR									
Ave.	*Average*							**21.0%**		



One Point Liquid Limit

N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic ☐

Liquid Limit	**43**
Plastic Limit	**21**
Plastic Index	**22**
Group Symbol	**CL**

Multipoint Method ☑
One-point Method ☐

Wet Preparation ☐ Dry Preparation ☑ Air Dried ☑

Notes / Deviations / References:

Group Symbol refers to material passing the No. 40 sieve.

ASTM D 4318: Liquid Limit, Plastic Limit, & Plastic Index of Soils

John Thornton	10/3/2023	Michael Frisina	10/3/2023
Technician Name	*Date*	*Technical Responsibility*	*Date*

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Form No. TR-D698-2
Revision No. : 1
Revision Date: 07/25/17

MOISTURE - DENSITY REPORT

Quality Assurance

S&ME, Inc. - Columbia: 134 Suber Road, Columbia, SC 29210

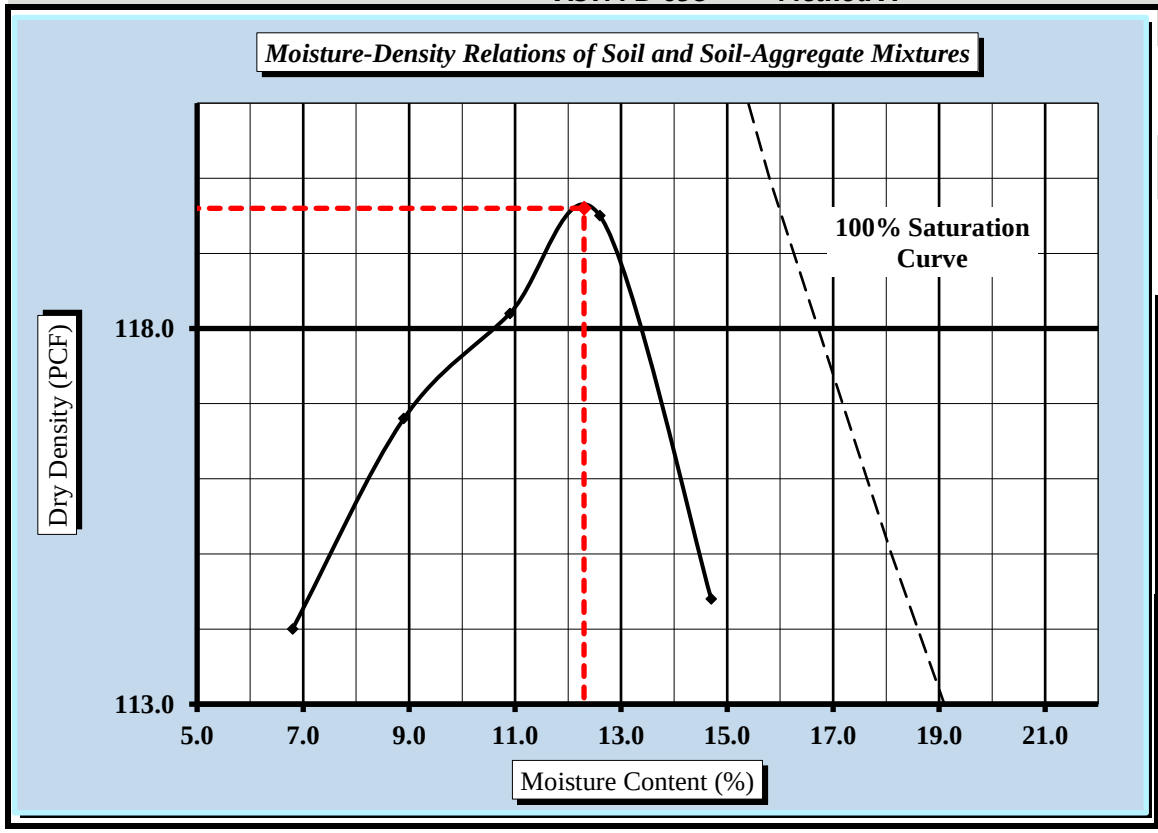
S&ME Project #:	23610178A	Report Date:	10/3/23
Project Name:	I-77 Exit 26 Interchange	Test Date(s):	9/25 - 10/3/23
Client Name:	RS&H, Inc.		
Client Address:	1520 South Boulevard Suite 200, Charlotte, NC 28203		

Boring #:	NB-8	Sample #:	BS-1	Sample Date:	Various
Location:	I-77 Northbound Boring	Offset:	N/A	Depth:	0-10'

Sample Description: Tan Clayey SAND (SC)

Maximum Dry Density 119.6 PCF. Optimum Moisture Content 12.3%

ASTM D 698 - - Method A



Soil Properties

Specific Gravity of Soil	NT
Liquid Limit	43
Plastic Limit	21
Plastic Index	22

% Passing	
3/4"	100.0%
3/8"	100.0%
#4	96.2%

Oversize Fraction	
% Oversize	3.8%

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☐ Manual Rammer ☒ Moist Preparation ☒ Dry Preparation ☐

References / Comments / Deviations:

ASTM D 2216: Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass

ASTM D 698: Laboratory Compaction Characteristics of Soil Using Standard Effort

Michael Frisina		Lab Services Manager	10/3/2023
Technical Responsibility	*Signature*	*Position*	*Date*

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Form No. TR-D1883-T193-3
Revision No. 2
Revision Date: 08/11/17

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

ASTM D 1883

S&ME, Inc. - Columbia: 134 Suber Road, Columbia, SC 29210

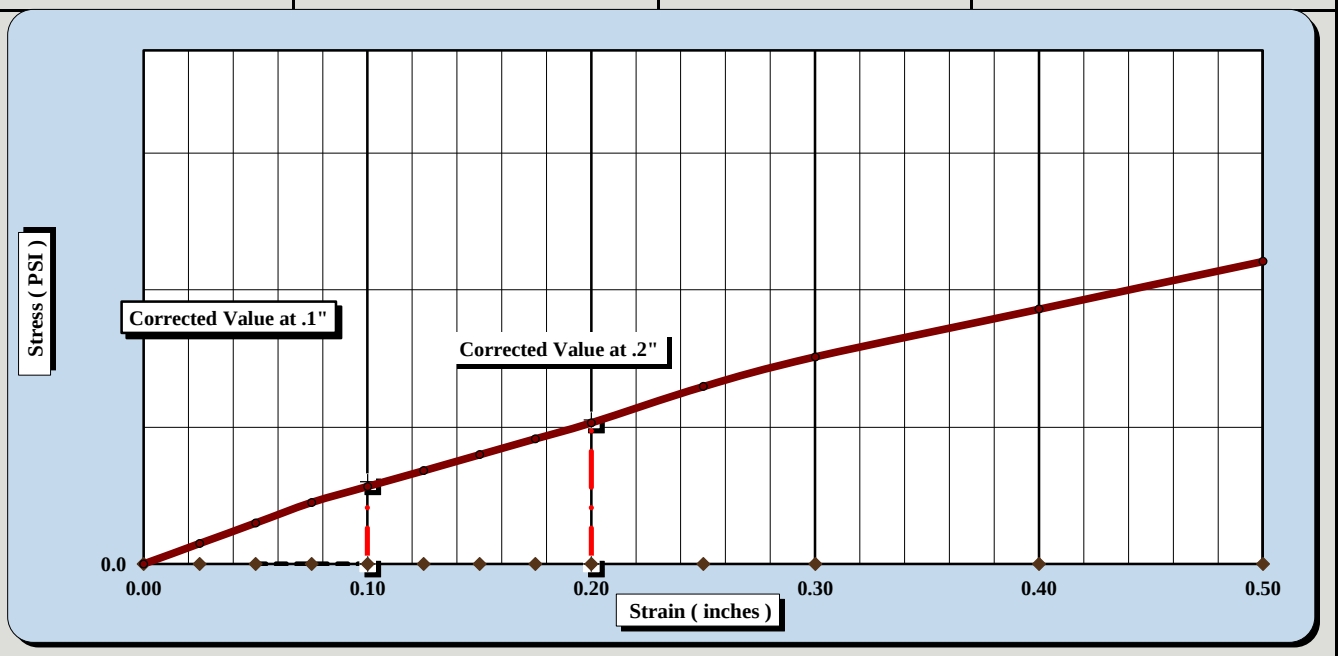
Project #:	23610178A	Report Date:	10/3/23
Project Name:	I-77 Exit 26 Interchange	Test Date(s)	9/25 - 10/3/23
Client Name:	RS&H, Inc.		8487
Client Address:	1520 South Boulevard Suite 200, Charlotte, NC 28203		
Boring #: NB-8	Sample #: BS-1	Sample Date: Various	
Location: Borings	Offset: N/A	Depth 0-10'	

Sample Description: Tan Clayey SAND (SC)

ASTM D 698 *Method A* Maximum Dry Density: 119.6 PCF Optimum Moisture Content: 12.3%

Line 20: Use an alternate discription here if applicable % Retained on the 3/4" sieve: 0.0%

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in. 1.1	CBR at 0.2 in. 1.4	CBR at 0.1 in. 1.2	CBR at 0.2 in. 1.4



CBR Sample Preparation:

Grading was in accordance with the above method and compacted using the 6" diameter CBR mold. *ASTM D1883, Section 6.1.1*

Before Soaking		*After Soaking*	
Compactive Effort (Blows per Layer)	25		
Initial Dry Density (PCF)	114.1	Final Dry Density (PCF)	111.6
Moisture Content of the Compacted Specimen	12.0%	Moisture Content (top 1" after soaking)	19.1%
Percent Compaction	95.4%	Percent Swell	2.2%

Soak Time:	96 hrs	Surcharge Weight	10.0	Surcharge Wt. per sq. Ft.	50.9
Liquid Limit	43	Plastic Index	21	Apparent Relative Density	NT

Notes/Deviations/References: Liquid Limit: ASTM D 4318, Specific Gravity: ASTM D 854, Classification: ASTM D 2487

Michael Frisina		Lab Services Manager	10/3/2023
Technical Responsibility	*Signature*	*Position*	*Date*

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Form No. TR-D1883-T193-3
Revision No. 2
Revision Date: 08/11/17

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

ASTM D 1883

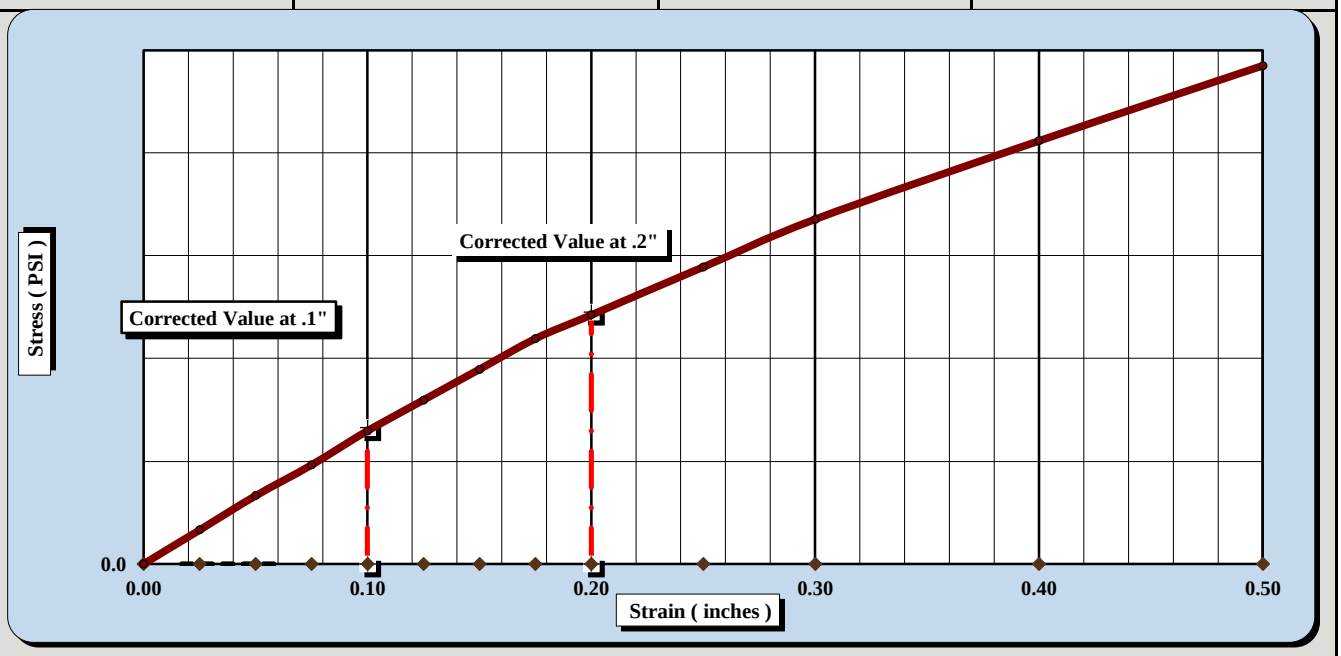
S&ME, Inc. - Columbia: 134 Suber Road, Columbia, SC 29210

Project #:	22350498	Report Date:	10/3/23
Project Name:	I-77 Exit 26 Interchange	Test Date(s)	9/25 - 10/3/23
Client Name:	RS&H, Inc.		28692
Client Address:	1520 South Boulevard Suite 200, Charlotte, NC 28203		
Boring #: NB-8	Sample #: BS-1	Sample Date: Various	
Location: Borings	Offset: N/A	Depth 0-10'	
Sample Description:	Tan Clayey SAND (SC)		

ASTM D 698 *Method A* Maximum Dry Density: 119.6 PCF Optimum Moisture Content: 12.3%

Line 20: Use an alternate discription here if applicable % Retained on the 3/4" sieve: 0.0%

Uncorrected CBR Values				Corrected CBR Values			
CBR at 0.1 in.	1.3	CBR at 0.2 in.	1.6	CBR at 0.1 in.	1.3	CBR at 0.2 in.	1.6



CBR Sample Preparation:

Grading was in accordance with the above method and compacted using the 6" diameter CBR mold. *ASTM D1883, Section 6.1.1*

Before Soaking		*After Soaking*	
Compactive Effort (Blows per Layer)	40		
Initial Dry Density (PCF)	116.2	Final Dry Density (PCF)	113.0
Moisture Content of the Compacted Specimen	10.5%	Moisture Content (top 1" after soaking)	19.3%
Percent Compaction	97.2%	Percent Swell	2.8%

Soak Time:	96 hrs	Surcharge Weight	10.0	Surcharge Wt. per sq. Ft.	50.9
Liquid Limit	43	Plastic Index	21	Apparent Relative Density	NT

Notes/Deviations/References: Liquid Limit: ASTM D 4318, Specific Gravity: ASTM D 854, Classification: ASTM D 2487

Michael Frisina		Lab Services Manager	10/3/2023
Technical Responsibility	*Signature*	*Position*	*Date*

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Form No: TR-D2216-T265-1
Revision No. 1
Revision Date: 08/16/17

LABORATORY DETERMINATION OF WATER CONTENT

ASTM D 2216 ☑ *AASHTO T 265* ☐

S&ME, Inc. - Columbia: 134 Suber Road, Columbia, SC 29210

Project #:	23610178A	Report Date:	10/3/23
Project Name:	I-77 Exit 26 Interchange	Test Date(s):	9/26 - 10/3/23
Client Name:	RS&H, Inc.		
Client Address:	1520 South Boulevard 200, Charlotte, NC 28203		
Sample by:	S&ME	Sample Date(s):	Various
Sampling Method:	Split Spoon	Drill Rig :	N/A

Method: **A (1%)** ☑ **B (0.1%)** ☐

Balance ID.	28686	Calibration Date:	12/2/22
Oven ID.	28883	Calibration Date:	3/20/23

Boring No.	Sample No.	Sample Depth	Tare #	Tare Weight	Tare Wt.+ Wet Wt	Tare Wt. + Dry Wt	Water Weight	Percent Moisture	Note
		ft. or m.		grams	grams	grams	grams	%	
NB-26	BS-2	0-10 ft	304	129.76	512.03	476.76	35.27	10.2%	

Notes / Deviations / References

ASTM D 2216: Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass

John Thornton	John Thornton	Lab Technician	10/3/2023
Technician Name	*Signature*	*Position*	*Date*
Michael Frisina	Michael Frisina	Lab Services Manager	10/3/2023
Technical Responsibility	*Signature*	*Position*	*Date*

Form No: TR-D422-WH-1Ga
Revision No. 1
Revision Date: 8/10/17

SIEVE ANALYSIS OF SOILS

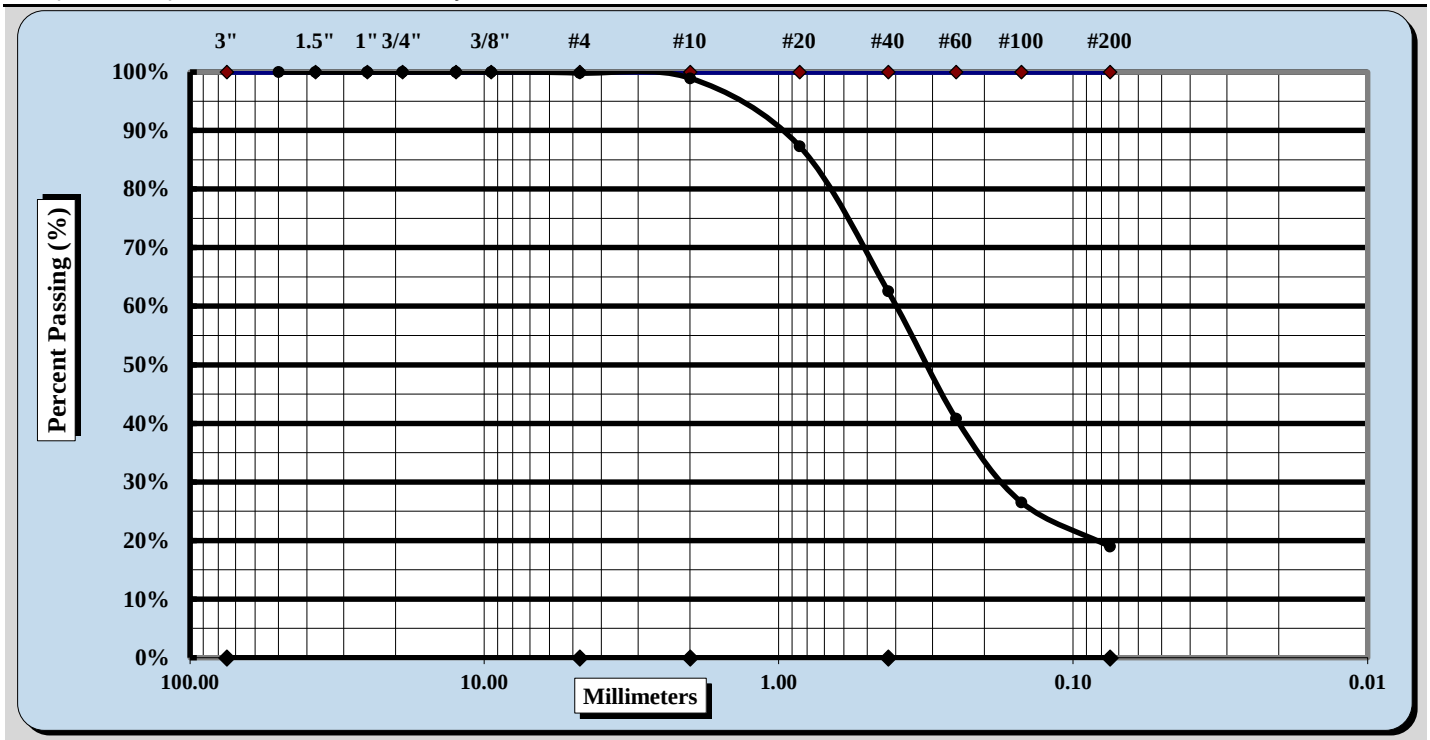
ASTM D 422

S&ME, Inc. - Columbia: 134 Suber Road, Columbia, SC 29210

Project #:	23610178A	Report Date:	10/3/23
Project Name:	I-77 Exit 26 Interchange	Test Date(s):	9/25 - 10/3/23
Client Name:	RS&H, Inc.		
Client Address:	1520 South Boulevard 200, Charlotte, NC 28203		

Boring:	NB-26	Type:	N/A	Sample Date:	Various
Location:	Borings	Sample:	BS-2	Elevation:	0-10'

Sample Description: Brown Silty SAND (SM)



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm
Gravel	< 75 mm and > 4.75 mm (#4)	Silt	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and >2.00 mm (#10)	Clay	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Maximum Particle Size	#4		Coarse Sand		0.9%	Fine Sand	43.6%
Gravel	0.2%		Medium Sand		36.4%	Silt & Clay	19.0%
Liquid Limit	NP		Plastic Limit		NP	Plastic Index	NP
Specific Gravity	NT	Cc =	N/A	Cu =	N/A	Moisture Content	0.6%
Coarse Sand	0.9%		Medium Sand		36.4%	Fine Sand	43.6%

Description of Sand & Gravel Particles: Rounded ☐ Angular ☒
Hard & Durable ☒ Soft ☐ Weathered & Friable ☒

Notes / Deviations / References:

Michael Frisina		Lab Services Manager	10/3/2023
Technical Responsibility	*Signature*	*Position*	*Date*

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Form No. TR-D4318-T89-90
Revision No. 1
Revision Date: 7/26/17

LIQUID LIMIT, PLASTIC LIMIT, & PLASTIC INDEX

ASTM D 4318 ☒ AASHTO T 89 ☐ AASHTO T 90 ☐

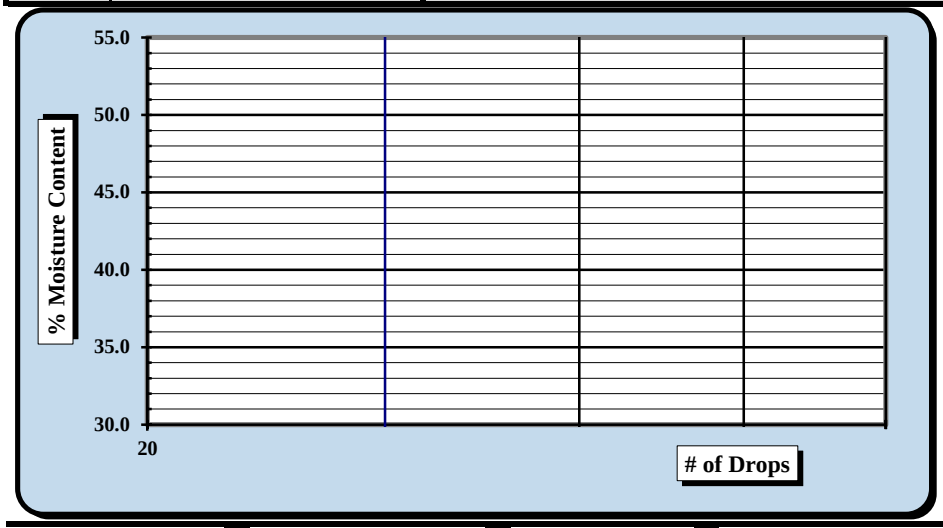
S&ME, Inc. - Columbia: 134 Suber Road, Columbia, SC 29210

Project #:	23610178A	Report Date:	10/3/23
Project Name:	I-77 Exit 26 Interchange	Test Date(s)	9/25 - 10/3/23
Client Name:	RS&H, Inc.		
Client Address:	1520 South Boulevard 200, Charlotte, NC 28203		

Boring #:	NB-26	Sample #:	BS-2	Sample Date:	Various
Location:	Borings	Offset:	N/A	Elevation:	0-10'
Sample Description:	Brown Silty SAND (SM)				

Type and Specification	*S&ME ID #*	*Cal Date:*	*Type and Specification*	*S&ME ID #*	*Cal Date:*
Balance (0.01 g)	15425	12/2/2022	Grooving tool	28897	6/20/2023
LL Apparatus	28651	12/19/2022	Grooving tool		
Oven	28883	3/20/2023	Grooving tool		

Pan #		Liquid Limit						Plastic Limit		
	Tare #:	1	2	3	4	5	6	7	8	9
A	Tare Weight									
B	Wet Soil Weight + A									
C	Dry Soil Weight + A									
D	Water Weight (B-C)									
E	Dry Soil Weight (C-A)									
F	% Moisture (D/E)*100									
N	# OF DROPS							*Moisture Contents determined by ASTM D 2216*		
LL	LL = **F** * FACTOR									
Ave.	*Average*									



One Point Liquid Limit

N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic ☒

Liquid Limit	**NP**
Plastic Limit	**NP**
Plastic Index	**NP**
Group Symbol	**ML**

Multipoint Method ☐
One-point Method ☐

Wet Preparation ☐ Dry Preparation ☑ Air Dried ☑

Notes / Deviations / References:

Group Symbol refers to material passing the No. 40 sieve.

ASTM D 4318: Liquid Limit, Plastic Limit, & Plastic Index of Soils

John Thornton	10/3/2023	Michael Frisina	10/3/2023
Technician Name	*Date*	*Technical Responsibility*	*Date*

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Form No. TR-D698-2
Revision No. : 1
Revision Date: 07/25/17

MOISTURE - DENSITY REPORT

Quality Assurance

S&ME, Inc. - Columbia: 134 Suber Road, Columbia, SC 29210

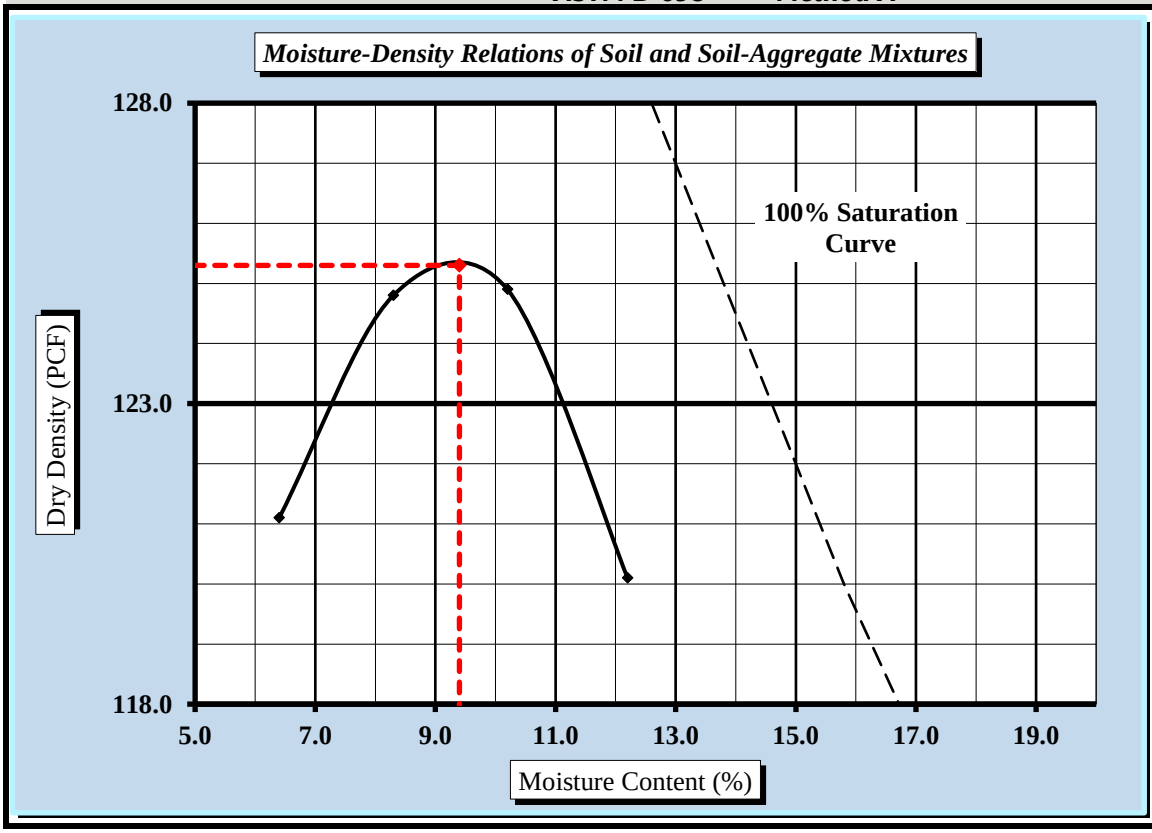
S&ME Project #:	23610178A	Report Date:	10/3/23
Project Name:	I-77 Exit 26 Interchange	Test Date(s):	9/25 - 10/3/23
Client Name:	RS&H, Inc.		
Client Address:	1520 South Boulevard Suite 200, Charlotte, NC 28203		

Boring #:	NB-26	Sample #:	BS-2	Sample Date:	Various
Location:	I-77 Northbound Boring	Offset:	N/A	Depth:	0-10'

Sample Description: Brown Silty SAND (SM)

Maximum Dry Density 125.3 PCF. Optimum Moisture Content 9.4%

ASTM D 698 - - Method A



Soil Properties

Specific Gravity of Soil	NT
Liquid Limit	NP
Plastic Limit	NP
Plastic Index	NP

% Passing	
3/4"	100.0%
3/8"	100.0%
#4	99.8%

Oversize Fraction	
% Oversize	0.2%

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☐ Manual Rammer ☒ Moist Preparation ☒ Dry Preparation ☐

References / Comments / Deviations:

ASTM D 2216: Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass

ASTM D 698: Laboratory Compaction Characteristics of Soil Using Standard Effort

Michael Frisina		Lab Services Manager	10/3/2023
Technical Responsibility	*Signature*	*Position*	*Date*

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Form No. TR-D1883-T193-3
Revision No. 2
Revision Date: 08/11/17

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

ASTM D 1883

S&ME, Inc. - Columbia: 134 Suber Road, Columbia, SC 29210

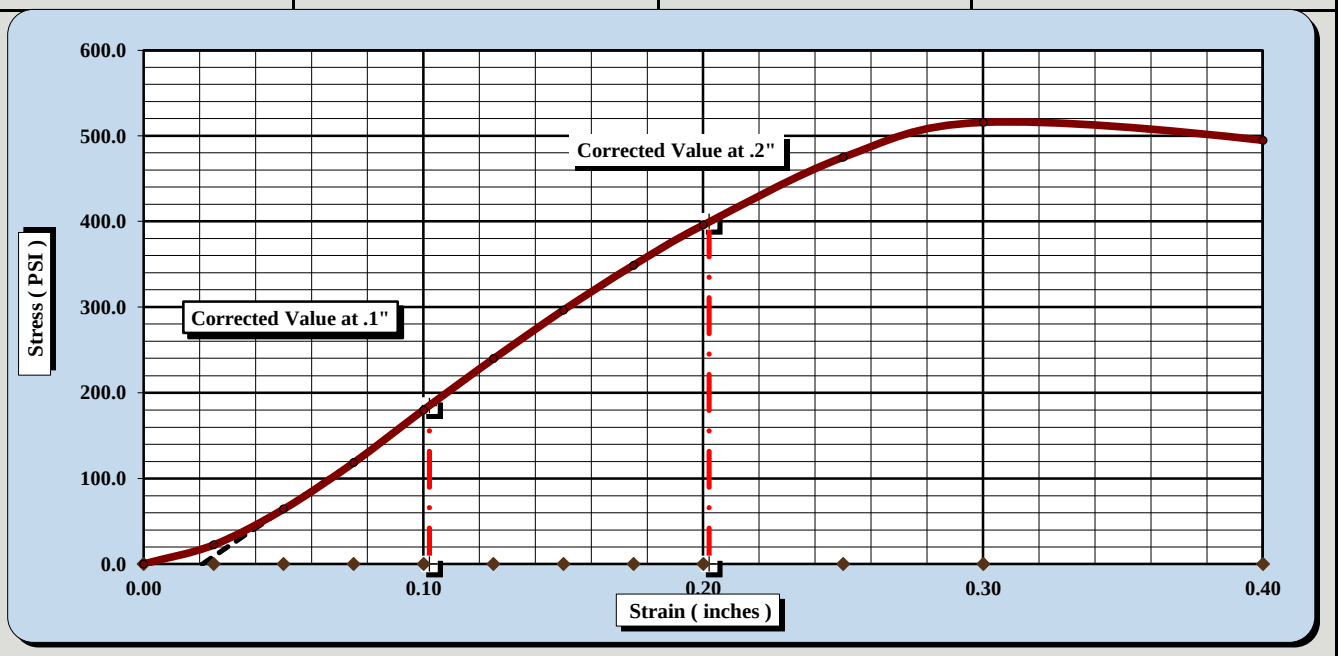
Project #:	23610178A	Report Date:	10/3/23
Project Name:	I-77 Exit 26 Interchange	Test Date(s)	9/25 - 10/3/23
Client Name:	RS&H, Inc.		21784
Client Address:	1520 South Boulevard Suite 200, Charlotte, NC 28203		
Boring #: NB-26	Sample #: BS-2	Sample Date: Various	
Location: Borings	Offset: N/A	Depth 0-10'	

Sample Description: Brown Silty SAND (SM)

ASTM D 698 *Method A* Maximum Dry Density: 125.3 PCF Optimum Moisture Content: 9.4%

Line 20: Use an alternate discription here if applicable % Retained on the 3/4" sieve: 0.0%

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in. 18.0	CBR at 0.2 in. 26.4	CBR at 0.1 in. 18.5	CBR at 0.2 in. 26.7



CBR Sample Preparation:

Grading was in accordance with the above method and compacted using the 6" diameter CBR mold. ASTM D1883, Section 6.1.1

Before Soaking		*After Soaking*	
Compactive Effort (Blows per Layer)	25		
Initial Dry Density (PCF)	123.0	Final Dry Density (PCF)	123.0
Moisture Content of the Compacted Specimen	8.9%	Moisture Content (top 1" after soaking)	10.3%
Percent Compaction	98.2%	Percent Swell	0.0%

Soak Time:	96 hrs	Surcharge Weight	10.0	Surcharge Wt. per sq. Ft.	50.9
Liquid Limit	NP	Plastic Index	NP	Apparent Relative Density	NT

Notes/Deviations/References: Liquid Limit: ASTM D 4318, Specific Gravity: ASTM D 854, Classification: ASTM D 2487

Michael Frisina		Lab Services Manager	10/3/2023
Technical Responsibility	*Signature*	*Position*	*Date*

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Form No. TR-D1883-T193-3
Revision No. 2
Revision Date: 08/11/17

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

ASTM D 1883

S&ME, Inc. - Columbia: 134 Suber Road, Columbia, SC 29210

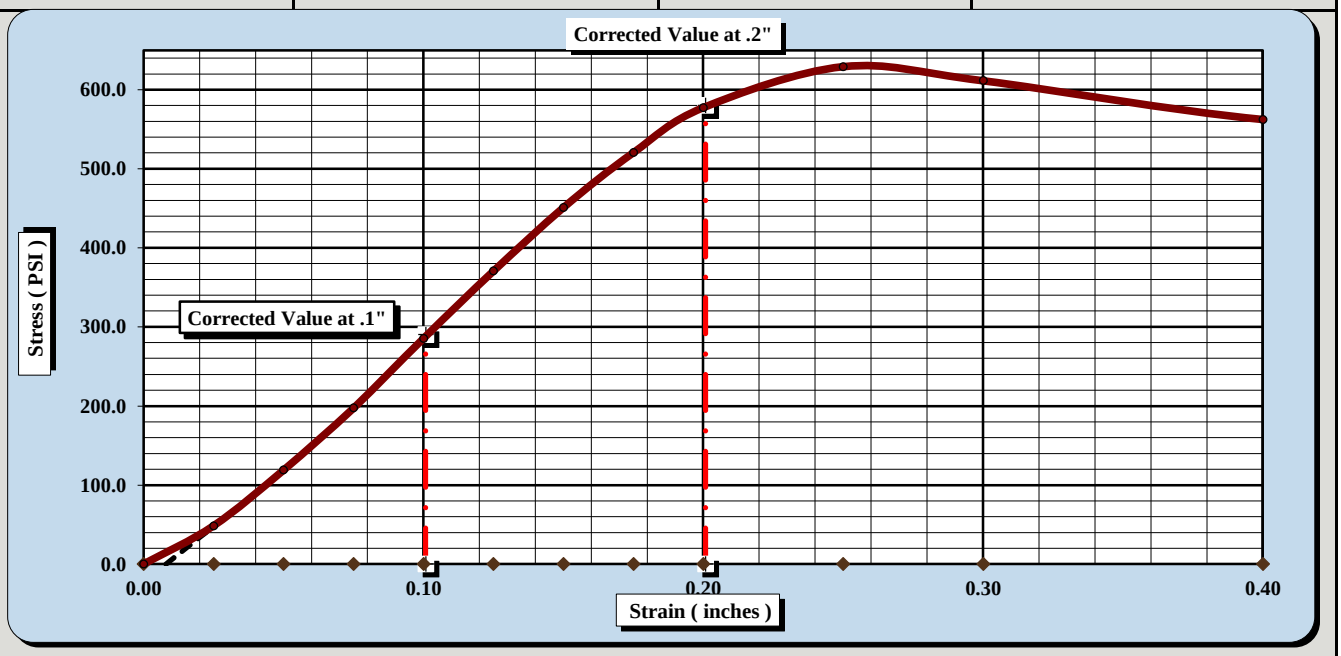
Project #:	22350498	Report Date:	10/3/23
Project Name:	I-77 Exit 26 Interchange	Test Date(s)	9/25 - 10/3/23
Client Name:	RS&H, Inc.		21785
Client Address:	1520 South Boulevard Suite 200, Charlotte, NC 28203		
Boring #: NB-26	Sample #: BS-2	Sample Date: Various	
Location: Borings	Offset: N/A	Depth 0-10'	

Sample Description: Brown Silty SAND (SM)

ASTM D 698 *Method A* Maximum Dry Density: 125.3 PCF Optimum Moisture Content: 9.4%

Line 20: Use an alternate discription here if applicable % Retained on the 3/4" sieve: 0.0%

Uncorrected CBR Values				Corrected CBR Values			
CBR at 0.1 in.	28.5	CBR at 0.2 in.	38.5	CBR at 0.1 in.	29.0	CBR at 0.2 in.	38.7



CBR Sample Preparation:

Grading was in accordance with the above method and compacted using the 6" diameter CBR mold. ASTM D1883, Section 6.1.1

Before Soaking		*After Soaking*	
Compactive Effort (Blows per Layer)	40		
Initial Dry Density (PCF)	124.8	Final Dry Density (PCF)	121.3
Moisture Content of the Compacted Specimen	8.7%	Moisture Content (top 1" after soaking)	10.2%
Percent Compaction	99.6%	Percent Swell	2.8%

Soak Time:	96 hrs	Surcharge Weight	10.0	Surcharge Wt. per sq. Ft.	50.9
Liquid Limit	NP	Plastic Index	NP	Apparent Relative Density	NT

Notes/Deviations/References: Liquid Limit: ASTM D 4318, Specific Gravity: ASTM D 854, Classification: ASTM D 2487

Michael Frisina		Lab Services Manager	10/3/2023
Technical Responsibility	*Signature*	*Position*	*Date*

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Form No: TR-D2216-T265-1
Revision No. 1
Revision Date: 08/16/17

LABORATORY DETERMINATION OF WATER CONTENT

ASTM D 2216 ☑ *AASHTO T 265* ☐

S&ME, Inc. - Columbia: 134 Suber Road, Columbia, SC 29210

Project #:	23610178A	Report Date:	10/31/23
Project Name:	I-77 Exit 26 Interchange	Test Date(s):	10/18 - 10/31/23
Client Name:	RS&H, Inc.		
Client Address:	1520 South Boulevard 200, Charlotte, NC 28203		
Sample by:	S&ME	Sample Date(s):	Various
Sampling Method:	Split Spoon	Drill Rig :	N/A

Method: **A** (1%) ☑ **B** (0.1%) ☐

Balance ID. 28686 Calibration Date: 10/13/23
Oven ID. 28883 Calibration Date: 3/20/23

Boring No.	Sample No.	Sample Depth	Tare #	Tare Weight	Tare Wt.+ Wet Wt	Tare Wt. + Dry Wt	Water Weight	Percent Moisture	Note
		ft. or m.		grams	grams	grams	grams	%	
SB-20	BS-3	0-10 ft	307	128.80	255.29	237.70	17.59	16.2%	

Notes / Deviations / References

ASTM D 2216: Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass

John Thornton	John Thornton	Lab Technician	10/31/2023
Technician Name	*Signature*	*Position*	*Date*
Michael Frisina	Michael Frisina	Lab Services Manager	10/31/2023
Technical Responsibility	*Signature*	*Position*	*Date*

Form No: TR-D422-WH-1Ga
Revision No. 1
Revision Date: 8/10/17

SIEVE ANALYSIS OF SOILS

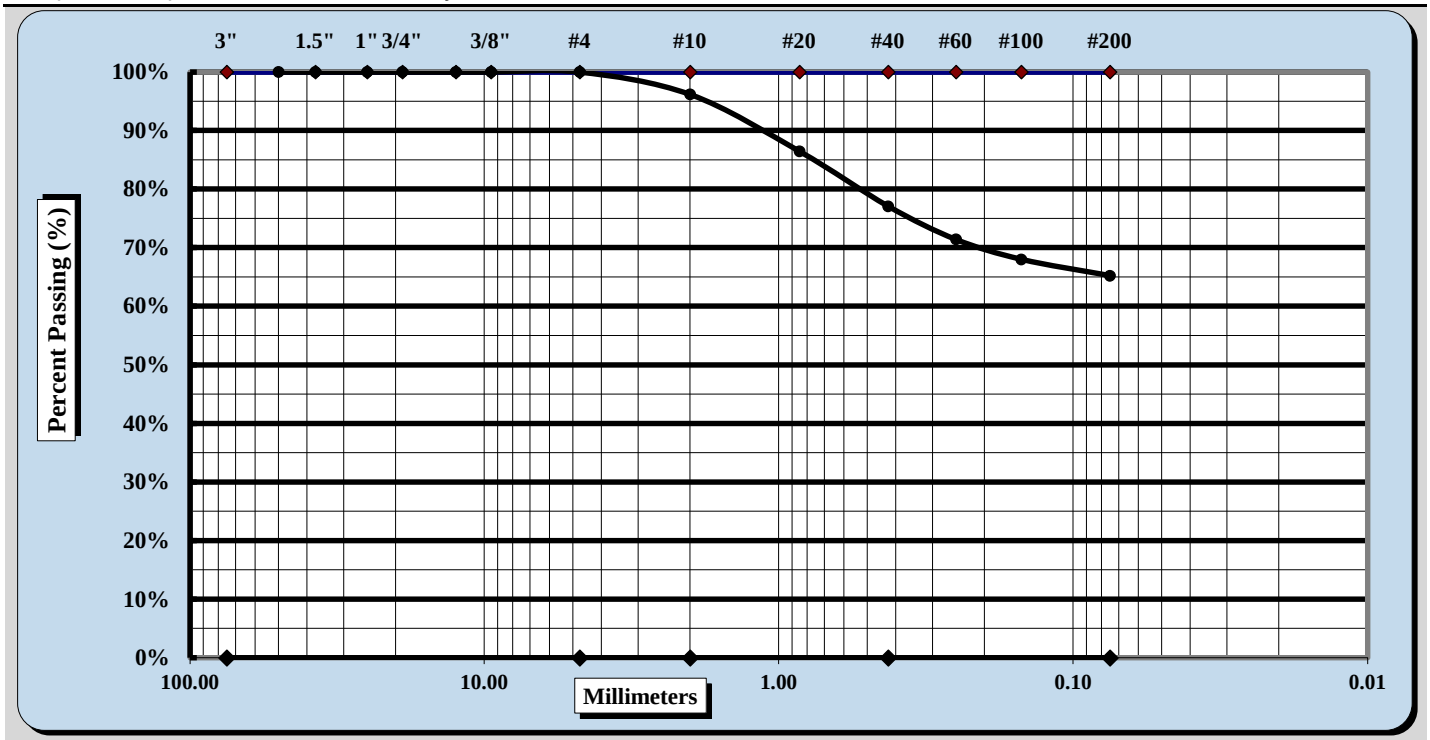
ASTM D 422

S&ME, Inc. - Columbia: 134 Suber Road, Columbia, SC 29210

Project #:	23610178A	Report Date:	10/31/23
Project Name:	I-77 Exit 26 Interchange	Test Date(s):	10/18 - 10/23/23
Client Name:	RS&H, Inc.		
Client Address:	1520 South Boulevard 200, Charlotte, NC 28203		

Boring:	SB-20	Type:	N/A	Sample Date:	Various
Location:	Borings	Sample:	BS-3	Elevation:	0-10'

Sample Description: Tan Sandy SILT (ML)



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm
Gravel	< 75 mm and > 4.75 mm (#4)	Silt	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and >2.00 mm (#10)	Clay	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Maximum Particle Size	#10		Coarse Sand		3.8%	Fine Sand	11.8%
Gravel	0.0%		Medium Sand		19.1%	Silt & Clay	65.2%
Liquid Limit	49		Plastic Limit		35	Plastic Index	14
Specific Gravity	NT	Cc =	N/A	Cu =	N/A	Moisture Content	7.7%
Coarse Sand	3.8%		Medium Sand		19.1%	Fine Sand	11.8%

Description of Sand & Gravel Particles: Rounded ☐ Angular ☒
Hard & Durable ☒ Soft ☐ Weathered & Friable ☒

Notes / Deviations / References:

Michael Frisina		Lab Services Manager	10/31/2023
Technical Responsibility	*Signature*	*Position*	*Date*

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Form No. TR-D4318-T89-90
Revision No. 1
Revision Date: 7/26/17

LIQUID LIMIT, PLASTIC LIMIT, & PLASTIC INDEX

ASTM D 4318 ☒ AASHTO T 89 ☐ AASHTO T 90 ☐

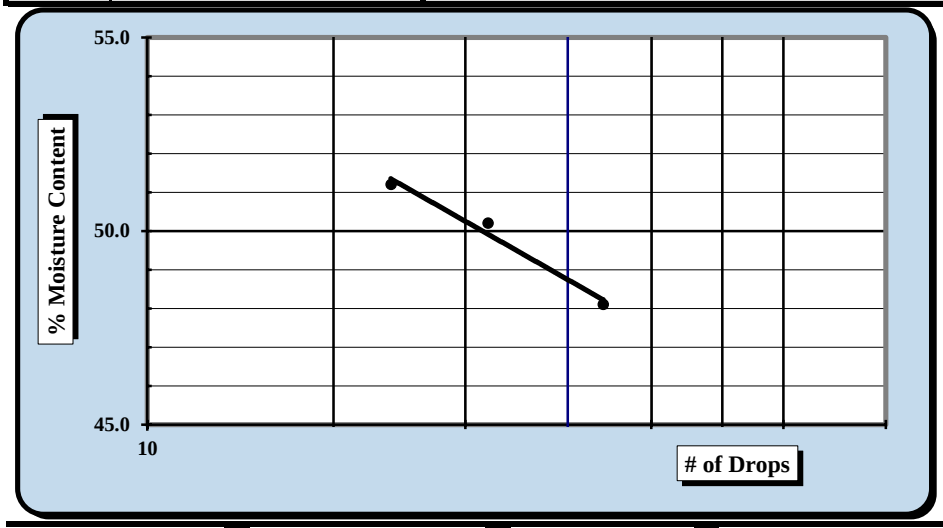
S&ME, Inc. - Columbia: 134 Suber Road, Columbia, SC 29210

Project #:	23610178A	Report Date:	10/31/23
Project Name:	I-77 Exit 26 Interchange	Test Date(s)	10/18 - 10/31/23
Client Name:	RS&H, Inc.		
Client Address:	1520 South Boulevard 200, Charlotte, NC 28203		

Boring #:	SB-20	Sample #:	BS-3	Sample Date:	Various
Location:	Borings	Offset:	N/A	Elevation:	0-10'
Sample Description:	Tan Sandy SILT (ML)				

Type and Specification	*S&ME ID #*	*Cal Date:*	*Type and Specification*	*S&ME ID #*	*Cal Date:*
Balance (0.01 g)	15425	10/13/2023	Grooving tool	28898	6/20/2023
LL Apparatus	28651	12/19/2022	Grooving tool		
Oven	28883	3/20/2023	Grooving tool		

Pan #		Liquid Limit						Plastic Limit		
	Tare #:	1	2	3	4	5	6	7	8	9
A	Tare Weight	20.86	20.73	20.76				20.88	20.87	
B	Wet Soil Weight + A	29.73	29.23	31.25				27.83	27.32	
C	Dry Soil Weight + A	26.85	26.39	27.70				25.83	25.86	
D	Water Weight (B-C)	2.88	2.84	3.55				2.00	1.46	
E	Dry Soil Weight (C-A)	5.99	5.66	6.94				4.95	4.99	
F	% Moisture (D/E)*100	48.1%	50.2%	51.2%				40.4%	29.3%	
N	# OF DROPS	27	21	17				*Moisture Contents determined by ASTM D 2216*		
LL	LL = **F** * FACTOR									
Ave.	*Average*							**34.9%**		



One Point Liquid Limit

N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic	☐
Liquid Limit	**49**
Plastic Limit	**35**
Plastic Index	**14**
Group Symbol	**ML**
Multipoint Method	☑
One-point Method	☐

Wet Preparation ☐ Dry Preparation ☑ Air Dried ☑

Notes / Deviations / References:

Group Symbol refers to material passing the No. 40 sieve.

ASTM D 4318: Liquid Limit, Plastic Limit, & Plastic Index of Soils

John Thornton	10/31/2023	Michael Frisina	10/31/2023
Technician Name	*Date*	*Technical Responsibility*	*Date*

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Form No. TR-D698-2
Revision No. : 1
Revision Date: 07/25/17

MOISTURE - DENSITY REPORT

Quality Assurance

S&ME, Inc. - Columbia: 134 Suber Road, Columbia, SC 29210

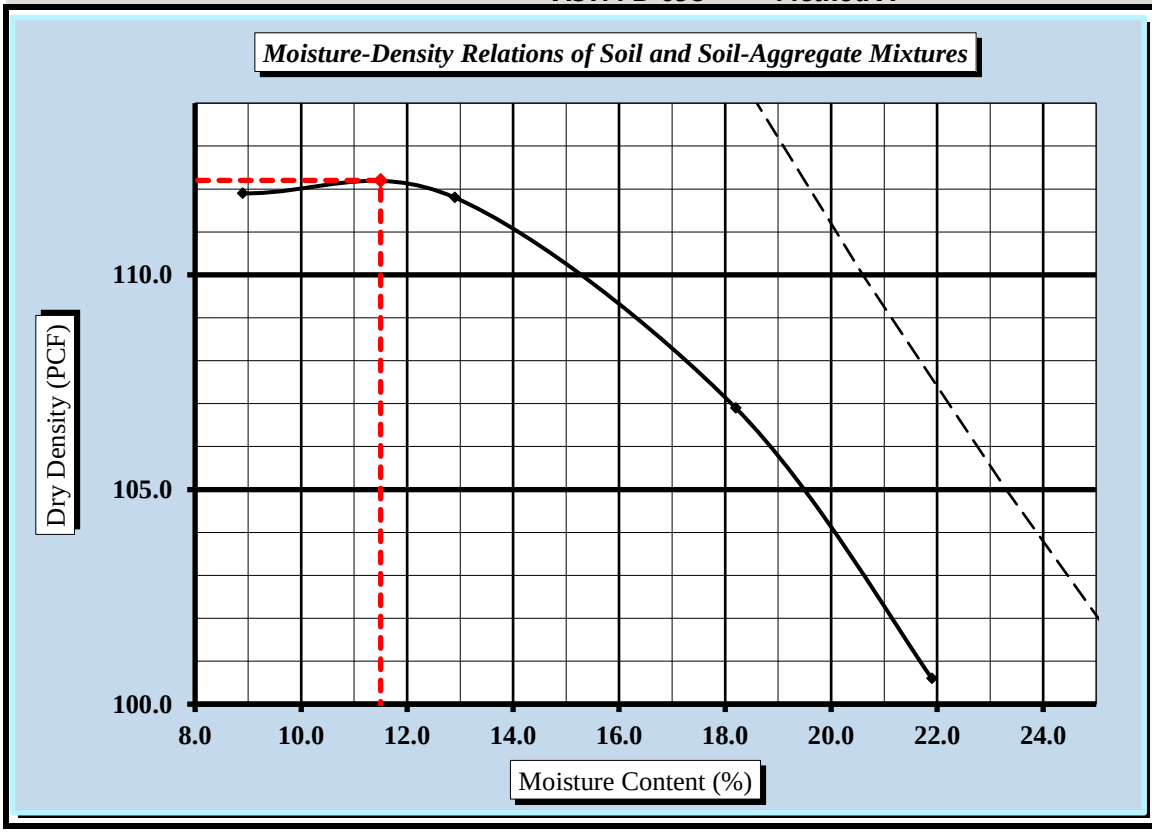
S&ME Project #:	23610178A	Report Date:	10/31/23
Project Name:	I-77 Exit 26 Interchange	Test Date(s):	10/18 - 10/31
Client Name:	RS&H, Inc.		
Client Address:	1520 South Boulevard 200, Charlotte, NC 28203		

Boring #:	SB-20	Sample #:	BS-3	Sample Date:	Various
Location:	Borings	Offset:	N/A	Depth:	0-10'

Sample Description: Tan Sandy SILT (ML)

Maximum Dry Density 112.2 PCF. Optimum Moisture Content 11.5%

ASTM D 698 - - Method A



Soil Properties

Specific Gravity of Soil	NT
Liquid Limit	49
Plastic Limit	35
Plastic Index	14

% Passing	
3/4"	N/A
3/8"	N/A
#4	97.8%

Oversize Fraction	
% Oversize	2.2%

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☐ Manual Rammer ☒ Moist Preparation ☒ Dry Preparation ☐

References / Comments / Deviations:

ASTM D 2216: Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass

ASTM D 698: Laboratory Compaction Characteristics of Soil Using Standard Effort

Michael Frisina		Lab Services Manager	10/31/2023
Technical Responsibility	*Signature*	*Position*	*Date*

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Form No. TR-D1883-T193-3
Revision No. 2
Revision Date: 08/11/17

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

ASTM D 1883

S&ME, Inc. - Columbia: 134 Suber Road, Columbia, SC 29210

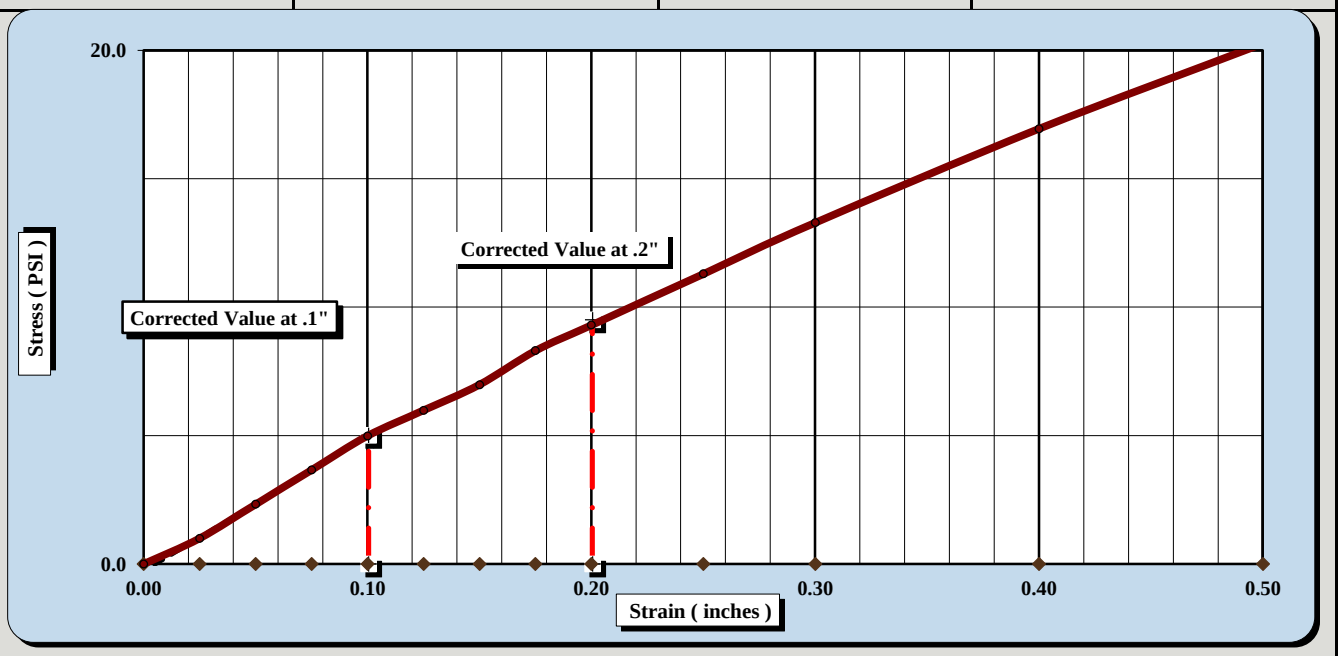
Project #:	23610178A	Report Date:	10/31/23
Project Name:	I-77 Exit 26 Interchange	Test Date(s)	10/18 - 10/31/23
Client Name:	RS&H, Inc.		15402
Client Address:	1520 South Boulevard Suite 200, Charlotte, NC 28203		
Boring #: SB-20	Sample #: BS-3	Sample Date: Various	
Location: Borings	Offset: N/A	Depth 0-10'	

Sample Description: Tan Sandy SILT (ML)

ASTM D 698 *Method A* Maximum Dry Density: 112.2 PCF Optimum Moisture Content: 11.5%

Line 20: Use an alternate discription here if applicable % Retained on the 3/4" sieve: 0.0%

Uncorrected CBR Values				Corrected CBR Values			
CBR at 0.1 in.	0.5	CBR at 0.2 in.	0.6	CBR at 0.1 in.	0.5	CBR at 0.2 in.	0.6



CBR Sample Preparation:

Grading was in accordance with the above method and compacted using the 6" diameter CBR mold. *ASTM D1883, Section 6.1.1*

Before Soaking		*After Soaking*	
Compactive Effort (Blows per Layer)	25		
Initial Dry Density (PCF)	106.6	Final Dry Density (PCF)	97.6
Moisture Content of the Compacted Specimen	11.8%	Moisture Content (top 1" after soaking)	29.1%
Percent Compaction	95.0%	Percent Swell	9.1%

Soak Time:	96 hrs	Surcharge Weight	10.0	Surcharge Wt. per sq. Ft.	50.9
Liquid Limit	49	Plastic Index	14	Apparent Relative Density	NT

Notes/Deviations/References: Liquid Limit: ASTM D 4318, Specific Gravity: ASTM D 854, Classification: ASTM D 2487

Michael Frisina		Lab Services Manager	10/31/2023
Technical Responsibility	*Signature*	*Position*	*Date*

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Form No. TR-D1883-T193-3
Revision No. 2
Revision Date: 08/11/17

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

ASTM D 1883

S&ME, Inc. - Columbia: 134 Suber Road, Columbia, SC 29210

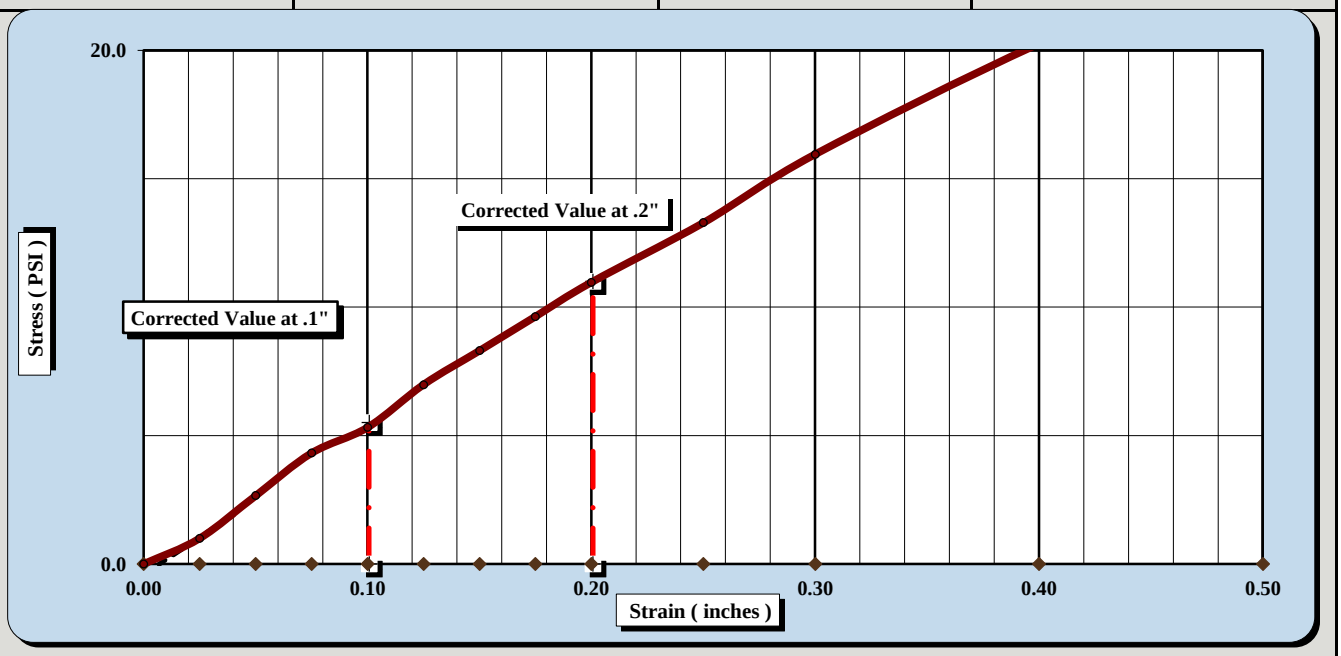
Project #:	22350498	Report Date:	10/31/23
Project Name:	I-77 Exit 26 Interchange	Test Date(s)	10/18 - 10/31/23
Client Name:	RS&H, Inc.		8487
Client Address:	1520 South Boulevard Suite 200, Charlotte, NC 28203		
Boring #: SB-20	Sample #: BS-3	Sample Date: Various	
Location: Borings	Offset: N/A	Depth 0-10'	

Sample Description: Tan Sandy SILT (ML)

ASTM D 698 *Method A* Maximum Dry Density: 112.2 PCF Optimum Moisture Content: 11.5%

Line 20: Use an alternate discription here if applicable % Retained on the 3/4" sieve: 0.0%

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in. 0.5	CBR at 0.2 in. 0.7	CBR at 0.1 in. 0.6	CBR at 0.2 in. 0.7



CBR Sample Preparation:

Grading was in accordance with the above method and compacted using the 6" diameter CBR mold. *ASTM D1883, Section 6.1.1*

Before Soaking		*After Soaking*	
Compactive Effort (Blows per Layer)	40		
Initial Dry Density (PCF)	109.4	Final Dry Density (PCF)	101.0
Moisture Content of the Compacted Specimen	11.5%	Moisture Content (top 1" after soaking)	29.5%
Percent Compaction	97.5%	Percent Swell	8.3%

Soak Time:	96 hrs	Surcharge Weight	10.0	Surcharge Wt. per sq. Ft.	50.9
Liquid Limit	49	Plastic Index	14	Apparent Relative Density	NT

Notes/Deviations/References: Liquid Limit: ASTM D 4318, Specific Gravity: ASTM D 854, Classification: ASTM D 2487

Michael Frisina		Lab Services Manager	10/31/2023
Technical Responsibility	*Signature*	*Position*	*Date*

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Form No: TR-D2216-T265-1
Revision No. 1
Revision Date: 08/16/17

LABORATORY DETERMINATION OF WATER CONTENT

ASTM D 2216 ☑ *AASHTO T 265* ☐

S&ME, Inc. - Columbia: 134 Suber Road, Columbia, SC 29210

Project #:	23610178A	Report Date:	10/31/23
Project Name:	I-77 Exit 26 Interchange	Test Date(s):	10/18 - 10/31/23
Client Name:	RS&H, Inc.		
Client Address:	1520 South Boulevard 200, Charlotte, NC 28203		
Sample by:	S&ME	Sample Date(s):	Various
Sampling Method:	Split Spoon	Drill Rig :	N/A

Method: **A** (1%) ☑ **B** (0.1%) ☐

Balance ID.	28686	Calibration Date:	10/13/23
Oven ID.	28883	Calibration Date:	3/20/23

Boring No.	Sample No.	Sample Depth	Tare #	Tare Weight	Tare Wt.+ Wet Wt	Tare Wt. + Dry Wt	Water Weight	Percent Moisture	Note
		ft. or m.		grams	grams	grams	grams	%	
SB-30	BS-4	0-10 ft	43	121.95	237.69	224.92	12.77	12.4%	

Notes / Deviations / References

ASTM D 2216: Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass

John Thornton	John Thornton	Lab Technician	10/31/2023
Technician Name	*Signature*	*Position*	*Date*
Michael Frisina	Michael Frisina	Lab Services Manager	10/31/2023
Technical Responsibility	*Signature*	*Position*	*Date*

Form No: TR-D422-WH-1Ga
Revision No. 1
Revision Date: 8/10/17

SIEVE ANALYSIS OF SOILS

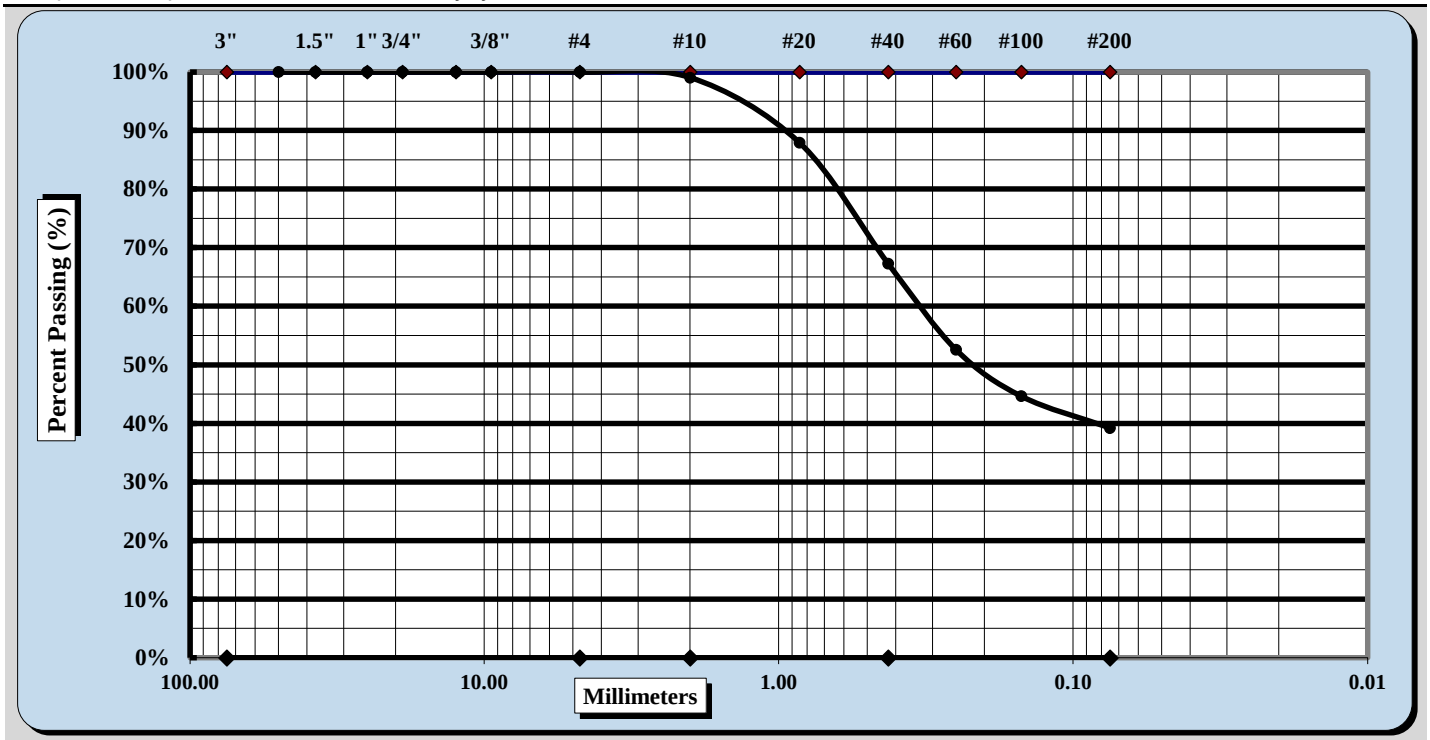
ASTM D 422

S&ME, Inc. - Columbia: 134 Suber Road, Columbia, SC 29210

Project #:	23610178A	Report Date:	10/31/23
Project Name:	I-77 Exit 26 Interchange	Test Date(s):	10/18 - 10/31/23
Client Name:	RS&H, Inc.		
Client Address:	1520 South Boulevard 200, Charlotte, NC 28203		

Boring:	SB-30	Type:	N/A	Sample Date:	Various
Location:	Borings	Sample:	BS-4	Elevation:	0-10'

Sample Description: Brown Clayey SAND (SC)



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm
Gravel	< 75 mm and > 4.75 mm (#4)	Silt	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and >2.00 mm (#10)	Clay	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Maximum Particle Size	#10		Coarse Sand	1.0%		Fine Sand	28.1%
Gravel	0.0%		Medium Sand	31.7%		Silt & Clay	39.2%
Liquid Limit	40		Plastic Limit	19		Plastic Index	21
Specific Gravity	NT	Cc =	N/A	Cu =	N/A	Moisture Content	4.5%
Coarse Sand	1.0%		Medium Sand	31.7%		Fine Sand	28.1%

Description of Sand & Gravel Particles: Rounded ☐ Angular ☒
Hard & Durable ☒ Soft ☐ Weathered & Friable ☒

Notes / Deviations / References:

Michael Frisina		Lab Services Manager	10/31/2023
Technical Responsibility	*Signature*	*Position*	*Date*

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Form No. TR-D4318-T89-90
Revision No. 1
Revision Date: 7/26/17

LIQUID LIMIT, PLASTIC LIMIT, & PLASTIC INDEX

ASTM D 4318 ☒ AASHTO T 89 ☐ AASHTO T 90 ☐

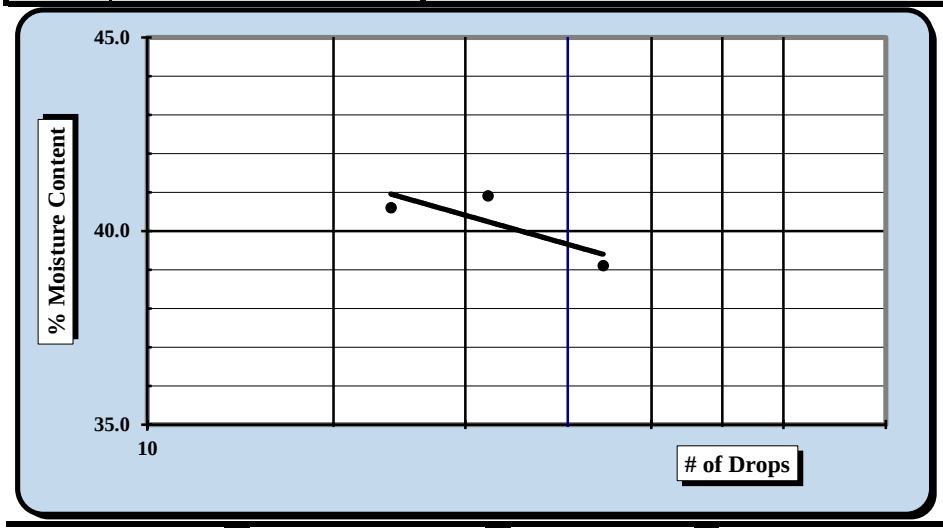
S&ME, Inc. - Columbia: 134 Suber Road, Columbia, SC 29210

Project #:	23610178A	Report Date:	10/31/23
Project Name:	I-77 Exit 26 Interchange	Test Date(s)	10/18 - 10/31/23
Client Name:	RS&H, Inc.		
Client Address:	1520 South Boulevard 200, Charlotte, NC 28203		

Boring #:	SB-30	Sample #:	BS-4	Sample Date:	Various
Location:	Borings	Offset:	N/A	Elevation:	0-10'
Sample Description:	Brown Clayey SAND (SC)				

Type and Specification	*S&ME ID #*	*Cal Date:*	*Type and Specification*	*S&ME ID #*	*Cal Date:*
Balance (0.01 g)	15425	10/13/2023	Grooving tool	28898	6/20/2023
LL Apparatus	28651	12/19/2022	Grooving tool		
Oven	28883	3/20/2023	Grooving tool		

Pan #		Liquid Limit						Plastic Limit		
	Tare #:	1	2	3	4	5	6	7	8	9
A	Tare Weight	20.85	21.05	20.63				20.84	20.93	
B	Wet Soil Weight + A	31.41	30.66	30.95				27.32	27.30	
C	Dry Soil Weight + A	28.44	27.87	27.97				26.30	26.24	
D	Water Weight (B-C)	2.97	2.79	2.98				1.02	1.06	
E	Dry Soil Weight (C-A)	7.59	6.82	7.34				5.46	5.31	
F	% Moisture (D/E)*100	39.1%	40.9%	40.6%				18.7%	20.0%	
N	# OF DROPS	27	21	17				*Moisture Contents determined by ASTM D 2216*		
LL	LL = **F** * FACTOR									
Ave.	*Average*							**19.4%**		



One Point Liquid Limit

N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic ☐

Liquid Limit	**40**
Plastic Limit	**19**
Plastic Index	**21**
Group Symbol	**CL**

Multipoint Method ☑
One-point Method ☐

Wet Preparation ☐ Dry Preparation ☑ Air Dried ☑

Notes / Deviations / References:

Group Symbol refers to material passing the No. 40 sieve.

ASTM D 4318: Liquid Limit, Plastic Limit, & Plastic Index of Soils

John Thornton	10/31/2023	Michael Frisina	10/31/2023
Technician Name	*Date*	*Technical Responsibility*	*Date*

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Form No. TR-D698-2
Revision No. : 1
Revision Date: 07/25/17

MOISTURE - DENSITY REPORT

Quality Assurance

S&ME, Inc. - Columbia: 134 Suber Road, Columbia, SC 29210

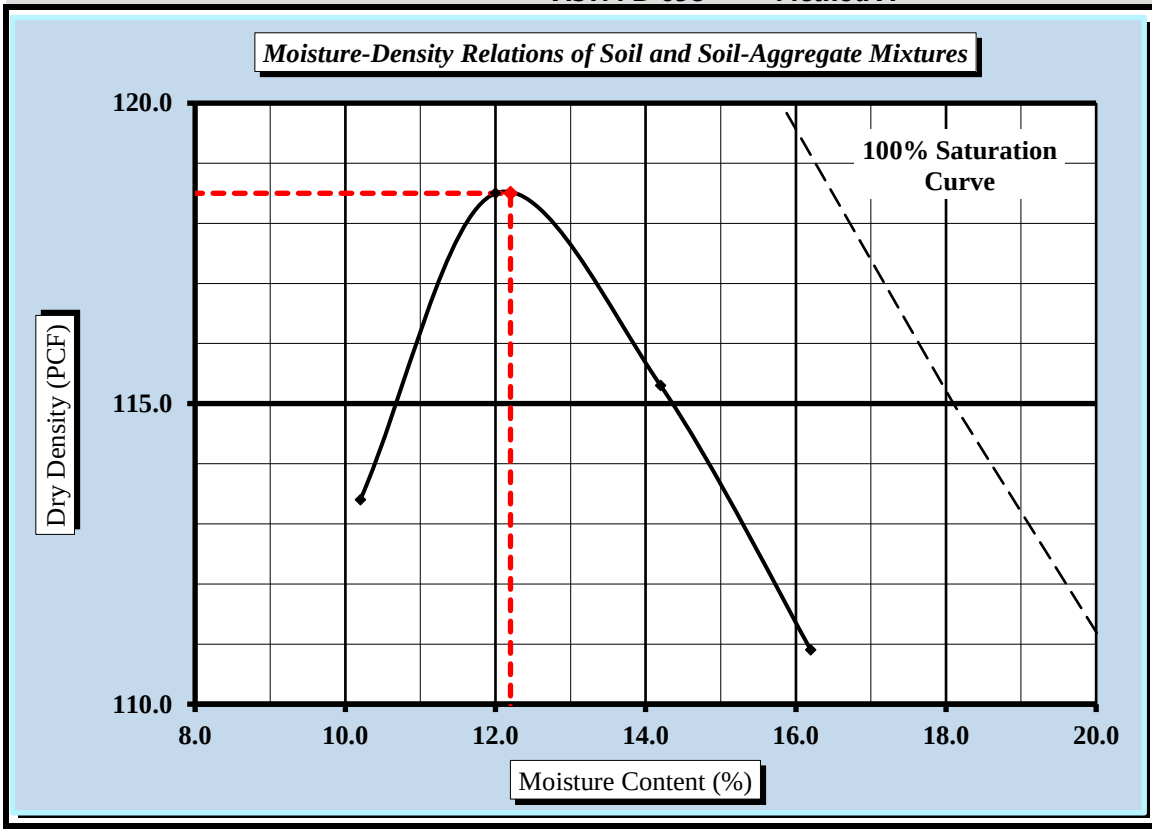
S&ME Project #:	23610178A	Report Date:	10/31/23
Project Name:	I-77 Exit 26 Interchange	Test Date(s):	10/18 - 10/31/23
Client Name:	RS&H, Inc.		
Client Address:	1520 South Boulevard 200, Charlotte, NC 28203		

Boring #:	SB-30	Sample #:	BS-4	Sample Date:	Various
Location:	Borings	Offset:	N/A	Depth:	0-10'

Sample Description: Brown Clayey SAND (SC)

Maximum Dry Density 118.5 PCF. Optimum Moisture Content 12.2%

ASTM D 698 - - Method A



Soil Properties

Specific Gravity of Soil	NT
Liquid Limit	40
Plastic Limit	19
Plastic Index	21
% Passing	
3/4"	N/A
3/8"	N/A
#4	99.1%
Oversize Fraction	
% Oversize	0.9%

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☐ Manual Rammer ☒ Moist Preparation ☒ Dry Preparation ☐

References / Comments / Deviations:

ASTM D 2216: Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass

ASTM D 698: Laboratory Compaction Characteristics of Soil Using Standard Effort

Michael Frisina		Lab Services Manager	10/31/2023
Technical Responsibility	*Signature*	*Position*	*Date*

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Form No. TR-D1883-T193-3
Revision No. 2
Revision Date: 08/11/17

CBR (CALIFORNIA BEARING RATIO) OF LABORATORY COMPACTED SOIL

ASTM D 1883

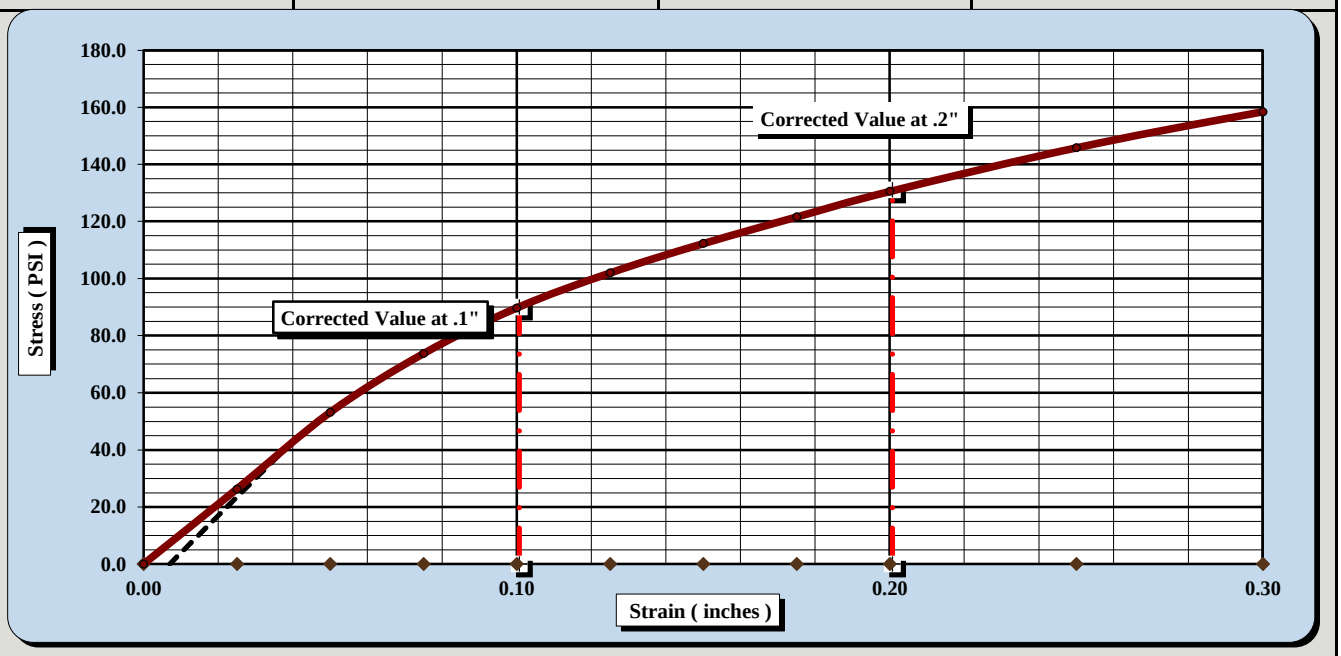
S&ME, Inc. - Columbia: 134 Suber Road, Columbia, SC 29210

Project #:	23610178A	Report Date:	10/31/23
Project Name:	I-77 Exit 26 Interchange	Test Date(s)	10/18 - 10/31/23
Client Name:	RS&H, Inc.		28692
Client Address:	1520 South Boulevard Suite 200, Charlotte, NC 28203		
Boring #: SB-30	Sample #: BS-4	Sample Date: Various	
Location: Borings	Offset: N/A	Depth 0-10'	
Sample Description:	Brown Clayey SAND (SC)		

ASTM D 698 *Method A* Maximum Dry Density: 118.5 PCF Optimum Moisture Content: 12.2%

Line 20: Use an alternate discription here if applicable % Retained on the 3/4" sieve: 0.0%

Uncorrected CBR Values		Corrected CBR Values	
CBR at 0.1 in. 9.0	CBR at 0.2 in. 8.7	CBR at 0.1 in. 9.0	CBR at 0.2 in. 8.7



CBR Sample Preparation:

Grading was in accordance with the above method and compacted using the 6" diameter CBR mold. *ASTM D1883, Section 6.1.1*

Before Soaking		*After Soaking*	
Compactive Effort (Blows per Layer)	40		
Initial Dry Density (PCF)	114.9	Final Dry Density (PCF)	114.6
Moisture Content of the Compacted Specimen	11.0%	Moisture Content (top 1" after soaking)	15.8%
Percent Compaction	97.0%	Percent Swell	0.3%

Soak Time:	96 hrs	Surcharge Weight	10.0	Surcharge Wt. per sq. Ft.	50.9
Liquid Limit	40	Plastic Index	21	Apparent Relative Density	NT

Notes/Deviations/References: Liquid Limit: ASTM D 4318, Specific Gravity: ASTM D 854, Classification: ASTM D 2487

Michael Frisina		Lab Services Manager	10/31/2023
Technical Responsibility	*Signature*	*Position*	*Date*

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Appendix VI – Laboratory Test Data Sheets – Undisturbed Samples

Form No TR-D6913-GR-01
Revision No. 1
Revision Date: 9/5/17

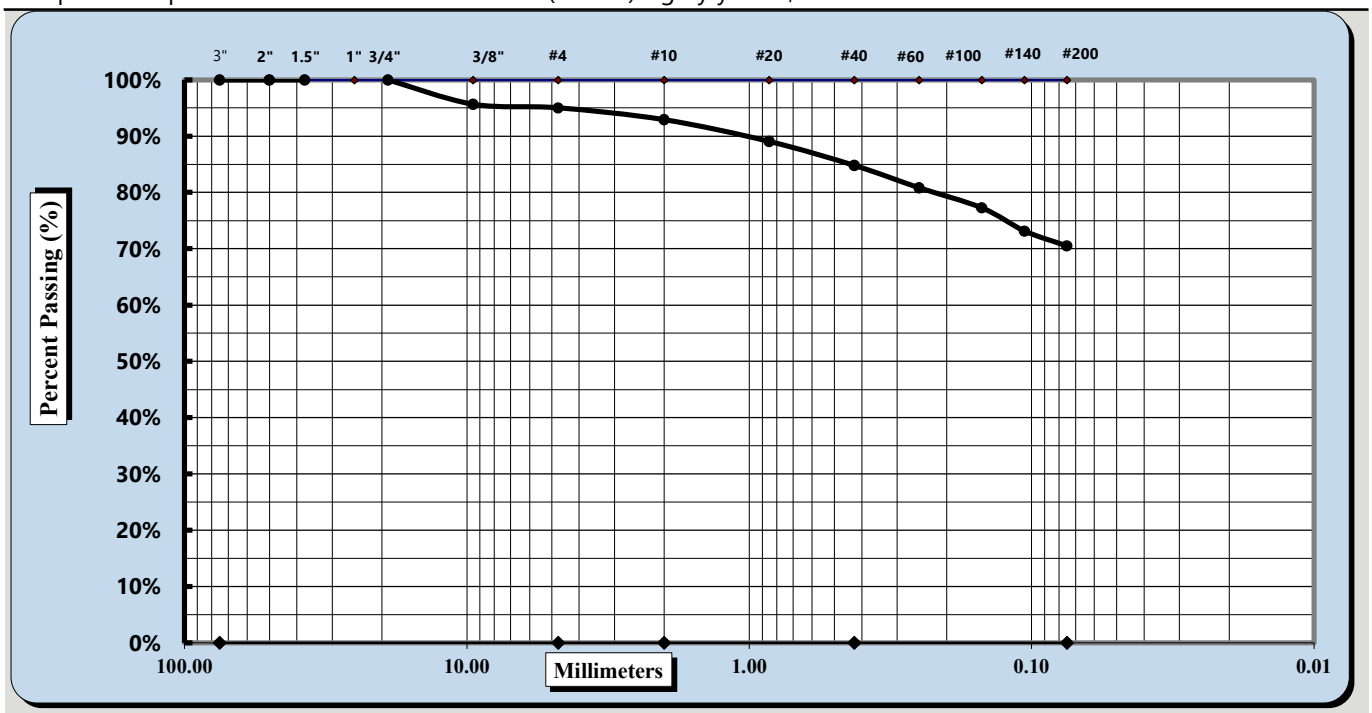
SIEVE ANALYSIS OF SOIL

Single sieve set *ASTM D 6913*

S&ME, Inc. - Greenville: 48 Brookfield Oaks Dr., Suite F Greenville, SC 29607

Project #:	23610178A			Report Date:	1/11/24
Project Name:	I-77 Exit 26 Interchange			Test Date:	1/04 - 1/10/24
Client Name:	RS&H, Inc.				
Client Address:	1520 South Boulevard Suite 200 Charotte, NC 28203				
Boring #:	W-39	Log #:	129g	Sample Date:	10/31/23
Location:	UD-4	Type:	Undisturbed	Depth:	8 - 10'

Sample Description: SILTY CLAY WITH SAND (CL-ML) - gray yellow, fine



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm
Gravel	< 75 mm and > 4.75 mm (#4)	Silt	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and >2.00 mm (#10)	Clay	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Method: B Procedure for obtaining Specimen: Moist Dispersion Process: Dispersant

Maximum Particle Size	19.0 mm	Coarse Sand	2.1%	Fine Sand	14.3%
Gravel	5.0%	Medium Sand	8.1%	Silt & Clay	70.5%
Liquid Limit	24	Plastic Limit	18	Plastic Index	6

Natural Moisture *

Notes / Deviations / References:

*See CU Triaxial Test Report

Brian Vaughan, P.E.	Brian Vaughan	QA Supervisor	1/11/24
Technical Responsibility	*Signature*	*Position*	*Date*

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Form No. TR-D4318-T89-90
Revision No. 1
Revision Date: 7/26/17

LIQUID LIMIT, PLASTIC LIMIT, & PLASTIC INDEX

ASTM D 4318 ☒ *AASHTO T 89* ☐ *AASHTO T 90* ☐

S&ME, Inc. - Greenville 48 Brookfield Oaks Dr., Suite F Greenville, SC 29607

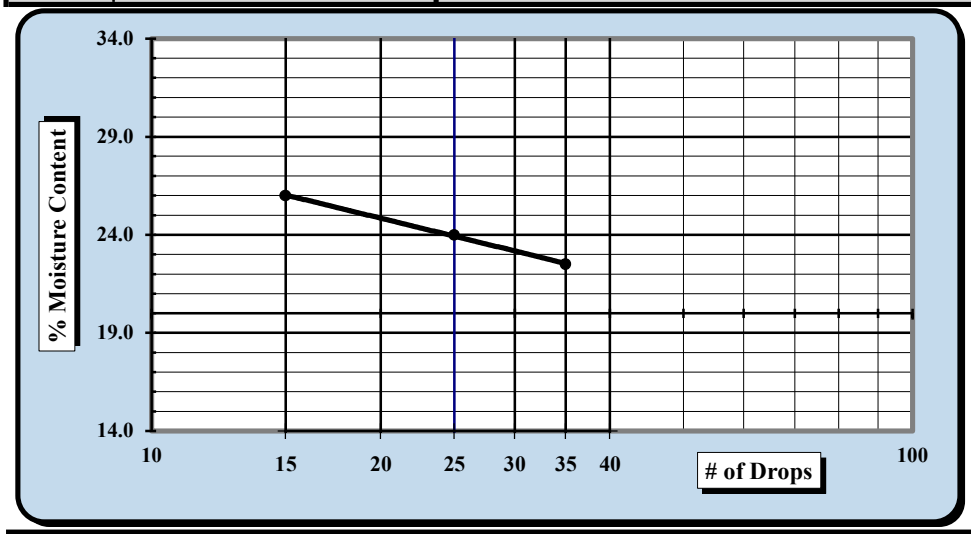
Project #:	23610178A	Report Date:	1/11/24
Project Name:	I-77 Exit 26 Interchange	Test Date:	1/10/24
Client Name:	RS&H, Inc.		
Client Address:	1520 South Boulevard Suite 200 Charlotte, NC 28203		

Boring #:	W-39	Log #:	129g	Sample Date:	10/31/23
Location:	UD-4	Type:	Undisturbed	Depth:	8 - 10'

Sample Description: SILTY CLAY WITH SAND (CL-ML) - gray yellow, fine

Type and Specification	*S&ME ID #*	*Cal Date:*	*Type and Specification*	*S&ME ID #*	*Cal Date:*
Balance (0.01 g)	13942	10/31/2023	Grooving tool	23119	10/15/2023
LL Apparatus	23158	7/18/2023			
Oven	13978	10/1/2023			

Pan #		Liquid Limit						Plastic Limit		
	Tare #:	1	2	3				4	5	
A	Tare Weight	26.71	26.51	26.35				25.90	26.95	
B	Wet Soil Weight + A	46.81	43.25	41.73				34.06	34.11	
C	Dry Soil Weight + A	43.12	40.01	38.56				32.80	32.99	
D	Water Weight (B-C)	3.69	3.24	3.17				1.26	1.12	
E	Dry Soil Weight (C-A)	16.41	13.50	12.21				6.90	6.04	
F	% Moisture (D/E)*100	22.5%	24.0%	26.0%				18.3%	18.5%	
N	# OF DROPS	35	25	15				*Moisture Contents determined by ASTM D 2216*		
LL	LL = **F** * FACTOR									
Ave.	*Average*							**18.4%**		



One Point Liquid Limit

N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic ☐

Liquid Limit	**24**
Plastic Limit	**18**
Plastic Index	**6**
Group Symbol	**CL-ML**

Multipoint Method ☑
One-point Method ☐

Wet Preparation ☐ Dry Preparation ☑ Air Dried ☑ *% Passing the #200 Sieve:* 70.5%

Notes / Deviations / References: Group symbol for minus #40 sieve portion only (see Sample Description for classification of entire sample).

ASTM D 4318: Liquid Limit, Plastic Limit, & Plastic Index of Soils

Benjamin J. Kovaleski	1/11/24	Brian Vaughan, P.E.	1/11/24
Technician Name	*Date*	*Technical Responsibility*	*Date*

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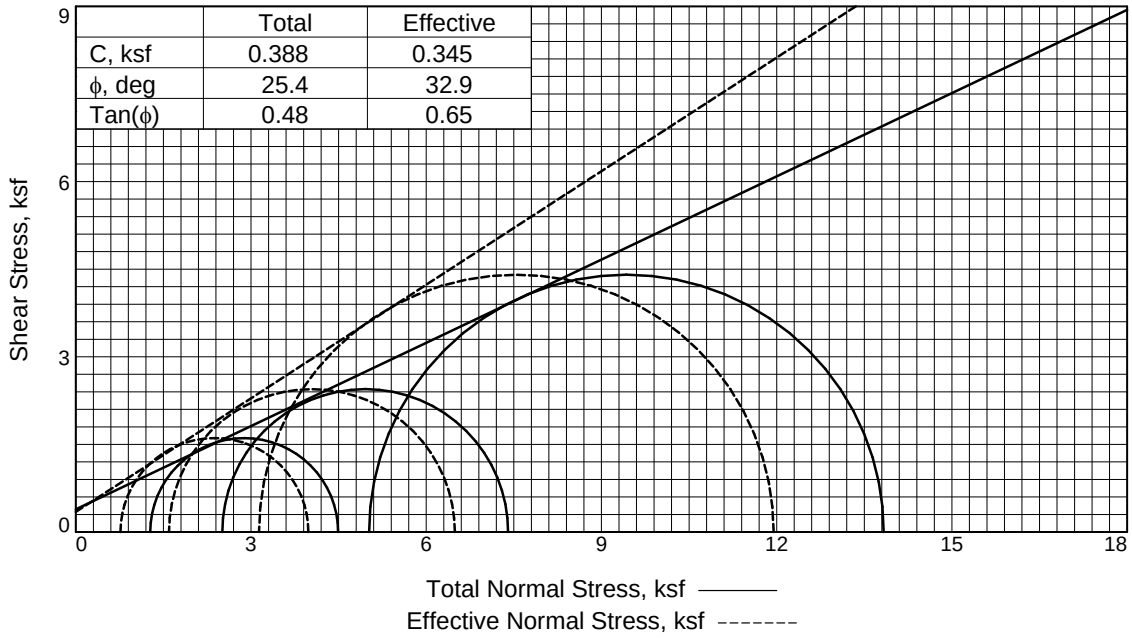
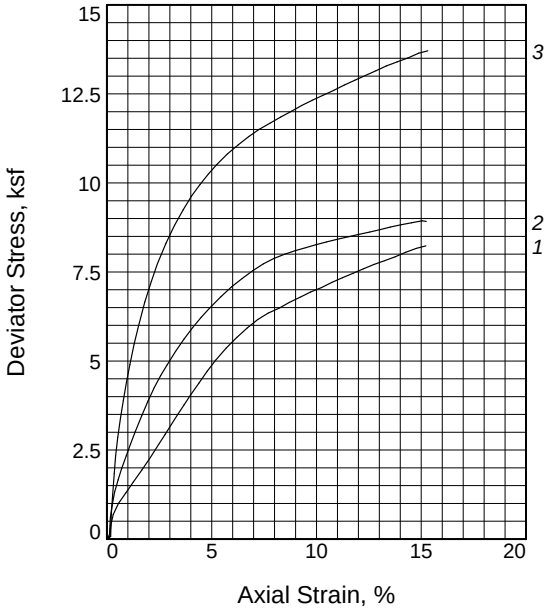
C & phi are not test results but an interpretation of the test results. The designer is responsible for interpreting test data as provided by S&ME.



	Total	Effective
C, ksf	0.388	0.345
ϕ, deg	25.4	32.9
Tan(ϕ)	0.48	0.65



Specimen No.		1	2	3
Initial	Water Content, %	18.3	19.7	15.9
	Dry Density, pcf	108.9	107.6	113.0
	Saturation, %	93.3	97.2	90.9
	Void Ratio	0.5196	0.5378	0.4638
	Diameter, in.	2.872	2.852	2.872
	Height, in.	5.710	5.820	5.820
At Test	Water Content, %	19.3	19.2	16.3
	Dry Density, pcf	110.2	110.0	116.1
	Saturation, %	101.9	100.9	101.8
	Void Ratio	0.5012	0.5034	0.4244
	Diameter, in.	2.860	2.829	2.846
	Height, in.	5.689	5.783	5.768
Strain rate, %/min.		0.28	0.28	0.28
Eff. Cell Pressure, ksf		1.27	2.51	5.02
Fail. Stress, ksf		3.22	4.89	8.81
Total Pore Pr., ksf		9.15	9.55	10.52
Strain, %		3.1	2.9	3.2
Ult. Stress, ksf		8.23	8.92	13.71
Total Pore Pr., ksf		6.50	7.13	7.98
Strain, %		15.2	15.2	15.3
$\bar{\sigma}_1$ Failure, ksf		3.98	6.49	11.95
$\bar{\sigma}_3$ Failure, ksf		0.76	1.60	3.14

Type of Test:
CU with Pore Pressures

Sample Type: Undisturbed

Description: SILTY CLAY WITH SAND (CL-ML) - gray yellow, fine

LL= 24 **PL=** 18 **PI=** 6

Assumed Specific Gravity= 2.65

Remarks: The specimens failed with bulging and shearing. Failure selected at peak stress ratio. ASTM D4767.

Figure 1

Client: RS&H, Inc.

Project: I-77 Exit 26 Interchange

Location: UD-4

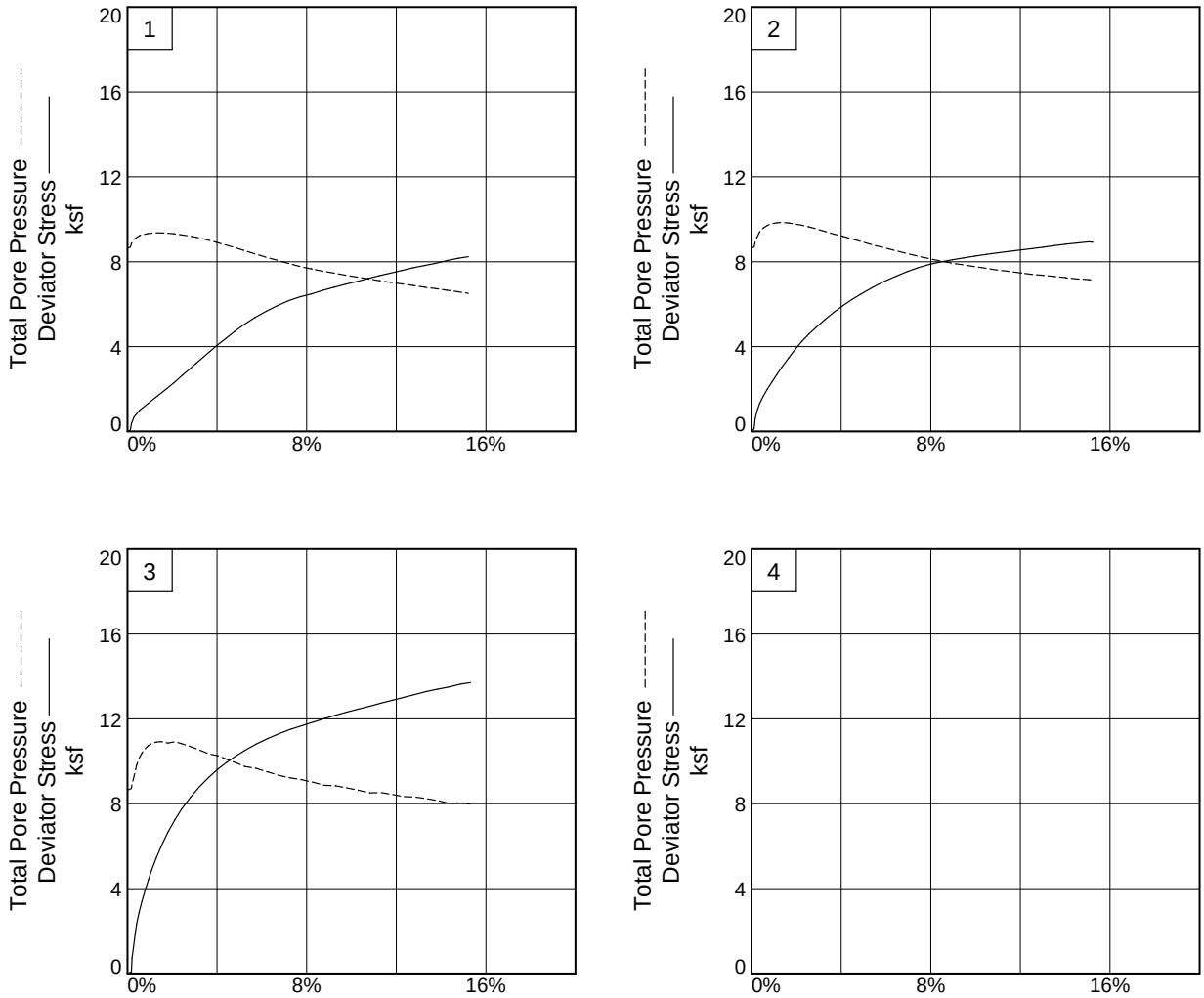
Sample Number: W-39 **Depth:** 8 - 10'

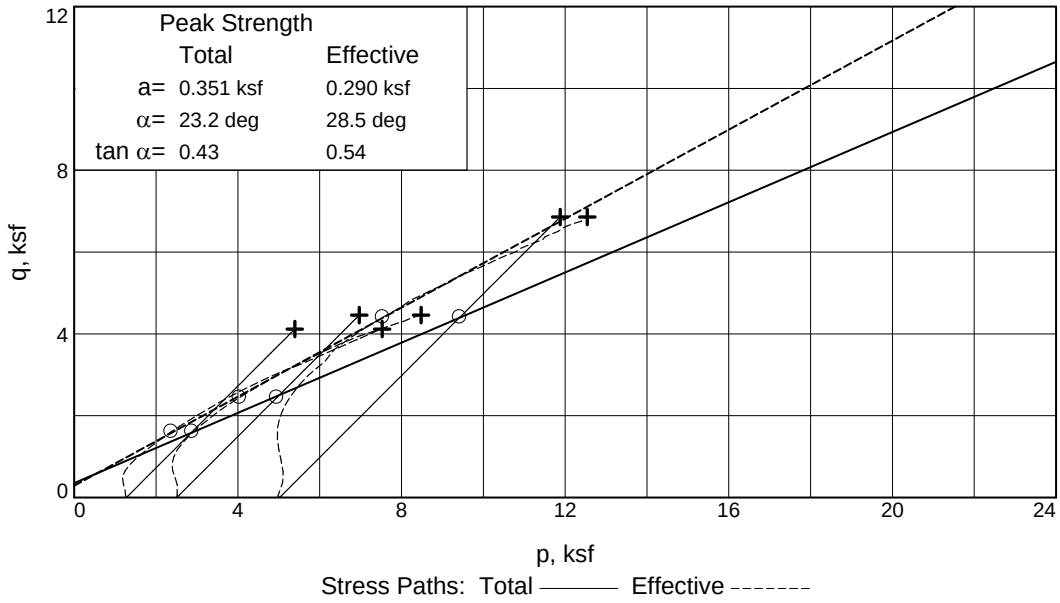
Proj. No.: 23610178A **Date Sampled:** 10/31/23

TRIAXIAL SHEAR TEST REPORT
S&ME, Inc.
Greenville, SC

Tested By: Benjamin Kovaleski - 1/11/24 **Checked By:** Matthew Cooke, P.E.

C & phi are not test results but an interpretation of the test results. The designer is responsible for interpreting test data as provided by S&ME.





Client: RS&H, Inc.
Project: I-77 Exit 26 Interchange
Location: UD-4 **Depth:** 8 - 10' **Sample Number:** W-39
Project No.: 23610178A **Figure** 2

S&ME, Inc.

Tested By: Benjamin Kovaleski - 1/11/24 **Checked By:** Matthew Cooke, P.E.

TRIAXIAL COMPRESSION TEST

CU with Pore Pressures

1/11/2024
10:57 AM

Date: 10/31/23
Client: RS&H, Inc.
Project: I-77 Exit 26 Interchange
Project No.: 23610178A
Location: UD-4
Depth: 8 - 10' **Sample Number:** W-39
Description: SILTY CLAY WITH SAND (CL-ML) - gray yellow, fine
Remarks: The specimens failed with bulging and shearing. Failure selected at peak stress ratio. ASTM D4767.
Type of Sample: Undisturbed
Assumed Specific Gravity=2.65 **LL=**24 **PL=**18 **PI=**6
Test Method: ASTM D 4767 Method A

Parameters for Specimen No. 1

Specimen Parameter	Initial	Saturated	Consolidated	Final
Moisture content: Moist soil+tare, gms.	62.710			1261.050
Moisture content: Dry soil+tare, gms.	53.010			1057.260
Moisture content: Tare, gms.	0.000			0.000
Moisture, %	18.3	19.8	19.3	19.3
Moist specimen weight, gms.	1250.54			
Diameter, in.	2.872	2.868	2.860	
Area, in.²	6.478	6.462	6.424	
Height, in.	5.710	5.703	5.689	
Net decrease in height, in.		0.007	0.014	
Net decrease in water volume, cc.			5.100	
Wet density, pcf	128.8	130.9	131.4	
Dry density, pcf	108.9	109.3	110.2	
Void ratio	0.5196	0.5140	0.5012	
Saturation, %	93.3	101.9	101.9	

Test Readings for Specimen No. 1

Membrane modulus = 0.14 kN/cm²
Membrane thickness = 0.03 cm
Consolidation cell pressure = 68.850 psi (9.914 ksf)
Consolidation back pressure = 60.000 psi (8.640 ksf)
Consolidation effective confining stress = 1.274 ksf
Strain rate, %/min. = 0.28
Fail. Stress = 3.217 ksf **at reading no.** 11
Ult. Stress = 8.234 ksf **at reading no.** 37

Test Readings for Specimen No. 1

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
0	0.0000	0.000	0.0	0.0	0.000	1.274	1.274	1.00	60.000	1.274	0.000
1	0.0074	2.937	2.9	0.1	0.066	1.224	1.290	1.05	60.350	1.257	0.033
2	0.0104	17.254	17.3	0.2	0.386	1.046	1.432	1.37	61.588	1.239	0.193
3	0.0169	30.799	30.8	0.3	0.688	0.854	1.543	1.81	62.917	1.198	0.344
4	0.0313	44.976	45.0	0.6	1.003	0.679	1.682	2.48	64.135	1.180	0.501
5	0.0516	58.688	58.7	0.9	1.304	0.592	1.896	3.20	64.736	1.244	0.652
6	0.0715	72.399	72.4	1.3	1.603	0.554	2.157	3.89	65.003	1.355	0.801
7	0.0948	87.942	87.9	1.7	1.939	0.563	2.502	4.44	64.940	1.532	0.969
8	0.1179	104.315	104.3	2.1	2.290	0.598	2.888	4.83	64.700	1.743	1.145
9	0.1402	121.501	121.5	2.5	2.657	0.656	3.312	5.05	64.298	1.984	1.328
10	0.1578	134.700	134.7	2.8	2.936	0.706	3.642	5.16	63.949	2.174	1.468
11	0.1748	148.041	148.0	3.1	3.217	0.765	3.981	5.21	63.540	2.373	1.608
12	0.1919	161.216	161.2	3.4	3.492	0.837	4.329	5.17	63.035	2.583	1.746
13	0.2096	174.529	174.5	3.7	3.768	0.919	4.687	5.10	62.471	2.803	1.884
14	0.2264	187.728	187.7	4.0	4.041	1.004	5.045	5.02	61.877	3.025	2.020
15	0.2500	204.591	204.6	4.4	4.385	1.127	5.512	4.89	61.022	3.320	2.192
16	0.2722	220.775	220.8	4.8	4.712	1.246	5.958	4.78	60.199	3.602	2.356
17	0.2949	236.214	236.2	5.2	5.021	1.378	6.399	4.64	59.280	3.888	2.510
18	0.3237	253.751	253.8	5.7	5.365	1.541	6.906	4.48	58.149	4.223	2.682
19	0.3528	269.445	269.4	6.2	5.666	1.705	7.371	4.32	57.007	4.538	2.833
20	0.3811	283.594	283.6	6.7	5.932	1.849	7.781	4.21	56.009	4.815	2.966
21	0.4097	296.398	296.4	7.2	6.166	1.999	8.165	4.08	54.969	5.082	3.083
22	0.4381	306.650	306.7	7.7	6.345	2.141	8.486	3.96	53.982	5.313	3.172
23	0.4669	314.995	315.0	8.2	6.482	2.257	8.739	3.87	53.178	5.498	3.241
24	0.4953	324.648	324.6	8.7	6.644	2.357	9.001	3.82	52.483	5.679	3.322
25	0.5243	333.627	333.6	9.2	6.790	2.454	9.243	3.77	51.812	5.848	3.395
26	0.5532	342.737	342.7	9.7	6.936	2.552	9.488	3.72	51.130	6.020	3.468
27	0.5823	350.971	351.0	10.2	7.063	2.637	9.700	3.68	50.537	6.168	3.531
28	0.6106	360.077	360.1	10.7	7.206	2.724	9.929	3.65	49.936	6.326	3.603
29	0.6393	368.837	368.8	11.2	7.339	2.807	10.147	3.61	49.355	6.477	3.670
30	0.6680	377.172	377.2	11.7	7.462	2.887	10.349	3.59	48.803	6.618	3.731
31	0.6965	385.699	385.7	12.2	7.588	2.961	10.549	3.56	48.290	6.755	3.794
32	0.7253	394.302	394.3	12.7	7.712	3.038	10.750	3.54	47.756	6.894	3.856
33	0.7542	401.978	402.0	13.3	7.817	3.116	10.933	3.51	47.211	7.024	3.908
34	0.7825	409.927	409.9	13.8	7.926	3.183	11.109	3.49	46.743	7.146	3.963
35	0.8112	418.929	418.9	14.3	8.052	3.257	11.309	3.47	46.231	7.283	4.026
36	0.8397	427.218	427.2	14.8	8.164	3.332	11.495	3.45	45.713	7.414	4.082
37	0.8658	433.244	433.2	15.2	8.234	3.410	11.644	3.42	45.172	7.527	4.117

Parameters for Specimen No. 2

Specimen Parameter	Initial	Saturated	Consolidated	Final
Moisture content: Moist soil+tare, gms.	79.300			1244.820
Moisture content: Dry soil+tare, gms.	66.230			1044.650
Moisture content: Tare, gms.	0.000			0.000
Moisture, %	19.7	20.5	19.2	19.2
Moist specimen weight, gms.	1257.15			
Diameter, in.	2.852	2.852	2.829	
Area, in.²	6.388	6.388	6.286	
Height, in.	5.820	5.820	5.783	
Net decrease in height, in.		0.000	0.037	
Net decrease in water volume, cc.			13.600	
Wet density, pcf	128.8	129.6	131.1	
Dry density, pcf	107.6	107.6	110.0	
Void ratio	0.5378	0.5378	0.5034	
Saturation, %	97.2	100.8	100.9	

Test Readings for Specimen No. 2

Membrane modulus = 0.14 kN/cm²
Membrane thickness = 0.03 cm
Consolidation cell pressure = 77.420 psi (11.148 ksf)
Consolidation back pressure = 60.000 psi (8.640 ksf)
Consolidation effective confining stress = 2.508 ksf
Strain rate, %/min. = 0.28
Fail. Stress = 4.893 ksf **at reading no.** 14
Ult. Stress = 8.917 ksf **at reading no.** 40

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
0	0.0000	0.000	0.0	0.0	0.000	2.508	2.508	1.00	60.000	2.508	0.000
1	0.0068	5.474	5.5	0.1	0.125	2.453	2.579	1.05	60.383	2.516	0.063
2	0.0095	26.328	26.3	0.2	0.602	2.215	2.818	1.27	62.035	2.516	0.301
3	0.0141	41.514	41.5	0.2	0.949	1.994	2.943	1.48	63.574	2.468	0.474
4	0.0211	58.002	58.0	0.4	1.324	1.741	3.065	1.76	65.329	2.403	0.662
5	0.0307	72.922	72.9	0.5	1.662	1.563	3.224	2.06	66.567	2.394	0.831
6	0.0407	87.420	87.4	0.7	1.989	1.438	3.426	2.38	67.436	2.432	0.994
7	0.0531	102.932	102.9	0.9	2.336	1.354	3.691	2.73	68.015	2.523	1.168
8	0.0650	117.874	117.9	1.1	2.670	1.313	3.984	3.03	68.299	2.648	1.335
9	0.0782	133.769	133.8	1.4	3.023	1.300	4.323	3.32	68.389	2.812	1.512
10	0.0960	153.723	153.7	1.7	3.463	1.323	4.786	3.62	68.235	3.054	1.732
11	0.1131	172.466	172.5	2.0	3.874	1.376	5.249	3.82	67.867	3.312	1.937
12	0.1307	189.932	189.9	2.3	4.253	1.428	5.681	3.98	67.500	3.555	2.126
13	0.1481	205.615	205.6	2.6	4.590	1.508	6.098	4.04	66.949	3.803	2.295
14	0.1662	219.906	219.9	2.9	4.893	1.596	6.489	4.07	66.336	4.043	2.447
15	0.1895	237.989	238.0	3.3	5.273	1.719	6.993	4.07	65.481	4.356	2.637
16	0.2129	254.620	254.6	3.7	5.618	1.846	7.465	4.04	64.598	4.656	2.809
17	0.2361	270.008	270.0	4.1	5.933	1.956	7.889	4.03	63.839	4.922	2.967
18	0.2597	284.324	284.3	4.5	6.221	2.076	8.297	4.00	63.004	5.187	3.111
19	0.2829	297.514	297.5	4.9	6.482	2.198	8.680	3.95	62.158	5.439	3.241
20	0.3144	314.210	314.2	5.4	6.807	2.364	9.171	3.88	61.000	5.768	3.403
21	0.3436	328.577	328.6	5.9	7.080	2.491	9.571	3.84	60.121	6.031	3.540
22	0.3731	341.447	341.4	6.5	7.318	2.630	9.948	3.78	59.153	6.289	3.659

Test Readings for Specimen No. 2

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
23	0.4024	353.661	353.7	7.0	7.538	2.768	10.307	3.72	58.196	6.537	3.769
24	0.4315	364.444	364.4	7.5	7.726	2.896	10.622	3.67	57.306	6.759	3.863
25	0.4609	373.802	373.8	8.0	7.881	3.011	10.892	3.62	56.511	6.951	3.940
26	0.4899	381.474	381.5	8.5	7.999	3.126	11.125	3.56	55.710	7.126	3.999
27	0.5194	388.346	388.3	9.0	8.098	3.228	11.326	3.51	55.002	7.277	4.049
28	0.5484	394.591	394.6	9.5	8.183	3.303	11.485	3.48	54.485	7.394	4.091
29	0.5773	400.827	400.8	10.0	8.266	3.383	11.649	3.44	53.924	7.516	4.133
30	0.6067	406.927	406.9	10.5	8.344	3.465	11.809	3.41	53.357	7.637	4.172
31	0.6364	413.011	413.0	11.0	8.420	3.546	11.967	3.37	52.792	7.757	4.210
32	0.6660	418.639	418.6	11.5	8.486	3.605	12.091	3.35	52.383	7.848	4.243
33	0.6951	424.449	424.4	12.0	8.555	3.677	12.232	3.33	51.886	7.954	4.277
34	0.7240	430.106	430.1	12.5	8.620	3.747	12.367	3.30	51.396	8.057	4.310
35	0.7530	435.888	435.9	13.0	8.686	3.793	12.478	3.29	51.081	8.136	4.343
36	0.7818	442.185	442.2	13.5	8.761	3.846	12.607	3.28	50.712	8.226	4.380
37	0.8112	448.139	448.1	14.0	8.826	3.903	12.729	3.26	50.318	8.316	4.413
38	0.8406	453.658	453.7	14.5	8.882	3.961	12.844	3.24	49.910	8.403	4.441
39	0.8699	459.132	459.1	15.0	8.936	3.993	12.929	3.24	49.694	8.461	4.468
40	0.8815	459.236	459.2	15.2	8.917	4.020	12.937	3.22	49.505	8.478	4.459

Parameters for Specimen No. 3

Specimen Parameter	Initial	Saturated	Consolidated	Final
Moisture content: Moist soil+tare, gms.	81.110			1301.300
Moisture content: Dry soil+tare, gms.	69.980			1118.810
Moisture content: Tare, gms.	0.000			0.000
Moisture, %	15.9	17.8	16.3	16.3
Moist specimen weight, gms.	1296.45			
Diameter, in.	2.872	2.872	2.846	
Area, in.²	6.478	6.478	6.361	
Height, in.	5.820	5.820	5.768	
Net decrease in height, in.		0.000	0.052	
Net decrease in water volume, cc.			16.600	
Wet density, pcf	131.0	133.1	135.1	
Dry density, pcf	113.0	113.0	116.1	
Void ratio	0.4638	0.4638	0.4244	
Saturation, %	90.9	101.7	101.8	

Test Readings for Specimen No. 3

Membrane modulus = 0.14 kN/cm²
Membrane thickness = 0.03 cm
Consolidation cell pressure = 94.870 psi (13.661 ksf)
Consolidation back pressure = 60.000 psi (8.640 ksf)
Consolidation effective confining stress = 5.021 ksf
Strain rate, %/min. = 0.28
Fail. Stress = 8.811 ksf **at reading no.** 17
Ult. Stress = 13.712 ksf **at reading no.** 42

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
0	0.0000	0.000	0.0	0.0	0.000	5.021	5.021	1.00	60.000	5.021	0.000
1	0.0101	3.196	3.2	0.2	0.072	4.942	5.015	1.01	60.548	4.979	0.036
2	0.0119	31.895	31.9	0.2	0.721	4.733	5.453	1.15	62.003	5.093	0.360
3	0.0155	55.000	55.0	0.3	1.242	4.486	5.728	1.28	63.714	5.107	0.621
4	0.0200	81.737	81.7	0.3	1.844	4.131	5.975	1.45	66.185	5.053	0.922
5	0.0237	103.301	103.3	0.4	2.329	3.838	6.166	1.61	68.220	5.002	1.164
6	0.0296	126.613	126.6	0.5	2.852	3.540	6.392	1.81	70.285	4.966	1.426
7	0.0374	151.402	151.4	0.6	3.405	3.267	6.672	2.04	72.184	4.969	1.703
8	0.0450	173.175	173.2	0.8	3.890	3.076	6.966	2.26	73.510	5.021	1.945
9	0.0540	197.034	197.0	0.9	4.419	2.919	7.338	2.51	74.599	5.128	2.209
10	0.0629	218.755	218.8	1.1	4.898	2.820	7.718	2.74	75.287	5.269	2.449
11	0.0749	245.204	245.2	1.3	5.479	2.750	8.229	2.99	75.770	5.490	2.739
12	0.0868	268.395	268.4	1.5	5.984	2.734	8.719	3.19	75.882	5.727	2.992
13	0.1040	299.419	299.4	1.8	6.656	2.799	9.455	3.38	75.430	6.127	3.328
14	0.1220	326.517	326.5	2.1	7.235	2.740	9.975	3.64	75.843	6.358	3.618
15	0.1389	350.184	350.2	2.4	7.736	2.829	10.565	3.74	75.227	6.697	3.868
16	0.1625	377.614	377.6	2.8	8.308	2.966	11.273	3.80	74.276	7.119	4.154
17	0.1861	402.174	402.2	3.2	8.811	3.137	11.948	3.81	73.083	7.543	4.405
18	0.2095	423.637	423.6	3.6	9.242	3.309	12.551	3.79	71.889	7.930	4.621
19	0.2328	443.191	443.2	4.0	9.628	3.397	13.025	3.83	71.279	8.211	4.814
20	0.2562	460.200	460.2	4.4	9.955	3.568	13.523	3.79	70.093	8.546	4.978
21	0.2793	475.821	475.8	4.8	10.250	3.732	13.982	3.75	68.956	8.857	5.125
22	0.3025	490.237	490.2	5.2	10.516	3.910	14.426	3.69	67.718	9.168	5.258

Test Readings for Specimen No. 3

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
23	0.3312	506.669	506.7	5.7	10.811	3.993	14.804	3.71	67.144	9.398	5.406
24	0.3609	521.480	521.5	6.3	11.067	4.161	15.227	3.66	65.974	9.694	5.533
25	0.3903	535.490	535.5	6.8	11.302	4.326	15.628	3.61	64.829	9.977	5.651
26	0.4192	548.018	548.0	7.3	11.504	4.441	15.946	3.59	64.028	10.193	5.752
27	0.4489	559.389	559.4	7.8	11.678	4.529	16.207	3.58	63.421	10.368	5.839
28	0.4781	570.811	570.8	8.3	11.851	4.653	16.504	3.55	62.557	10.579	5.925
29	0.5074	581.817	581.8	8.8	12.012	4.791	16.803	3.51	61.602	10.797	6.006
30	0.5361	592.905	592.9	9.3	12.175	4.817	16.991	3.53	61.422	10.904	6.087
31	0.5650	603.374	603.4	9.8	12.321	4.916	17.237	3.51	60.731	11.077	6.161
32	0.5946	613.770	613.8	10.3	12.462	5.025	17.487	3.48	59.973	11.256	6.231
33	0.6241	624.033	624.0	10.8	12.598	5.148	17.746	3.45	59.119	11.447	6.299
34	0.6532	634.994	635.0	11.3	12.747	5.137	17.884	3.48	59.195	11.511	6.373
35	0.6824	645.424	645.4	11.8	12.882	5.224	18.106	3.47	58.593	11.665	6.441
36	0.7117	656.013	656.0	12.3	13.018	5.325	18.343	3.44	57.892	11.834	6.509
37	0.7402	666.392	666.4	12.8	13.150	5.343	18.493	3.46	57.765	11.918	6.575
38	0.7695	677.417	677.4	13.3	13.289	5.419	18.709	3.45	57.236	12.064	6.645
39	0.7990	687.147	687.1	13.9	13.401	5.517	18.917	3.43	56.560	12.217	6.700
40	0.8283	696.690	696.7	14.4	13.507	5.644	19.151	3.39	55.675	12.397	6.753
41	0.8582	708.122	708.1	14.9	13.645	5.613	19.258	3.43	55.889	12.436	6.823
42	0.8833	715.251	715.3	15.3	13.712	5.685	19.397	3.41	55.391	12.541	6.856

Project Name: I-77 Exit 26 Interchange

Project #: 23610178A

Boring #: W-39

Depth: 8.0′ – 10.0′ (UD-4)

Sample Date: 10/31/23

Test Type: Consolidated Undrained Triaxial Shear (ASTM D4767)

SCDOT Shelby Tube Log

Project ID:	23610178A	**County:**		**Boring No.:**	W-39
Project Description:	I-77 Exit 26 Interchange			**Route:**	
UD Sample No.:	UD-4	**Depth:**	8-10'		
Date Sampled:	10/31/23	**Date Extracted:**	1/04/24		
Extracted By:	B. Kovaleski	**Eng. Firm:**	S:ME, Inc.		

Top of Shelby Tube

Depth	Description	Sample
0" – 6"	- NO WAX SEAL -	
6" – 12"	Torvane: 0.6 tsf Pocket Pene: >4.5 tsf	UD-4A
12" – 18"	Torvane: 0.8 tsf Pocket Pene: 3.5 tsf CU Triaxial Specimen #1	UD-4B
18" – 24"	Torvane: 0.7 tsf Pocket Pene: >4.5 tsf CU TRIAXIAL SPECIMEN #2	UD-4C
24" – 30"	Torvane: 0.7 tsf Pocket Pene: >4.5 tsf CU TRIAXIAL SPECIMEN #3	UD-4D
30" – 36"	- NO WAX SEAL -	

SC_DOT_SHELBY_TUBE_LOG_PICTURES G6100.09 - S-195 RBO CAMP CREEK JFH.GPJ SCDOT_DATATEMPLATE.GDT 12/6/19

Form No TR-D6913-GR-01
Revision No. 1
Revision Date: 9/5/17

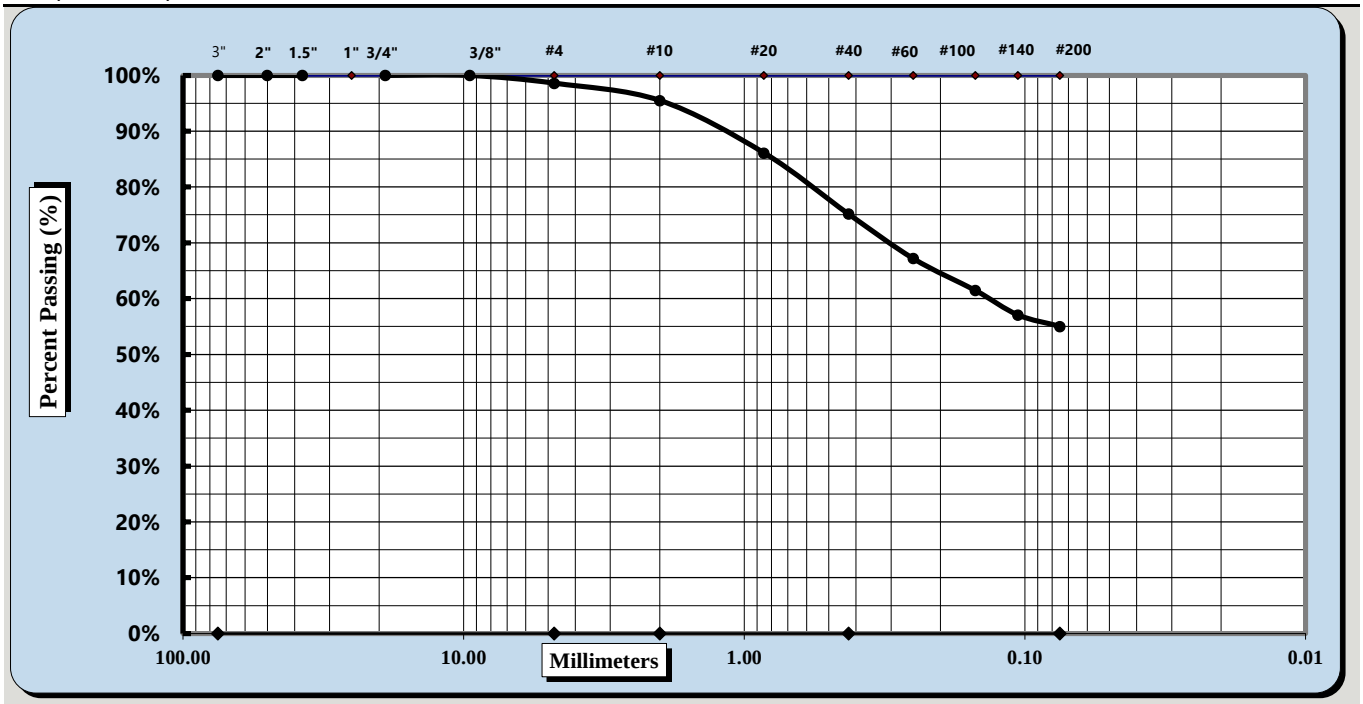
SIEVE ANALYSIS OF SOIL

Single sieve set *ASTM D 6913*

S&ME, Inc. - Greenville: 48 Brookfield Oaks Dr., Suite F Greenville, SC 29607

Project #:	23610178A			Report Date:	1/3/24
Project Name:	I-77 Exit 26 Interchange			Test Date:	12/18-1/03/24
Client Name:	RS&H, Inc.				
Client Address:	1520 South Boulevard Suite 200 Charotte, NC 28203				
Boring #:	W-39	Log #:	129g	Sample Date:	10/31/23
Location:	UD-3	Type:	Undisturbed	Depth:	6 - 8'

Sample Description: SANDY SILTY CLAY (CL-ML) - tan brown, fine to medium



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm
Gravel	< 75 mm and > 4.75 mm (#4)	Silt	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and >2.00 mm (#10)	Clay	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Method: B Procedure for obtaining Specimen: Moist Dispersion Process: Dispersant

Maximum Particle Size	9.50 mm	Coarse Sand	3.1%	Fine Sand	20.1%
Gravel	1.4%	Medium Sand	20.3%	Silt & Clay	55.0%
Liquid Limit	21	Plastic Limit	16	Plastic Index	5

Natural Moisture *

Notes / Deviations / References:

*See Comsolidation Test Report

Brian Vaughan, P.E.	Brian Vaughan	QA Supervisor	1/3/24
Technical Responsibility	*Signature*	*Position*	*Date*

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Form No. TR-D4318-T89-90
Revision No. 1
Revision Date: 7/26/17

LIQUID LIMIT, PLASTIC LIMIT, & PLASTIC INDEX

ASTM D 4318 ☒ *AASHTO T 89* ☐ *AASHTO T 90* ☐

S&ME, Inc. - Greenville 48 Brookfield Oaks Dr., Suite F Greenville, SC 29607

Project #:	23610178A	Report Date:	1/03/24
Project Name:	I-77 Exit 26 Interchange	Test Date:	1/02/24
Client Name:	RS&H, Inc.		
Client Address:	1520 South Boulevard Suite 200 Charlotte, NC 28203		

Boring #:	W-39	Log #:	129g	Sample Date:	10/31/23
Location:	UD-3	Type:	Undisturbed	Depth:	6 - 8'

Sample Description: SANDY SILTY CLAY (CL-ML) - tan brown, fine to medium

Type and Specification	*S&ME ID #*	*Cal Date:*	*Type and Specification*	*S&ME ID #*	*Cal Date:*
Balance (0.01 g)	13942	10/31/2023	Grooving tool	23119	10/15/2023
LL Apparatus	23158	7/18/2023			
Oven	13978	10/1/2023			

Pan #		Liquid Limit						Plastic Limit		
	Tare #:	6	7	8				9	10	
A	Tare Weight	27.76	26.32	27.34				26.83	26.75	
B	Wet Soil Weight + A	48.01	42.97	42.73				35.74	33.39	
C	Dry Soil Weight + A	44.49	39.95	39.84				34.54	32.50	
D	Water Weight (B-C)	3.52	3.02	2.89				1.20	0.89	
E	Dry Soil Weight (C-A)	16.73	13.63	12.50				7.71	5.75	
F	% Moisture (D/E)*100	21.0%	22.2%	23.1%				15.6%	15.5%	
N	# OF DROPS	26	20	15				*Moisture Contents determined by ASTM D 2216*		
LL	LL = **F** * FACTOR									
Ave.	*Average*							**15.6%**		

One Point Liquid Limit

N	Factor	N	Factor
20	0.974	26	1.005
21	0.979	27	1.009
22	0.985	28	1.014
23	0.99	29	1.018
24	0.995	30	1.022
25	1.000		

NP, Non-Plastic	☐
Liquid Limit	**21**
Plastic Limit	**16**
Plastic Index	**5**
Group Symbol	**CL-ML**
Multipoint Method	☑
One-point Method	☐

Wet Preparation ☐ Dry Preparation ☑ Air Dried ☑ *% Passing the #200 Sieve:* 29.2%

Notes / Deviations / References: Group symbol for minus #40 sieve portion only (see Sample Description for classification of entire sample).

ASTM D 4318: Liquid Limit, Plastic Limit, & Plastic Index of Soils

Benjamin J. Kovaleski	1/03/24	Brian Vaughan, P.E.	1/03/24
Technician Name	*Date*	*Technical Responsibility*	*Date*

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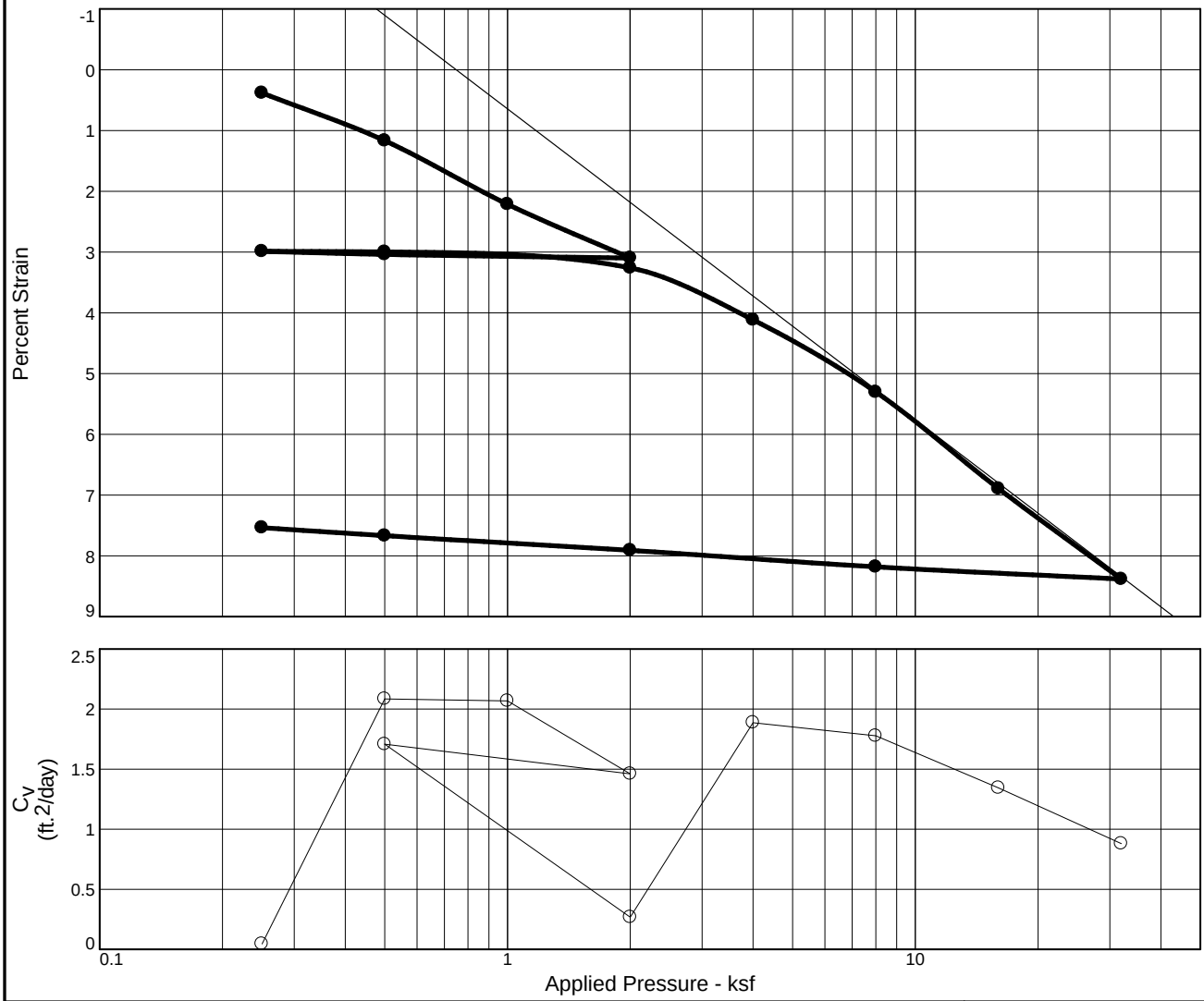
CONSOLIDATION TEST REPORT



MATERIAL DESCRIPTION	USCS	AASHTO
SANDY SILTY CLAY (CL-ML) - tan brown, fine to medium	CL-ML	

LL	PI	Sp. Gr.	Overburden (ksf)	Dry Dens. (pcf)		Moisture		Saturation		Void Ratio		P_c (ksf)	C_c
				Init.	Final	Init.	Final	Init.	Final	Init.	Final		
21	5	2.65	0.7	119.4	129.3	8.5 %	11.6 %	58.4 %	100.0 %	0.386	0.281	3.6	0.07

Preparation Process: ASTM D2435 - Sec. 9

Condition of Test: Unsaturated

D2435 Method	C_r	Swell Press. (ksf)	Swell %
A	0.01		

Project No. 23610178A **Client:** RS&H, Inc.

Project: I-77 Exit 26 Interchange

Location: UD-3 **Depth:** 6 - 8' **Sample Number:** W-39

S&ME, Inc.

Greenville, SC

Remarks:

Specimen indundated upon application of seating load.

Checked By: Matthew F. Cooke, P.E.

Title: Poject Manager

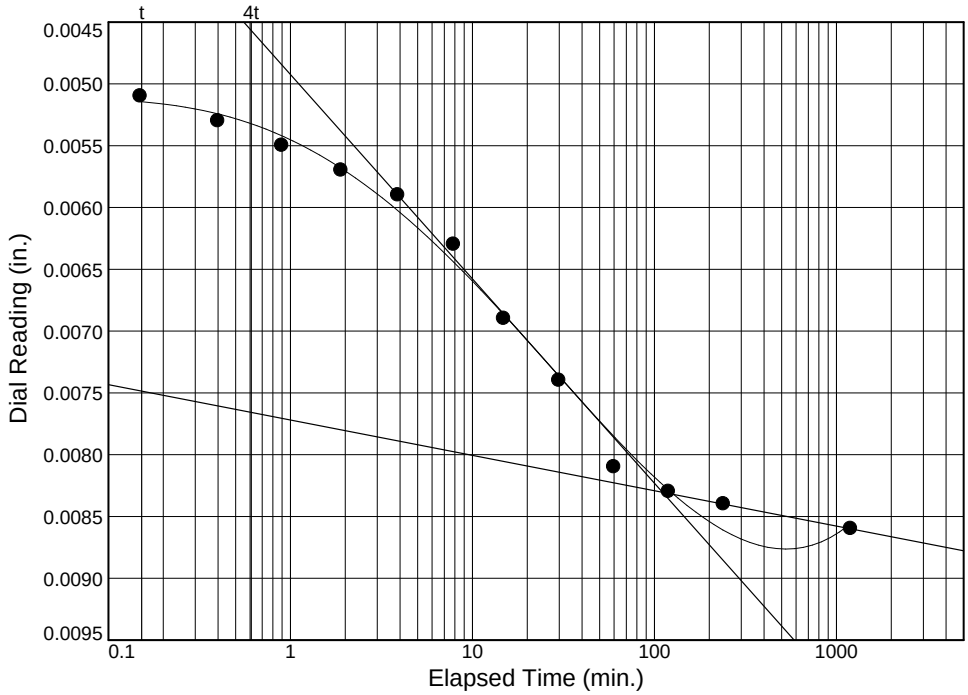
Figure 1

Tested By: Benjamin Kovaleski 1/03/24

Dial Reading vs. Time

Project No.: 23610178A
Project: I-77 Exit 26 Interchange

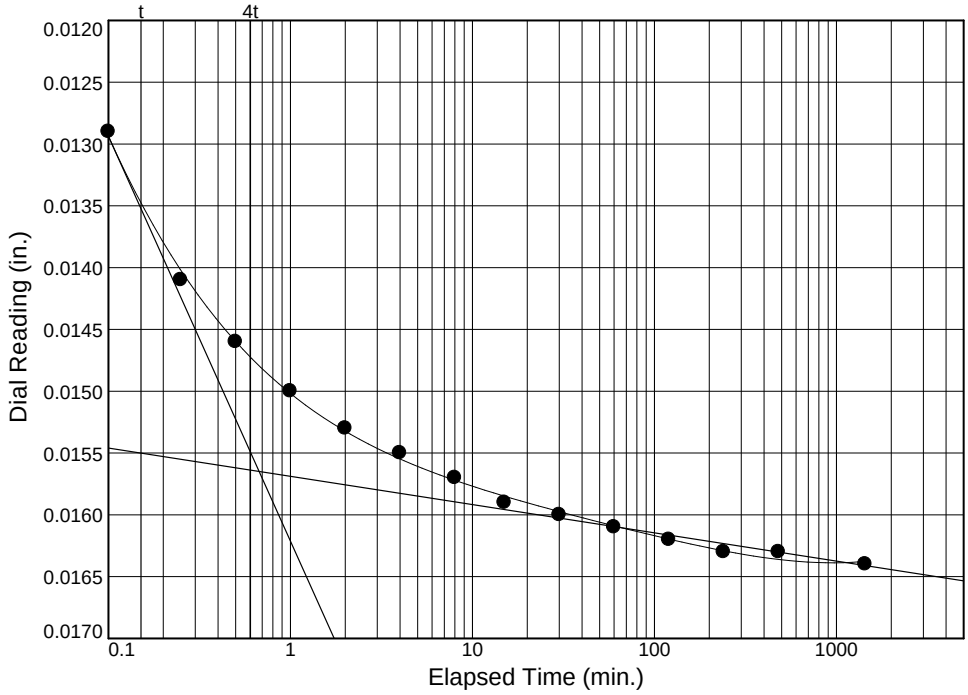
Location: UD-3 Depth: 6 - 8' Sample Number: W-39



Load No.= 1
Load= 0.25 ksf
D_0 = 0.0050
D_{50} = 0.0066
D_{100} = 0.0083
T_{50} = 10.61 min.

C_v @ T_{50}
0.046 ft.^{2}/day

C_α = 0.000



Load No.= 2
Load= 0.50 ksf
D_0 = 0.0122
D_{50} = 0.0139
D_{100} = 0.0156
T_{50} = 0.23 min.

C_v @ T_{50}
2.085 ft.^{2}/day

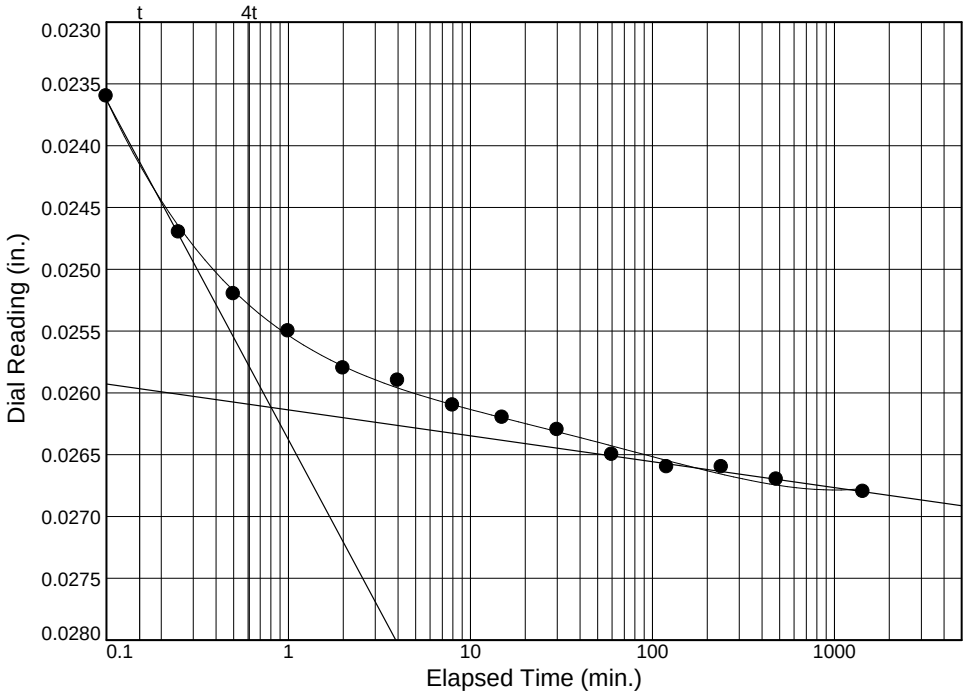
C_α = 0.000

Figure 2

Dial Reading vs. Time

Project No.: 23610178A
Project: I-77 Exit 26 Interchange

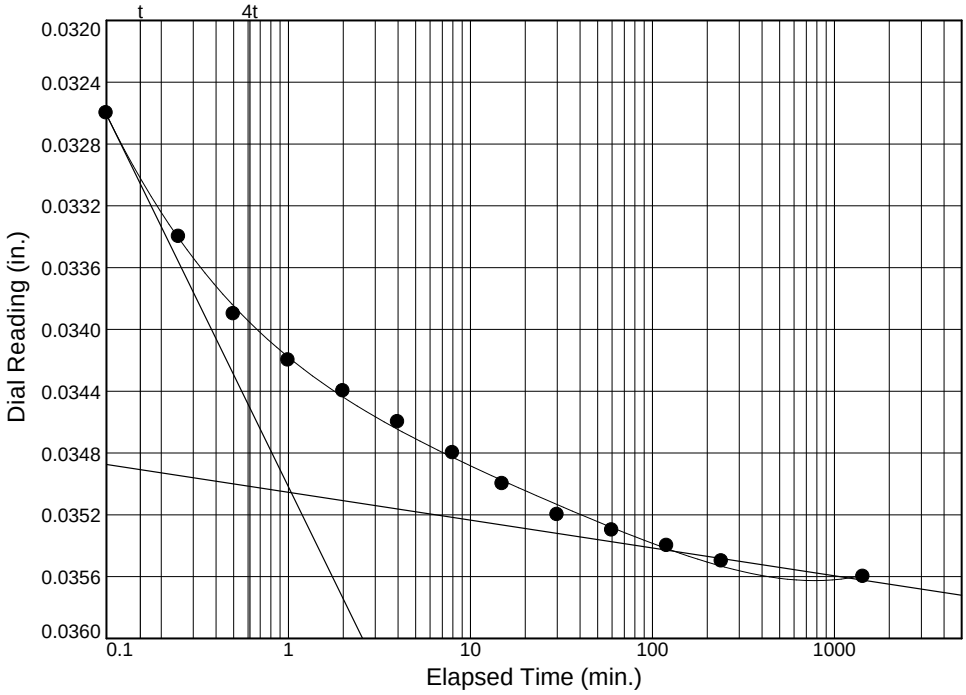
Location: UD-3 Depth: 6 - 8' Sample Number: W-39



Load No.= 3
Load= 1.00 ksf
D_0 = 0.0230
D_{50} = 0.0246
D_{100} = 0.0261
T_{50} = 0.23 min.

C_v @ T_{50}
2.068 ft.^{2}/day

C_α = 0.000



Load No.= 4
Load= 2.00 ksf
D_0 = 0.0321
D_{50} = 0.0336
D_{100} = 0.0351
T_{50} = 0.32 min.

C_v @ T_{50}
1.461 ft.^{2}/day

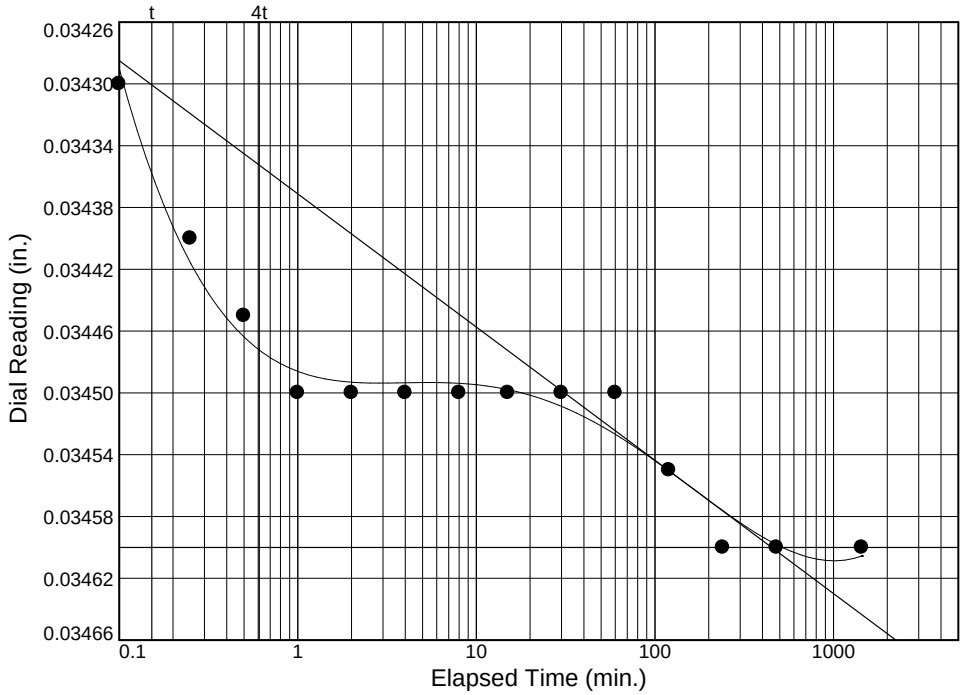
C_α = 0.000

Figure 3

Dial Reading vs. Time

Project No.: 23610178A
Project: I-77 Exit 26 Interchange

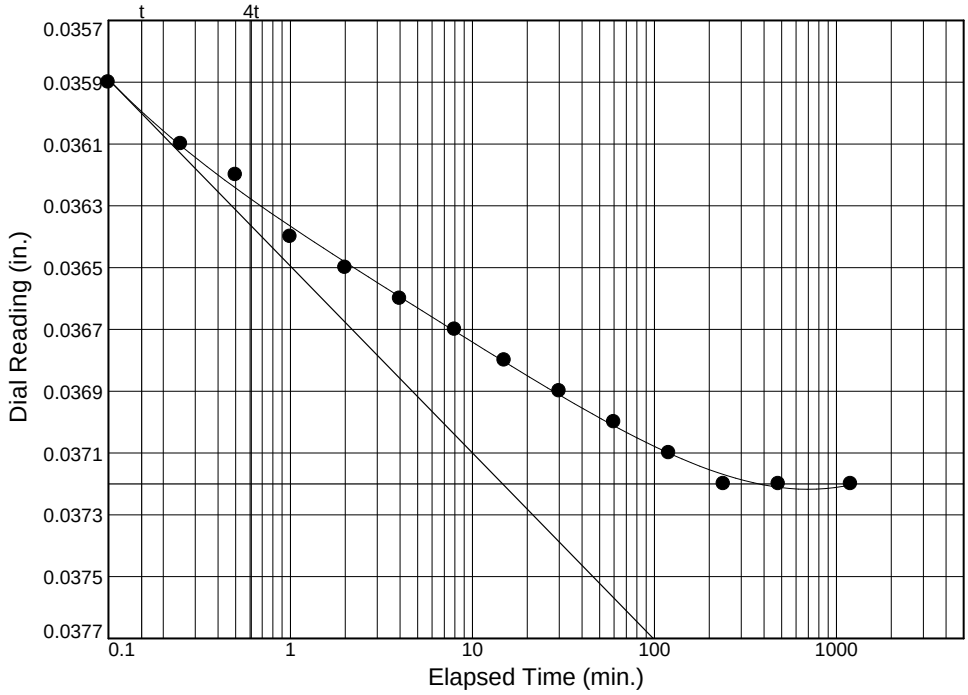
Location: UD-3 Depth: 6 - 8' Sample Number: W-39



Load No.= 7
Load= 0.50 ksf
D_0 = 0.0342
D_{50} = 0.0344
D_{100} = 0.0346
T_{50} = 0.27 min.

C_v @ T_{50}
1.708 ft.^{2}/day

C_α = 0.000



Load No.= 8
Load= 2.00 ksf
D_0 = 0.0357
D_{50} = 0.0365
D_{100} = 0.0372
T_{50} = 1.70 min.

C_v @ T_{50}
0.268 ft.^{2}/day

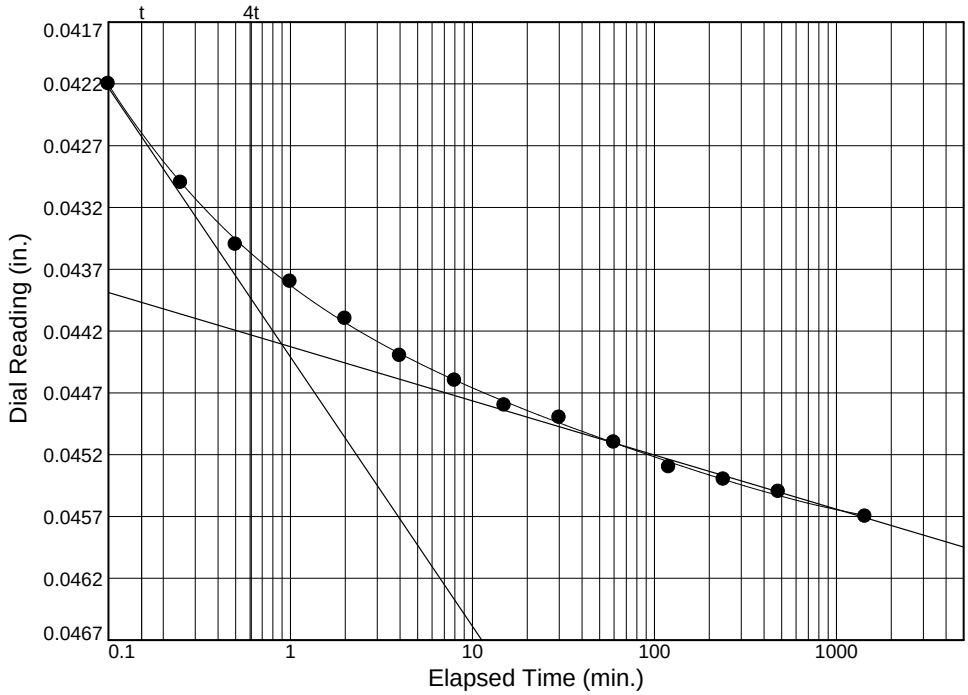
C_α = 0.000

Figure 4

Dial Reading vs. Time

Project No.: 23610178A
Project: I-77 Exit 26 Interchange

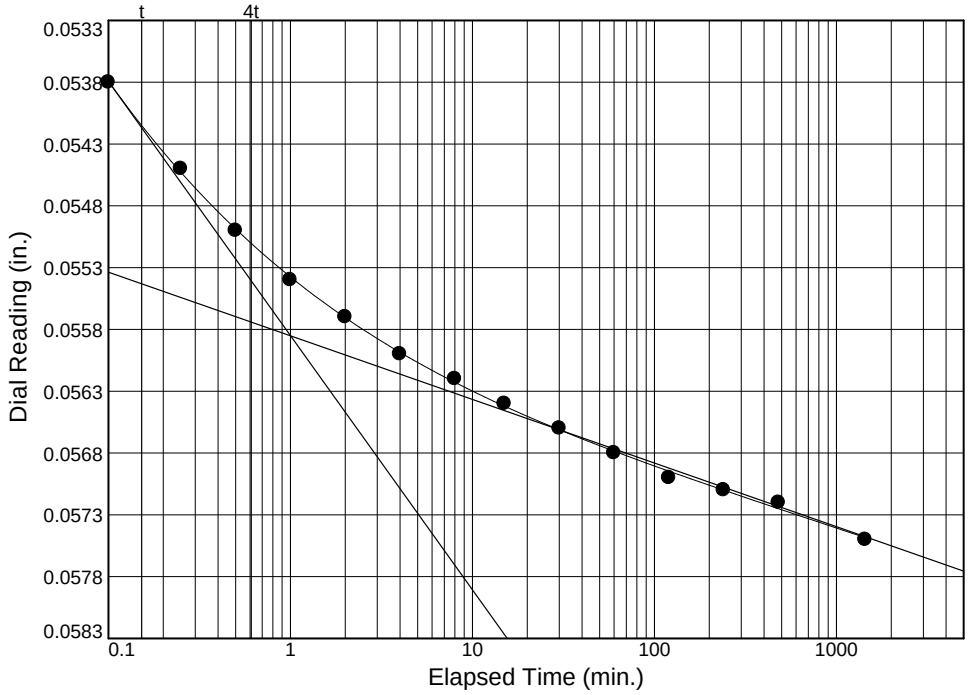
Location: UD-3 Depth: 6 - 8' Sample Number: W-39



Load No.= 9
Load= 4.00 ksf
D_0 = 0.0416
D_{50} = 0.0430
D_{100} = 0.0443
T_{50} = 0.24 min.

C_v @ T_{50}
1.887 ft.^{2}/day

C_α = 0.000



Load No.= 10
Load= 8.00 ksf
D_0 = 0.0532
D_{50} = 0.0545
D_{100} = 0.0559
T_{50} = 0.25 min.

C_v @ T_{50}
1.778 ft.^{2}/day

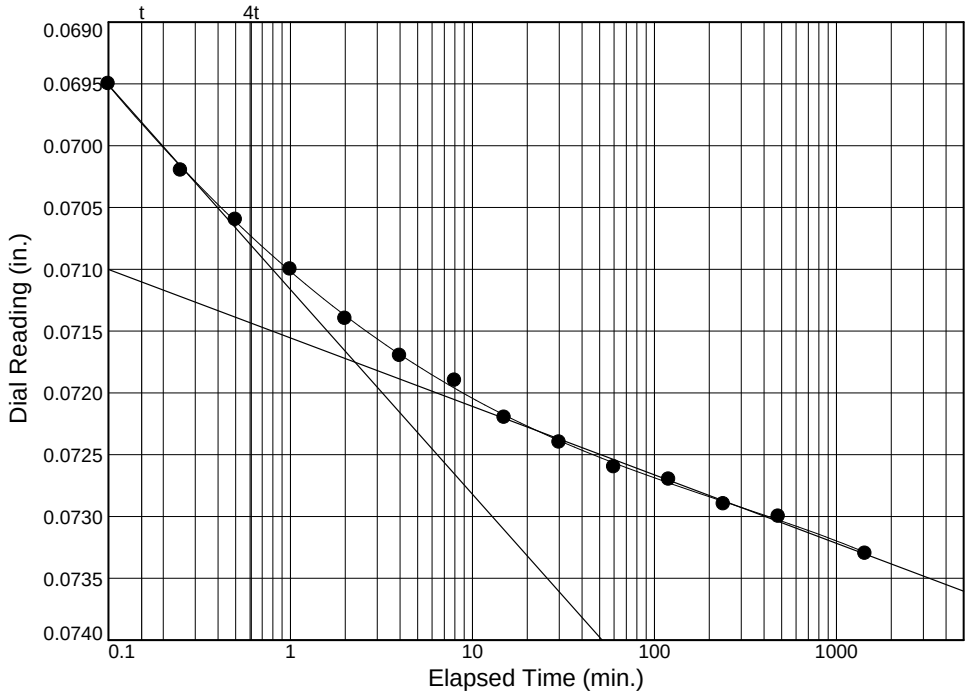
C_α = 0.001

Figure 5

Dial Reading vs. Time

Project No.: 23610178A
Project: I-77 Exit 26 Interchange

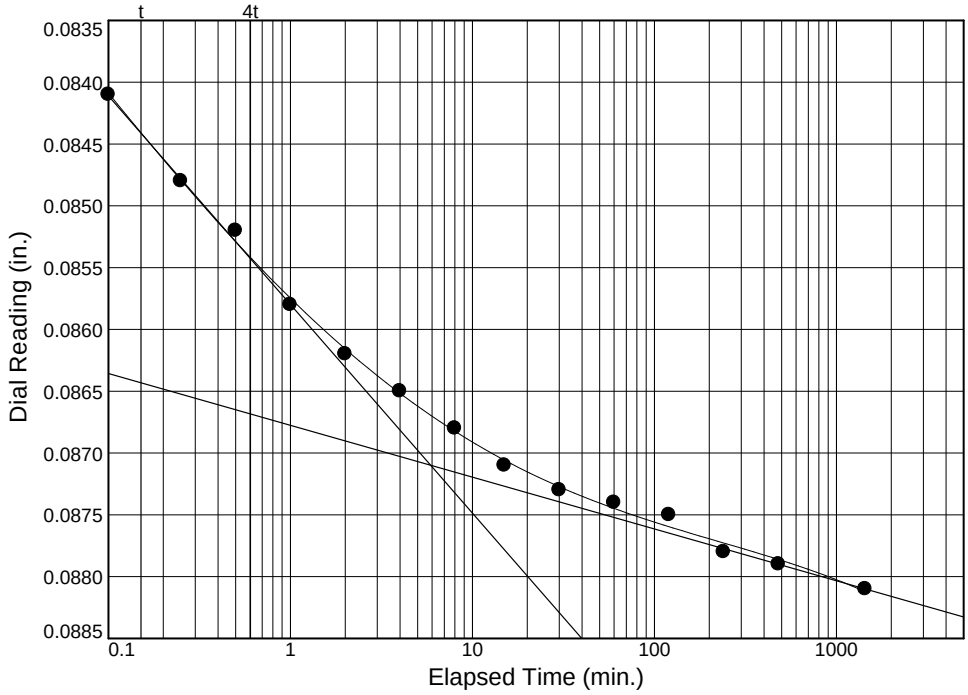
Location: UD-3 Depth: 6 - 8' Sample Number: W-39



Load No.= 11
Load= 16.00 ksf
D_0 = 0.0689
D_{50} = 0.0703
D_{100} = 0.0718
T_{50} = 0.32 min.

C_v @ T_{50}
1.344 ft.^{2}/day

C_α = 0.001



Load No.= 12
Load= 32.00 ksf
D_0 = 0.0834
D_{50} = 0.0852
D_{100} = 0.0871
T_{50} = 0.47 min.

C_v @ T_{50}
0.881 ft.^{2}/day

C_α = 0.000

Figure 6

CONSOLIDATION TEST DATA

1/4/2024

Client: RS&H, Inc.
Project: I-77 Exit 26 Interchange
Project Number: 23610178A
Location: UD-3
Depth: 6 - 8' **Sample Number:** W-39
Material Description: SANDY SILTY CLAY (CL-ML) - tan brown, fine to medium
Sample Date: 10/31/23 **Liquid Limit:** 21 **Plasticity Index:** 5
USCS: CL-ML
Preparation Process: ASTM D2435 - Sec. 9
Condition of Test: Unsaturated
Test Method: A **Final Density:** 129.3 **Figure No.:** 1
Testing Remarks: Specimen indundated upon application of seating load.
Tested By: Benjamin Kovaleski 1/03/24 **Checked by:** Matthew F. Cooke, P.E. **Title:** Poject Manager

Test Specimen Data

NATURAL MOISTURE			VOID RATIO			AFTER TEST		
Wet w+t	= 274.22	g.	Spec. Gr.	= 2.65		Wet w+t	= 319.67	g.
Dry w+t	= 252.76	g.	Est. Ht. Solids	= 0.717	in.	Dry w+t	= 301.86	g.
Tare Wt.	= 0.00	g.	Init. V.R.	= 0.386		Tare Wt.	= 148.80	g.
Moisture	= 8.5	%	Init. Sat.	= 58.4	%	Moisture	= 11.6	%

UNIT WEIGHT			TEST START			Dry Wt.	= 153.06	g.
Height	= 0.994	in.	Height	= 0.994	in.			
Diameter	= 2.499	in.	Diameter	= 2.499	in.			
Weight	= 165.81	g.						
Dry Dens.	= 119.4	pcf						

End-Of-Load Summary

Pressure (ksf)	Final Dial (in.)	Machine Defl. (in.)	Deformation (in.)	C_v (ft.^{2}/day)	C_α	Void Ratio	% Strain
start	0.00480		0.00000			0.386	
0.25	0.00890	0.00030	0.00380	0.046	0.000	0.380	0.4 Comprs.
0.50	0.01710	0.00070	0.01160	2.085	0.000	0.369	1.2 Comprs.
1.00	0.02800	0.00120	0.02200	2.068	0.000	0.355	2.2 Comprs.
2.00	0.03760	0.00200	0.03080	1.461	0.000	0.343	3.1 Comprs.
0.50	0.03600	0.00100	0.03020			0.343	3.0 Comprs.
0.25	0.03500	0.00050	0.02970			0.344	3.0 Comprs.
0.50	0.03550	0.00090	0.02980	1.708	0.000	0.344	3.0 Comprs.
2.00	0.03930	0.00210	0.03240	0.268	0.000	0.340	3.3 Comprs.
4.00	0.04840	0.00270	0.04090	1.887	0.000	0.329	4.1 Comprs.
8.00	0.06120	0.00370	0.05270	1.778	0.001	0.312	5.3 Comprs.
16.00	0.07820	0.00490	0.06850	1.344	0.001	0.290	6.9 Comprs.
32.00	0.09420	0.00610	0.08330	0.881	0.000	0.269	8.4 Comprs.
8.00	0.09100	0.00490	0.08130			0.272	8.2 Comprs.
2.00	0.08710	0.00370	0.07860			0.276	7.9 Comprs.
0.50	0.08340	0.00240	0.07620			0.279	7.7 Comprs.
0.25	0.08120	0.00150	0.07490			0.281	7.5 Comprs.

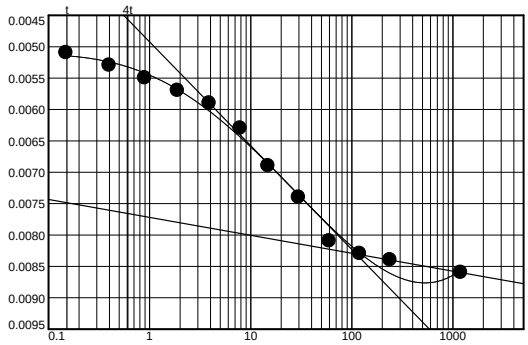
TEST RESULTS SUMMARY

Compression index (C_c), ksf = 0.07 **Preconsolidation pressure (P_p), ksf =** 3.6 **Void ratio at P_p (e_m) =** 0.331

Overburden (σ_{vo}), ksf = 0.7 **Void ratio at σ_{vo} (e_o) =** 0.362 **Recompression index (C_r) =** 0.01

Pressure: 0.25 ksf **TEST READINGS** **Load No. 1**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	.1	0.00480	11	120	0.00860
2	.25	0.00540	12	240	0.00870
3	.5	0.00560	13	1200	0.00890
4	1.0	0.00580			
5	2.0	0.00600			
6	4.0	0.00620			
7	8.0	0.00660			
8	15	0.00720			
9	30	0.00770			
10	60	0.00840			

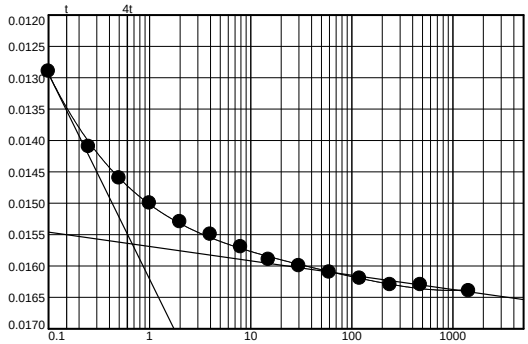


Void Ratio = 0.380 **Compression =** 0.4%

D_0 = 0.0050 **D_{50} =** 0.0066 **D_{100} =** 0.0083 **C_v at 10.61 min. =** 0.046 ft.^{2}/day **C_α =** 0.000

Pressure: 0.50 ksf **TEST READINGS** **Load No. 2**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.00890	11	60	0.01680
2	.1	0.01360	12	120	0.01690
3	.25	0.01480	13	240	0.01700
4	.5	0.01530	14	480	0.01700
5	1	0.01570	15	1440	0.01710
6	2.0	0.01600			
7	4.0	0.01620			
8	8.0	0.01640			
9	15	0.01660			
10	30	0.01670			

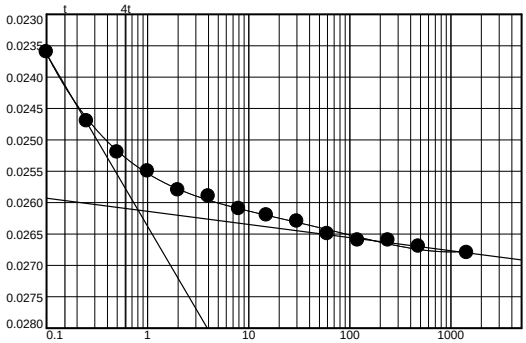


Void Ratio = 0.369 **Compression =** 1.2%

D_0 = 0.0122 **D_{50} =** 0.0139 **D_{100} =** 0.0156 **C_v at 0.23 min. =** 2.085 ft.^{2}/day **C_α =** 0.000

Pressure: 1.00 ksf — **TEST READINGS** — **Load No. 3**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.01710	11	60	0.02770
2	.1	0.02480	12	120	0.02780
3	.25	0.02590	13	240	0.02780
4	.5	0.02640	14	480	0.02790
5	1	0.02670	15	1440	0.02800
6	2	0.02700			
7	4	0.02710			
8	8	0.02730			
9	15	0.02740			
10	30	0.02750			

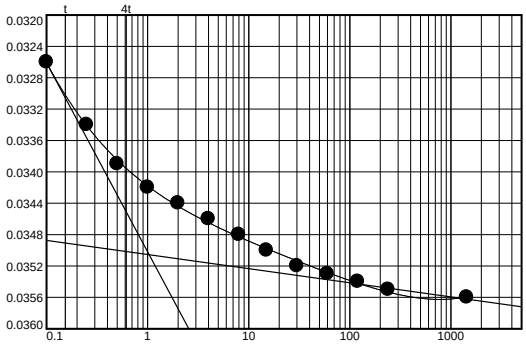


Void Ratio = 0.355 **Compression =** 2.2%

D_0 = 0.0230 **D_{50} =** 0.0246 **D_{100} =** 0.0261 **C_v at 0.23 min. =** 2.068 ft.^{2}/day **C_α =** 0.000

Pressure: 2.00 ksf — **TEST READINGS** — **Load No. 4**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.02800	11	60	0.03730
2	.1	0.03460	12	120	0.03740
3	.25	0.03540	13	240	0.03750
4	.5	0.03590	14	1440	0.03760
5	1	0.03620			
6	2	0.03640			
7	4	0.03660			
8	8	0.03680			
9	15	0.03700			
10	30	0.03720			



Void Ratio = 0.343 **Compression =** 3.1%

D_0 = 0.0321 **D_{50} =** 0.0336 **D_{100} =** 0.0351 **C_v at 0.32 min. =** 1.461 ft.^{2}/day **C_α =** 0.000

Pressure: 0.50 ksf — **TEST READINGS** — **Load No. 5**

No.	Elapsed Time	Dial Reading
1	0	0.03760
2	(final)	0.03600

Void Ratio = 0.343 **Compression =** 3.0%

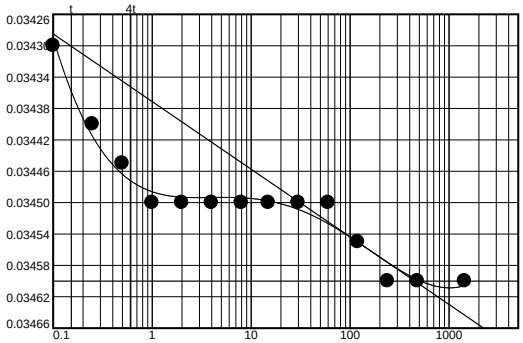
Pressure: 0.25 ksf — **TEST READINGS** — **Load No. 6**

No.	Elapsed Time	Dial Reading
1	0	0.03600
2	(final)	0.03500

Void Ratio = 0.344 **Compression =** 3.0%

Pressure: 0.50 ksf — **TEST READINGS** — **Load No. 7**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03500	11	60	0.03540
2	.1	0.03520	12	120	0.03545
3	.25	0.03530	13	240	0.03550
4	.5	0.03535	14	480	0.03550
5	1	0.03540	15	1440	0.03550
6	2	0.03540			
7	4	0.03540			
8	8	0.03540			
9	15	0.03540			
10	30	0.03540			

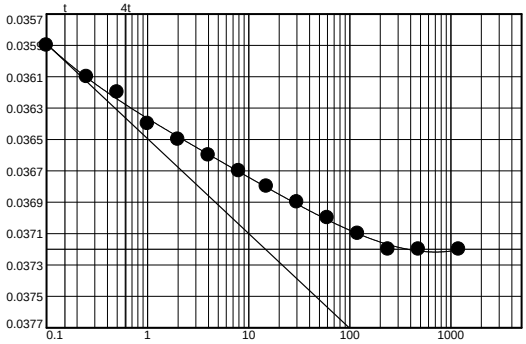


Void Ratio = 0.344 **Compression =** 3.0%

D_0 = 0.0342 **D_{50} =** 0.0344 **D_{100} =** 0.0346 **C_v at 0.27 min. =** 1.708 ft.^{2}/day **C_α =** 0.000

Pressure: 2.00 ksf — **TEST READINGS** — **Load No. 8**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03550	11	60	0.03910
2	.1	0.03800	12	120	0.03920
3	.25	0.03820	13	240	0.03930
4	.5	0.03830	14	480	0.03930
5	1.0	0.03850	15	1200	0.03930
6	2.0	0.03860			
7	4.0	0.03870			
8	8.0	0.03880			
9	15	0.03890			
10	30	0.03900			

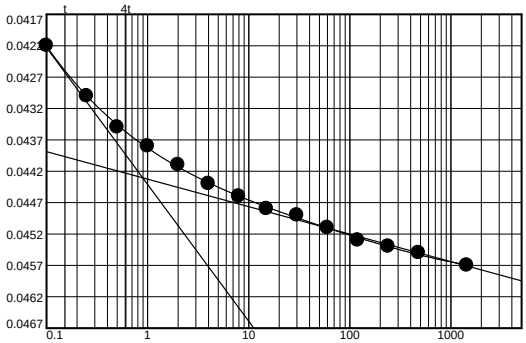


Void Ratio = 0.340 **Compression =** 3.3%

D_0 = 0.0357 **D_{50} =** 0.0365 **D_{100} =** 0.0372 **C_v at 1.70 min. =** 0.268 ft.^{2}/day **C_α =** 0.000

Pressure: 4.00 ksf — **TEST READINGS** — **Load No. 9**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.03930	11	60	0.04780
2	.1	0.04490	12	120	0.04800
3	.25	0.04570	13	240	0.04810
4	.5	0.04620	14	480	0.04820
5	1.0	0.04650	15	1440	0.04840
6	2.0	0.04680			
7	4	0.04710			
8	8	0.04730			
9	15	0.04750			
10	30	0.04760			

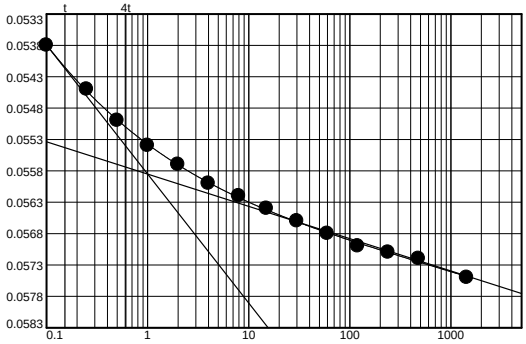


Void Ratio = 0.329 **Compression =** 4.1%

D_0 = 0.0416 **D_{50} =** 0.0430 **D_{100} =** 0.0443 **C_v at 0.24 min. =** 1.887 ft.^{2}/day **C_α =** 0.000

Pressure: 8.00 ksf — **TEST READINGS** — **Load No. 10**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.04840	11	60	0.06050
2	.1	0.05750	12	120	0.06070
3	.25	0.05820	13	240	0.06080
4	.5	0.05870	14	480	0.06090
5	1	0.05910	15	1440	0.06120
6	2	0.05940			
7	4	0.05970			
8	8	0.05990			
9	15	0.06010			
10	30	0.06030			

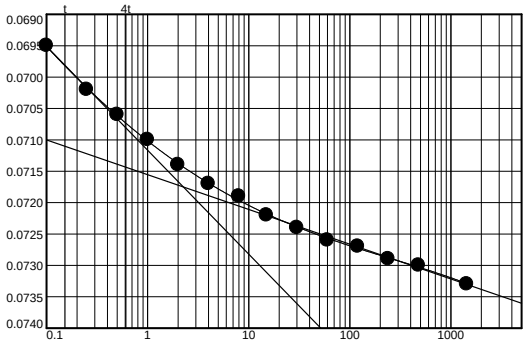


Void Ratio = 0.312 **Compression =** 5.3%

D_0 = 0.0532 **D_{50} =** 0.0545 **D_{100} =** 0.0559 **C_v at 0.25 min. =** 1.778 ft.^{2}/day **C_α =** 0.001

Pressure: 16.00 ksf — **TEST READINGS** — **Load No. 11**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.06120	11	60	0.07750
2	.1	0.07440	12	120	0.07760
3	.25	0.07510	13	240	0.07780
4	.5	0.07550	14	480	0.07790
5	1	0.07590	15	1440	0.07820
6	2.	0.07630			
7	4	0.07660			
8	8	0.07680			
9	15	0.07710			
10	30	0.07730			

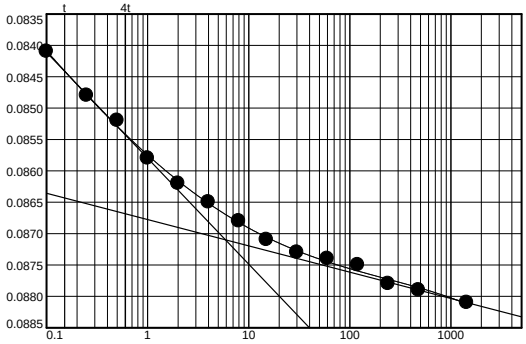


Void Ratio = 0.290 **Compression =** 6.9%

D_0 = 0.0689 **D_{50} =** 0.0703 **D_{100} =** 0.0718 **C_v at 0.32 min. =** 1.344 ft.^{2}/day **C_α =** 0.001

Pressure: 32.00 ksf — **TEST READINGS** — **Load No. 12**

No.	Elapsed Time	Dial Reading	No.	Elapsed Time	Dial Reading
1	0	0.07820	11	60	0.09350
2	.1	0.09020	12	120	0.09360
3	.25	0.09090	13	240	0.09390
4	.5	0.09130	14	480	0.09400
5	1.0	0.09190	15	1440	0.09420
6	2.0	0.09230			
7	4	0.09260			
8	8	0.09290			
9	15	0.09320			
10	30	0.09340			



Void Ratio = 0.269 **Compression =** 8.4%

D_0 = 0.0834 **D_{50} =** 0.0852 **D_{100} =** 0.0871 **C_v at 0.47 min. =** 0.881 ft.^{2}/day **C_α =** 0.000

Pressure: 8.00 ksf — **TEST READINGS** — **Load No. 13**

No.	Elapsed Time	Dial Reading
1	0	0.09420
2	(final)	0.09100

Void Ratio = 0.272 **Compression =** 8.2%

Pressure: 2.00 ksf — **TEST READINGS** — **Load No. 14**

No.	Elapsed Time	Dial Reading
1	0	0.09100
2	(final)	0.08710

Void Ratio = 0.276 **Compression =** 7.9%

Pressure: 0.50 ksf	TEST READINGS	Load No. 15

No.	Elapsed Time	Dial Reading
1	0	0.08710
2	(final)	0.08340

Void Ratio = 0.279 **Compression =** 7.7%

Pressure: 0.25 ksf	TEST READINGS	Load No. 16

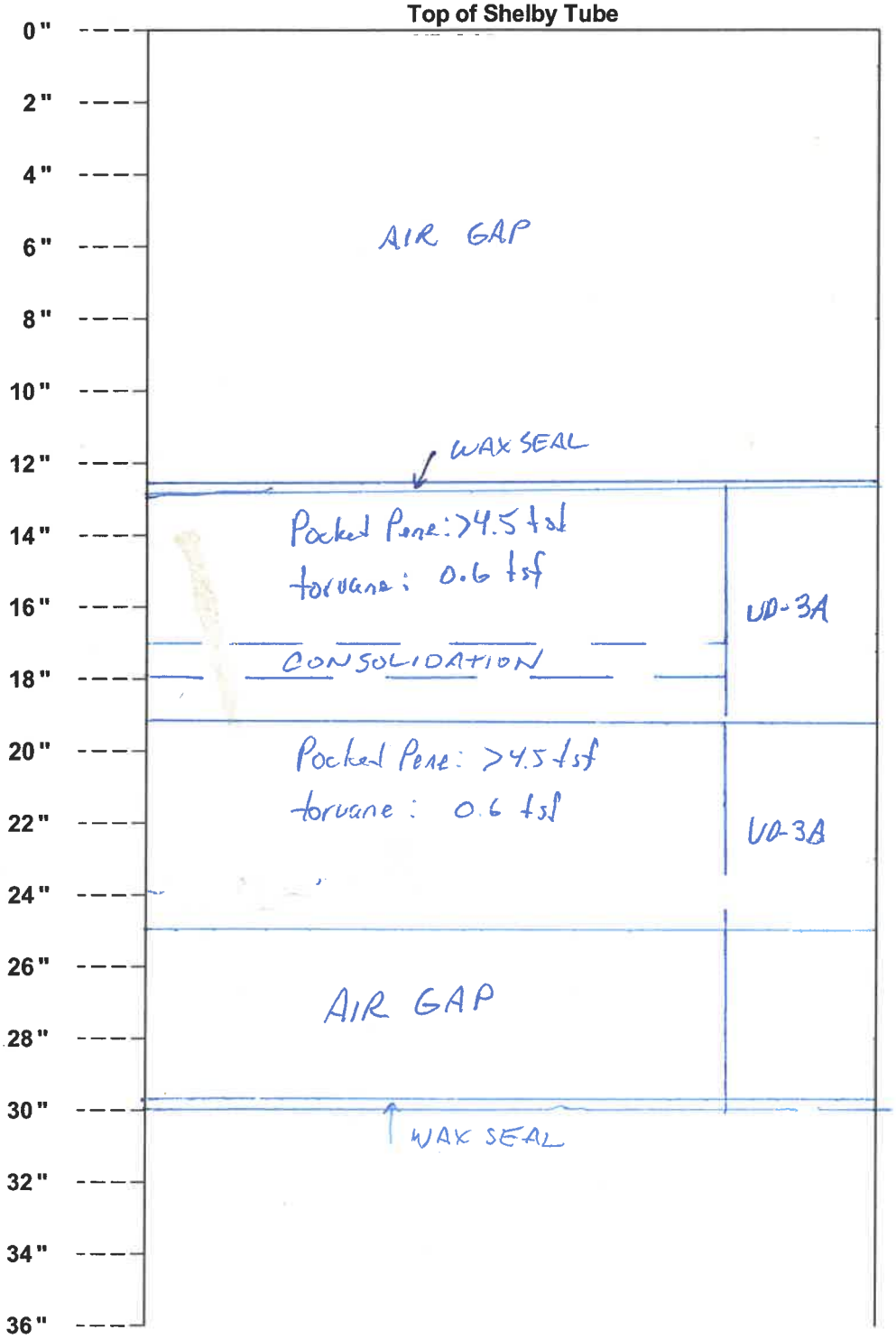
No.	Elapsed Time	Dial Reading
1	0	0.08340
2	(final)	0.08120

Void Ratio = 0.281 **Compression =** 7.5%

SCDOT Shelby Tube Log

Project ID:	I-77 Exit 26 Interchange	**County:**		**Boring No.:**	W-39
Project Description:	23610178A			**Route:**	
UD Sample No.:	UD-3	**Depth:**	6-8'		
Date Sampled:	10/31/23	**Date Extracted:**	12/11/23		
Extracted By:	B. Kovalski	**Eng. Firm:**	S.ME, Inc		

Top of Shelby Tube



SC_DOT_SHELBY_TUBE_LOG_PICTURES G6100.09 - S-195 RBO CAMP CREEK JFH.GPJ SCDOT_DATATEMPLATE.GDT 12/6/19

Appendix VII – SPT Hammer Energy Measurements

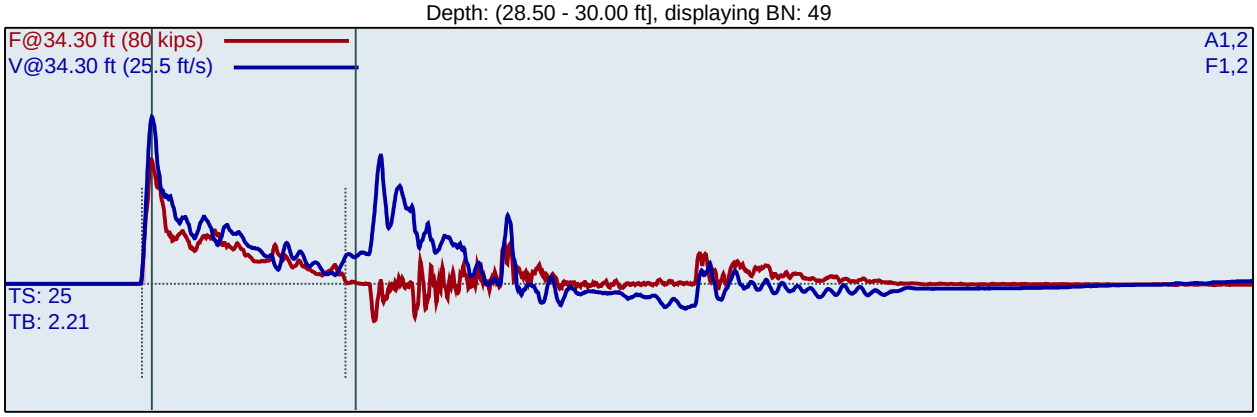
CME-550X SN 299403
JRW
TEST HOLE B

ANNUAL ENERGY MEASUREMENTS
Interval start: 1/3/2024

AR: 1.76 in^2
LE: 34.30 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (28.50 - 30.00 ft], displaying BN: 49



F1 : [102 BW-1] 216.4 PDICAL (1) FF1
F2 : [102 BW-2] 217.5 PDICAL (1) FF1

A1 (PR): [K10181] 394.1 mv/6.4v/5000g (1) VF1
A2 (PR): [K10182] 380.7 mv/6.4v/5000g (1) VF1

BPM: Blows/Minute
FMX: Maximum Force
VMX: Maximum Velocity
DMX: Maximum Displacement

CSX: Compression Stress Maximum
DFN: Final Displacement
EFV: Maximum Energy
ETR: Energy Transfer Ratio - Rated

LP	BL#	BC	BPM	FMX	VMX	DMX	CSX	DFN	EFV	ETR
ft		/6"	bpm	kips	ft/s	in	ksi	in	ft-lb	%
28.54	1	14	1.9	37	18.2	0.76	20.8	0.43	308	88.1
28.57	2	14	59.7	41	18.7	0.65	23.0	0.43	322	91.9
28.61	3	14	56.6	39	17.7	0.59	22.4	0.43	320	91.3
28.64	4	14	56.7	39	17.0	0.56	22.4	0.43	317	90.6
28.68	5	14	56.7	40	17.6	0.55	22.8	0.43	322	92.1
28.71	6	14	56.6	40	17.5	0.56	22.8	0.43	319	91.3
28.75	7	14	56.5	39	16.7	0.59	22.0	0.43	318	90.8
28.79	8	14	56.8	38	15.9	0.55	21.6	0.43	311	88.9
28.82	9	14	56.3	40	17.4	0.55	22.8	0.43	318	90.9
28.86	10	14	56.4	40	17.2	0.53	22.7	0.43	320	91.3
28.89	11	14	56.7	38	16.1	0.52	21.8	0.43	313	89.5
28.93	12	14	56.4	38	15.8	0.51	21.5	0.43	313	89.3
28.96	13	14	56.7	39	16.3	0.47	22.1	0.43	314	89.7
29.00	14	14	56.1	38	16.1	0.47	21.8	0.43	314	89.8
29.03	15	17	56.7	38	15.6	0.48	21.5	0.35	314	89.6
29.06	16	17	56.4	39	16.2	0.48	22.4	0.35	314	89.8
29.09	17	17	56.7	38	16.1	0.48	21.3	0.35	311	88.9
29.12	18	17	56.2	40	16.4	0.47	22.8	0.35	318	90.8
29.15	19	17	56.7	40	16.4	0.45	22.5	0.35	314	89.7
29.18	20	17	56.2	40	16.5	0.46	22.5	0.35	317	90.5
29.21	21	17	56.6	41	16.9	0.46	23.0	0.35	318	90.8
29.24	22	17	56.3	38	16.3	0.45	21.6	0.35	312	89.1
29.26	23	17	56.3	36	15.8	0.44	20.7	0.35	306	87.4
29.29	24	17	56.6	38	16.5	0.45	21.7	0.35	313	89.4
29.32	25	17	56.3	39	16.4	0.44	22.0	0.35	316	90.3
29.35	26	17	56.4	40	16.8	0.44	22.4	0.35	316	90.3
29.38	27	17	56.6	40	16.6	0.44	22.5	0.35	316	90.3

29.41	28	17	55.9	39	16.7	0.45	22.4	0.35	321	91.7
29.44	29	17	56.3	38	16.3	0.43	21.4	0.35	311	88.9
29.47	30	17	56.5	39	16.7	0.43	22.3	0.35	319	91.2
29.50	31	17	56.2	39	16.8	0.43	22.4	0.35	318	90.7
29.53	32	20	56.1	36	15.9	0.43	20.4	0.30	307	87.7
29.55	33	20	56.3	39	16.7	0.43	22.3	0.30	320	91.5
29.58	34	20	56.3	38	16.8	0.43	21.5	0.30	317	90.6
29.60	35	20	56.3	38	16.4	0.43	21.7	0.30	317	90.7
29.63	36	20	55.9	38	16.3	0.41	21.7	0.30	308	88.1
29.65	37	20	56.6	41	17.0	0.43	23.1	0.30	325	92.8
29.68	38	20	55.9	40	16.9	0.41	22.9	0.30	322	92.0
29.70	39	20	56.3	41	17.4	0.42	23.5	0.30	327	93.3
29.73	40	20	56.4	41	17.2	0.42	23.4	0.30	322	91.9
29.75	41	20	56.4	38	16.3	0.42	21.6	0.30	315	89.9
29.78	42	20	56.0	39	16.4	0.41	22.2	0.30	317	90.5
29.80	43	20	56.4	37	15.7	0.42	20.9	0.30	313	89.6
29.83	44	20	56.4	37	15.6	0.41	21.0	0.30	315	90.0
29.85	45	20	55.8	41	17.0	0.42	23.4	0.30	327	93.3
29.88	46	20	56.1	41	17.0	0.43	23.2	0.30	326	93.2
29.90	47	20	56.3	40	16.9	0.41	22.9	0.30	317	90.7
29.93	48	20	56.2	35	14.3	0.40	20.1	0.30	304	86.9
29.95	49	20	56.0	39	16.6	0.41	22.1	0.30	316	90.2
29.98	50	20	56.0	38	16.0	0.41	21.4	0.30	317	90.7
30.00	51	20	56.4	38	16.1	0.41	21.6	0.30	310	88.5
		Average	56.3	39	16.4	0.43	22.1	0.32	316	90.3
		Std Dev	0.2	1	0.6	0.02	0.8	0.03	5	1.5
		Maximum	56.7	41	17.4	0.48	23.5	0.35	327	93.3
		Minimum	55.8	35	14.3	0.40	20.1	0.30	304	86.9

N-value: 37

Sample Interval Time: 53.08 seconds.

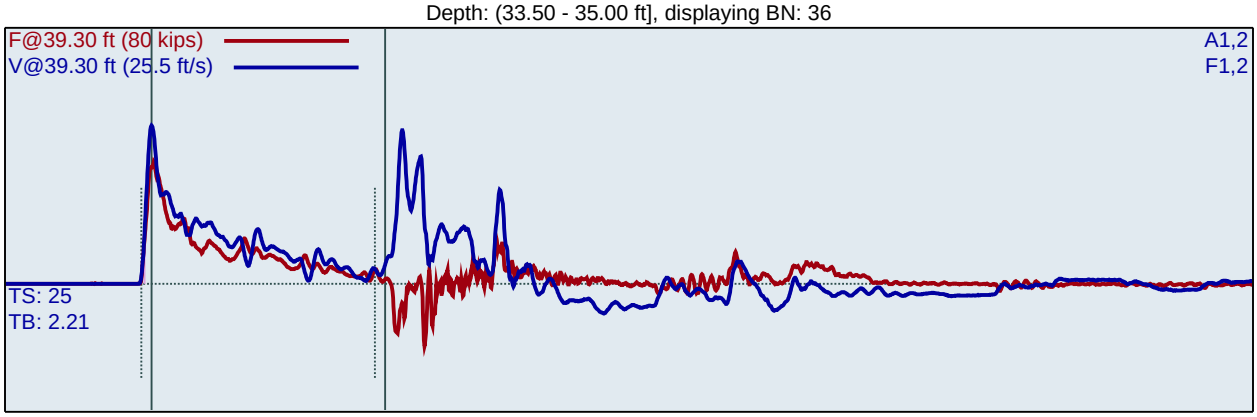
CME-550X SN 299403
JRW
TEST HOLE B

ANNUAL ENERGY MEASUREMENTS
Interval start: 1/3/2024

AR: 1.76 in^2
LE: 39.30 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (33.50 - 35.00 ft], displaying BN: 36



F1 : [102 BW-1] 216.4 PDICAL (1) FF1
F2 : [102 BW-2] 217.5 PDICAL (1) FF1

A1 (PR): [K10181] 394.1 mv/6.4v/5000g (1) VF1
A2 (PR): [K10182] 380.7 mv/6.4v/5000g (1) VF1

LP ft	BL#	BC /6"	BPM bpm	FMX kips	VMX ft/s	DMX in	CSX ksi	DFN in	EFV ft-lb	ETR %
33.53	1	17	1.9	38	16.8	0.71	21.4	0.35	319	91.1
33.56	2	17	56.5	36	15.7	0.59	20.2	0.35	308	88.1
33.59	3	17	56.4	38	17.3	0.56	21.8	0.35	320	91.4
33.62	4	17	56.3	40	17.8	0.53	22.6	0.35	329	94.1
33.65	5	17	56.2	38	17.3	0.49	21.6	0.35	315	90.1
33.68	6	17	56.4	40	18.2	0.50	22.5	0.35	329	94.1
33.71	7	17	56.4	41	18.4	0.48	23.3	0.35	333	95.2
33.74	8	17	56.3	38	17.6	0.45	21.7	0.35	319	91.0
33.76	9	17	56.5	40	18.1	0.45	22.8	0.35	327	93.3
33.79	10	17	55.7	39	18.0	0.45	22.2	0.35	324	92.7
33.82	11	17	56.5	37	17.4	0.45	21.1	0.35	319	91.1
33.85	12	17	56.6	40	18.3	0.45	22.8	0.36	326	93.0
33.88	13	17	56.1	41	18.4	0.45	23.2	0.36	329	94.1
33.91	14	17	56.3	41	18.5	0.45	23.4	0.35	332	94.9
33.94	15	17	56.0	39	17.8	0.42	22.2	0.35	316	90.1
33.97	16	17	56.3	38	17.4	0.43	21.7	0.35	323	92.2
34.00	17	17	56.4	39	17.9	0.42	22.1	0.35	321	91.6
34.02	18	21	55.8	38	17.8	0.43	21.7	0.28	323	92.2
34.05	19	21	56.3	38	17.5	0.44	21.6	0.29	319	91.1
34.07	20	21	56.2	38	17.1	0.43	21.7	0.29	319	91.1
34.10	21	21	56.0	37	17.1	0.42	21.1	0.28	309	88.4
34.12	22	21	56.3	35	15.3	0.41	20.0	0.29	305	87.0
34.14	23	21	56.1	36	16.4	0.41	20.2	0.29	303	86.7
34.17	24	21	56.1	37	17.0	0.42	21.3	0.28	313	89.5
34.19	25	21	55.7	39	17.6	0.41	22.0	0.29	321	91.8
34.21	26	21	56.4	39	17.9	0.42	22.1	0.29	324	92.7
34.24	27	21	56.2	38	17.4	0.40	21.6	0.29	312	89.2
34.26	28	21	55.9	37	17.3	0.42	21.1	0.29	319	91.1
34.29	29	21	55.9	41	17.7	0.42	23.2	0.29	329	93.9
34.31	30	21	56.2	40	17.5	0.41	22.7	0.29	322	92.1
34.33	31	21	56.2	42	17.6	0.42	23.7	0.29	326	93.3

34.36	32	21	56.3	39	16.7	0.42	22.2	0.29	314	89.7
34.38	33	21	56.0	38	16.6	0.41	21.8	0.29	316	90.3
34.40	34	21	56.2	39	16.5	0.41	22.1	0.29	319	91.2
34.43	35	21	56.1	40	17.0	0.41	23.0	0.29	323	92.2
34.45	36	21	55.8	38	15.8	0.41	21.7	0.29	317	90.7
34.48	37	21	56.0	36	16.1	0.40	20.5	0.29	306	87.4
34.50	38	21	56.2	38	15.0	0.41	21.3	0.29	313	89.4
34.52	39	21	55.9	39	16.7	0.41	22.4	0.29	324	92.5
34.55	40	21	56.0	40	17.1	0.41	22.5	0.29	322	91.9
34.57	41	21	56.1	42	17.4	0.41	23.7	0.29	324	92.6
34.60	42	21	56.1	40	17.4	0.41	22.6	0.28	320	91.3
34.62	43	21	56.1	38	16.2	0.40	21.4	0.29	308	88.0
34.64	44	21	55.9	39	15.9	0.41	22.2	0.29	320	91.4
34.67	45	21	56.2	38	16.0	0.40	21.5	0.28	313	89.5
34.69	46	21	56.0	40	17.1	0.41	22.5	0.29	326	93.2
34.71	47	21	56.1	42	17.4	0.39	24.0	0.29	325	92.7
34.74	48	21	55.9	41	17.6	0.41	23.4	0.29	324	92.6
34.76	49	21	55.9	39	16.9	0.41	22.1	0.29	320	91.5
34.79	50	21	56.2	36	15.4	0.41	20.5	0.29	307	87.7
34.81	51	21	56.0	41	17.5	0.42	23.4	0.29	328	93.6
34.83	52	21	55.8	41	17.9	0.41	23.4	0.29	326	93.2
34.86	53	21	56.2	38	16.5	0.40	21.5	0.29	315	90.0
34.88	54	21	55.9	39	17.6	0.41	22.4	0.29	321	91.8
34.90	55	21	56.3	39	17.2	0.41	21.9	0.29	319	91.1
34.93	56	21	56.1	40	17.5	0.41	22.6	0.29	325	92.8
34.95	57	21	56.2	38	17.1	0.41	21.5	0.28	316	90.4
34.98	58	21	55.8	37	16.5	0.41	21.2	0.29	315	90.0
35.00	59	21	56.1	36	16.0	0.40	20.6	0.29	303	86.5
		Average	56.1	39	16.9	0.41	22.0	0.29	318	90.8
		Std Dev	0.2	2	0.7	0.01	1.0	0.00	7	2.0
		Maximum	56.4	42	17.9	0.44	24.0	0.29	329	93.9
		Minimum	55.7	35	15.0	0.39	20.0	0.28	303	86.5

N-value: 42

Sample Interval Time: 61.90 seconds.

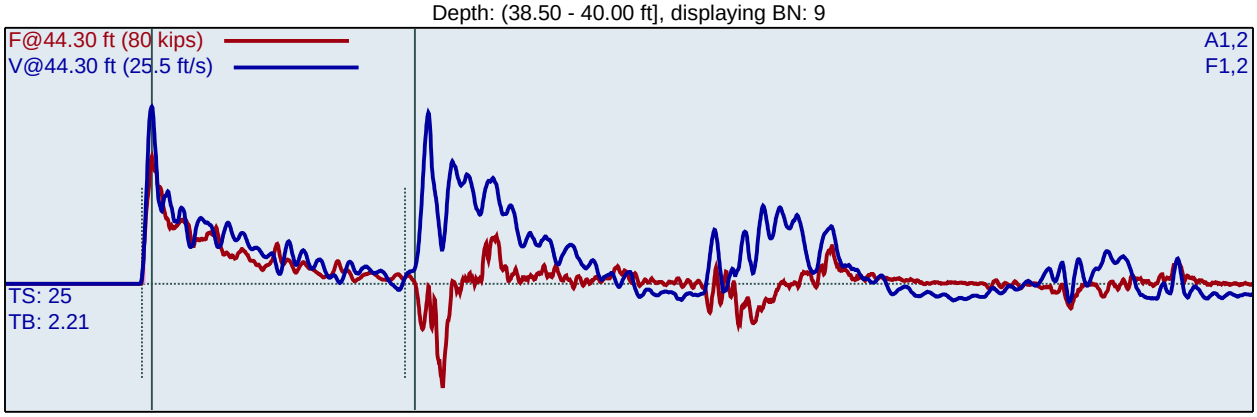
CME-550X SN 299403
JRW
TEST HOLE B

ANNUAL ENERGY MEASUREMENTS
Interval start: 1/3/2024

AR: 1.76 in^2
LE: 44.30 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (38.50 - 40.00 ft], displaying BN: 9



F1 : [102 BW-1] 216.4 PDICAL (1) FF1
F2 : [102 BW-2] 217.5 PDICAL (1) FF1

A1 (PR): [K10181] 394.1 mv/6.4v/5000g (1) VF1
A2 (PR): [K10182] 380.7 mv/6.4v/5000g (1) VF1

LP ft	BL#	BC /6"	BPM bpm	FMX kips	VMX ft/s	DMX in	CSX ksi	DFN in	EFV ft-lb	ETR %
38.58	1	6	1.9	39	17.8	1.21	22.2	1.00	322	91.9
38.67	2	6	56.9	40	17.7	1.07	22.5	1.00	325	92.8
38.75	3	6	57.0	38	17.2	1.02	21.7	1.00	316	90.4
38.83	4	6	57.4	41	18.8	1.05	23.3	1.00	332	95.0
38.92	5	6	57.0	39	17.5	1.04	22.0	1.00	318	90.9
39.00	6	6	57.2	40	18.5	1.01	22.8	1.00	324	92.5
39.04	7	13	57.3	38	17.4	0.78	21.7	0.46	313	89.4
39.08	8	13	57.2	40	17.9	0.72	22.6	0.46	319	91.3
39.12	9	13	57.2	40	17.6	0.65	22.6	0.46	318	90.8
39.15	10	13	57.5	39	17.5	0.62	22.2	0.46	317	90.4
39.19	11	13	57.0	42	18.7	0.58	23.8	0.46	330	94.3
39.23	12	13	57.5	39	17.4	0.54	22.3	0.46	313	89.3
39.27	13	13	57.1	39	17.1	0.52	22.1	0.46	311	89.0
39.31	14	13	57.1	39	16.9	0.50	22.0	0.46	304	87.0
39.35	15	13	57.6	39	17.0	0.48	21.9	0.45	307	87.9
39.38	16	13	56.8	40	17.6	0.50	22.7	0.46	317	90.7
39.42	17	13	57.1	41	18.3	0.49	23.5	0.47	322	92.1
39.46	18	13	57.3	41	17.9	0.49	23.0	0.47	320	91.3
39.50	19	13	57.4	38	16.9	0.49	21.8	0.46	307	87.8
39.54	20	14	57.0	40	17.7	0.47	22.7	0.43	317	90.7
39.57	21	14	57.1	38	16.9	0.49	21.6	0.43	311	88.8
39.61	22	14	57.4	40	17.9	0.47	22.8	0.43	314	89.8
39.64	23	14	57.2	39	16.9	0.45	22.0	0.43	309	88.2
39.68	24	14	57.1	39	17.1	0.52	22.0	0.43	315	89.9
39.71	25	14	57.2	41	18.0	0.49	23.2	0.43	322	91.9
39.75	26	14	57.1	40	17.7	0.48	22.8	0.43	316	90.2
39.79	27	14	57.1	40	17.7	0.49	22.6	0.43	317	90.6
39.82	28	14	57.0	40	17.5	0.51	22.7	0.43	319	91.3
39.86	29	14	57.4	39	17.4	0.47	22.3	0.43	312	89.0
39.89	30	14	57.1	41	18.3	0.50	23.4	0.43	325	92.9
39.93	31	14	56.9	40	17.5	0.48	22.5	0.43	316	90.3

39.96	32	14	57.2	42	18.8	0.48	24.0	0.43	329	94.1
40.00	33	14	57.2	40	17.6	0.44	22.5	0.43	316	90.4
		Average	57.2	40	17.6	0.52	22.6	0.44	316	90.3
		Std Dev	0.2	1	0.5	0.08	0.6	0.02	6	1.7
		Maximum	57.6	42	18.8	0.78	24.0	0.47	330	94.3
		Minimum	56.8	38	16.9	0.44	21.6	0.43	304	87.0

N-value: 27

Sample Interval Time: 33.54 seconds.

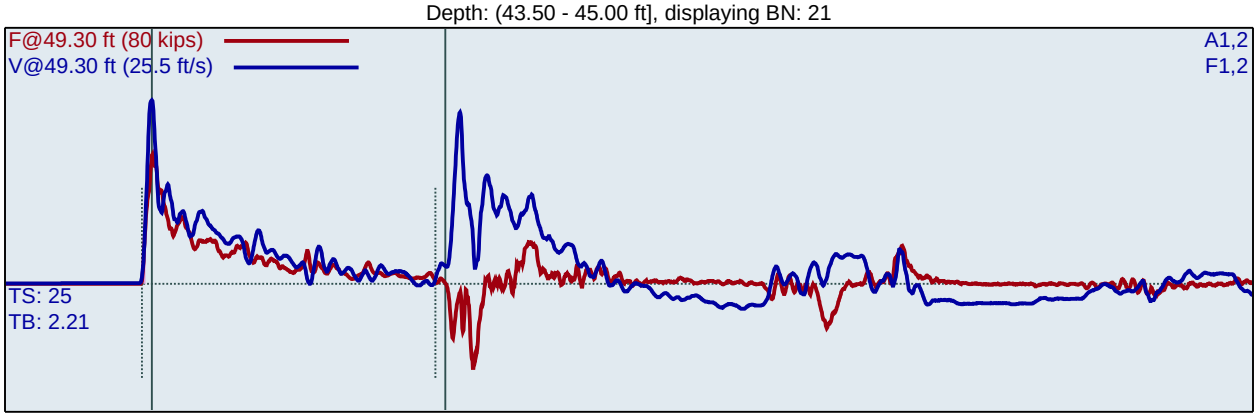
CME-550X SN 299403
JRW
TEST HOLE B

ANNUAL ENERGY MEASUREMENTS
Interval start: 1/3/2024

AR: 1.76 in^2
LE: 49.30 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (43.50 - 45.00 ft], displaying BN: 21



F1 : [102 BW-1] 216.4 PDICAL (1) FF1
F2 : [102 BW-2] 217.5 PDICAL (1) FF1

A1 (PR): [K10181] 394.1 mv/6.4v/5000g (1) VF1
A2 (PR): [K10182] 380.7 mv/6.4v/5000g (1) VF1

LP ft	BL#	BC /6"	BPM bpm	FMX kips	VMX ft/s	DMX in	CSX ksi	DFN in	EFV ft-lb	ETR %
43.54	1	13	1.9	34	15.5	0.73	19.5	0.46	302	86.4
43.58	2	13	57.4	36	15.9	0.62	20.4	0.46	314	89.8
43.62	3	13	57.4	38	16.5	0.57	21.4	0.47	317	90.6
43.65	4	13	57.3	42	18.9	0.54	24.1	0.46	335	95.7
43.69	5	13	57.7	42	19.0	0.53	24.0	0.46	334	95.6
43.73	6	13	57.6	38	17.3	0.50	21.8	0.46	322	92.0
43.77	7	13	57.4	41	18.2	0.50	23.2	0.46	321	91.6
43.81	8	13	57.4	35	16.0	0.50	20.2	0.46	309	88.3
43.85	9	13	57.7	39	17.3	0.49	22.4	0.46	317	90.7
43.88	10	13	57.4	41	18.7	0.50	23.4	0.46	326	93.0
43.92	11	13	57.7	41	18.5	0.49	23.4	0.46	327	93.4
43.96	12	13	57.3	41	18.4	0.49	23.1	0.47	331	94.6
44.00	13	13	57.2	40	18.0	0.48	22.8	0.46	326	93.2
44.03	14	15	57.8	42	19.3	0.51	23.8	0.40	336	95.9
44.07	15	15	57.3	41	19.0	0.49	23.3	0.40	331	94.6
44.10	16	15	57.7	40	18.3	0.48	22.9	0.40	321	91.7
44.13	17	15	57.5	42	18.8	0.49	23.6	0.40	328	93.6
44.17	18	15	57.6	39	17.6	0.48	22.4	0.40	315	89.9
44.20	19	15	57.5	43	19.8	0.50	24.5	0.40	333	95.2
44.23	20	15	57.8	42	19.2	0.49	24.1	0.40	330	94.3
44.27	21	15	57.3	41	18.3	0.47	23.0	0.40	324	92.4
44.30	22	15	57.6	40	17.8	0.47	22.5	0.40	319	91.0
44.33	23	15	57.3	43	19.6	0.50	24.6	0.40	336	95.9
44.37	24	15	57.7	39	17.5	0.47	22.1	0.40	315	90.1
44.40	25	15	57.4	42	19.3	0.47	23.8	0.40	330	94.2
44.43	26	15	57.3	44	19.6	0.49	24.8	0.40	339	96.8
44.47	27	15	57.9	39	17.6	0.45	22.3	0.40	315	89.9
44.50	28	15	57.2	40	18.2	0.45	22.5	0.40	320	91.3
44.53	29	17	57.7	41	18.6	0.47	23.4	0.36	330	94.4
44.56	30	17	57.3	38	17.0	0.44	21.7	0.35	309	88.3
44.59	31	17	57.3	38	17.2	0.45	21.3	0.35	310	88.5

44.62	32	17	57.4	37	17.6	0.45	21.2	0.36	312	89.3
44.65	33	17	57.6	42	19.0	0.48	24.1	0.35	335	95.7
44.68	34	17	57.3	40	18.0	0.45	23.0	0.36	322	92.1
44.71	35	17	57.4	39	17.4	0.45	22.2	0.35	315	89.9
44.74	36	17	57.3	40	18.3	0.46	22.7	0.36	327	93.4
44.76	37	17	57.5	41	18.8	0.47	23.1	0.36	326	93.3
44.79	38	17	57.2	42	19.4	0.48	24.0	0.35	333	95.3
44.82	39	17	57.4	40	18.5	0.47	22.9	0.35	323	92.2
44.85	40	17	57.3	40	18.0	0.47	22.7	0.35	322	91.9
44.88	41	17	57.0	39	17.5	0.45	22.3	0.35	315	90.1
44.91	42	17	57.6	40	17.8	0.47	22.5	0.36	319	91.0
44.94	43	17	57.5	39	17.5	0.46	22.0	0.35	311	88.8
44.97	44	17	57.1	41	18.8	0.50	23.5	0.34	331	94.5
45.00	45	17	18.4	41	18.9	0.50	23.4	0.35	345	98.6
		Average	56.2	40	18.4	0.47	23.0	0.38	324	92.6
		Std Dev	6.8	2	0.8	0.02	0.9	0.02	9	2.6
		Maximum	57.9	44	19.8	0.51	24.8	0.40	345	98.6
		Minimum	18.4	37	17.0	0.44	21.2	0.34	309	88.3

N-value: 32

Sample Interval Time: 48.11 seconds.

Summary of SPT Test Results

Project: CME-550X SN 299403, Test Date: 1/3/2024

BPM: Blows/Minute
FMX: Maximum Force
VMX: Maximum Velocity
DMX: Maximum Displacement
CSX: Compression Stress Maximum
DFN: Final Displacement
EFV: Maximum Energy
ETR: Energy Transfer Ratio - Rated

Instr. Length ft	Start Depth ft	Final Depth ft	Blows Applied /6"	**N Value**	**N60 Value**	Average BPM bpm	Average FMX kips	Average VMX ft/s	Average DMX in	Average CSX ksi	Average DFN in	Average EFV ft-lb	Average ETR %
34.30	28.50	30.00	**14-17-20**	**37**	**56**	56.3	39	16.4	0.43	22.1	0.32	316	90.3
39.30	33.50	35.00	**17-21-21**	**42**	**63**	56.1	39	16.9	0.41	22.0	0.29	318	90.8
44.30	38.50	40.00	**6-13-14**	**27**	**40**	57.2	40	17.6	0.52	22.6	0.44	316	90.3
49.30	43.50	45.00	**13-15-17**	**32**	**48**	56.2	40	18.4	0.47	23.0	0.38	324	92.6
					Overall Average Values:	56.4	39	17.2	0.45	22.4	0.35	319	91.0
					Standard Deviation:	3.3	2	1.0	0.06	1.0	0.06	8	2.2
					Overall Maximum Value:	57.9	44	19.8	0.78	24.8	0.47	345	98.6
					Overall Minimum Value:	18.4	35	14.3	0.39	20.0	0.28	303	86.5

Report of SPT Energy Measurements
S&ME CME-750X ATV (Serial No. 322938)
Columbia, South Carolina
S&ME Project No. 1535-22-200

PREPARED FOR:

North Carolina Department of Transportation
Geotechnical Engineering Unit
1589 Mail Service Center
Raleigh, North Carolina 27699

PREPARED BY:

S&ME, Inc.
9751 Southern Pine Boulevard
Charlotte, North Carolina 28273

December 23, 2022

December 23, 2022

North Carolina Department of Transportation
Geotechnical Engineering Unit
1589 Mail Service Center
Raleigh, North Carolina 27699

Attention: Mr. Greg Bodenheimer, P.E.

Cc: Ms. Cheryl A. Youngblood, L.G.
Ms. Christina M. Bruinsma, L.G.

Reference: **Report of SPT Energy Measurements**
S&ME CME-750X ATV (Serial No. 322938)
Columbia, South Carolina
S&ME Project No. 1535-22-200
NC PE Firm License No. F-0176

Dear Mr. Bodenheimer:

We have completed the Standard Penetration Test (SPT) energy measurements on the automatic hammer used with our CME-750X ATV-mounted drill rig (Serial No. 322938). This service was performed by Mr. Joseph Williamson, P.E. of our firm on November 10, 2022, in general accordance with ASTM D4633 and the most recent revision of the North Carolina Department of Transportation (NCDOT) Geotechnical Engineering Unit's requirements. Review of the data quality and analyses was performed by Mr. Williamson. A copy of the Certificate of Proficiency issued by Pile Dynamics based on the Dynamic Measurement and Analysis Proficiency Test for Mr. Williamson is included in Appendix I. The testing procedures, equipment used during testing, and detailed results are presented in this report.

1.0 Dynamic Testing Methodology

Testing was performed using a model PAX (Serial No. 3733L) Pile Driving Analyzer™ (PDA) manufactured by Pile Dynamics, Inc. The PDA was used to record and interpret data from two piezoresistive accelerometers (Serial Nos. K4664 and K4665) bolted to a 2.0-foot long AWJ drill rod (Serial No. 203) internally instrumented with two strain transducers. Calibration sheets for the accelerometers and the instrumented rod are included in Appendix II. The instrumented AWJ drill rod has a cross-sectional area of 1.19 square inches and an outside diameter of approximately 1.75 inches. Therefore, we calculate the inside diameter to be approximately 1.25 inches at the gauge location. The accelerometers and strain gauges, which are diametrically opposed near the middle of the instrumented rod, monitor acceleration and strain for each hammer blow. The analyzer converts the data to velocities and forces and computes the maximum transferred hammer energies with the "EFV" method described in ASTM D4633. Preliminary results are recorded and displayed in real time for each blow.

2.0 Testing and Observations

S&ME personnel were on site November 10, 2022, to observe and perform high-strain dynamic testing during SPT sampling on the CME-750X ATV-mounted drill rig operated by Sam Gowan of S&ME. The measurements were taken during drilling and sampling of a soil test boring performed on an S&ME project site in Columbia, South Carolina. SPT energy measurements presented herein were recorded during three sampling intervals that satisfied the NCDOT required blow count criteria. The information presented in the tables below summarizes the equipment and tooling used during the SPT energy measurements. The Boring Log and SPT Energy Evaluation Form is included in Appendix III.

Table 2-1: Drill Rig Information

Manufacturer	CME
Model	750X
Serial Number	322938
Operator	S. Gowan
Carrier	ATV

Table 2-2: Hammer Information

Model / Type	CME / Auto
Typical Drop Height (inches)	30
Typical Ram Weight (pounds)	140

Table 2-3: Drilling and Instrumented Rod Information

Drill Rod Type	AWJ
OD (inches)	1.75
ID (inches)	1.25
Cross-Sectional Area (in^2)	1.19
Typical Lengths (feet)	5
Instrumented Rod Type	AWJ (Serial No. 203)
OD (inches)	1.75
ID (inches)	1.25
Cross-Sectional Area (in^2)	1.19
Total Instrumented Rod Length (feet)	2.0
Length Below Gages (feet)	0.8
Split-Spoon Length (feet)	2.85

3.0 Dynamic Testing Results

The total rod length from the instrumentation to the tip of the split-spoon sampler was determined by adding 3.65 ft to the drill rod length at each sample depth. The SPT Energy Measurement Data Summary tables in Appendix IV present the test data from every hammer blow at each sampling interval, along with representative force and velocity traces for each test interval. Within some of the strain gauge (F2) records, electrical noise or "spikes" relatively late in the record (i.e., after 2L/c) were observed However, hammer impacts were relatively uniform and any bending appeared to be minor. Therefore, data collected from the F2 channel was excluded from the calculations when this phenomemon was observed. Per ASTM D4633, only the blows from the final foot of each sample interval (i.e. the blows that determine the N-value) are considered when computing the average measurement values of each test interval.

The reported blow counts obtained by the drill rig personnel, a summary of the test data, and average computed hammer energy and transfer ratio values are provided in Table 3-1. Based on the test data, the automatic hammer on the CME-750X operated at an average rate of about 53 blows per minute (bpm) during dynamic testing. The measured average transferred hammer energy (EFV) of the three sample intervals tested ranged from 281 to 291 ft-lbs, which corresponds to Energy Transfer Ratio (ETR) values of 80.4 to 83.2%, respectively, based on an assumed maximum energy of 350 ft-lbs. Plots and tables of the following are also included in the Appendix and present the test data with depth for each test interval:

- Penetration vs. BLC[1]
- Penetration vs. FMX[2]
- Penetration vs. EFV[3]
- Penetration vs. CSX[4]
- Penetration vs. VMX[5]
- Penetration vs. ETR[6]
- ETR vs. Rod Length
- Average ETR vs. Rod Length

.

[1] BLC - Blow Count per 6-in. increment
[2] FMX - Maximum Compressive Force
[3] EFV – Maximum Transferred Energy
[4] CSX – Maximum Compressive Stress
[5] VMX – Maximum Velocity
[6] ETR – Energy Transfer Ratio – Ratio of Calculated Energy to Theoretical Energy of 140 lb hammer falling 30 inches

Table 3-1: Summary of Dynamic Testing Results

Data Set ID	Sample Depth (ft)	Drill Rod Length (ft)	Instrumentation to Sampler Tip Length (ft)	Blows per 6" Increment / N-value	Soil Sample Description	Avg. BPM	Avg. EFV (ft-lbs)	Avg. ETR (%)
1	43.5 – 45	45	48.65	3-4-4 / **8**	Poorly Graded Sand with Silt[A]	53.4	291	83.2
2	48.5 – 50	50	53.65	8-19-27 / **46**	Lean Clay[CP]	53.2	287	82.0
3	53.5 – 55	55	58.65	6-11-12 / **23**	Silty Sand & Sandy Lean Clay[CP]	53.3	281	80.4
					Overall Average	**53.2**	**286**	**81.6**

[A] – Alluvium Soil Deposit; [CP] – Coastal Plain Soil Deposit

The overall average transferred hammer energy for the automatic hammer on the CME-750X ATV-mounted drill rig was 286 foot-pounds, with an average ETR of 81.6%.

4.0 Limitations of Report

This report has been prepared in accordance with generally accepted geotechnical engineering practice for specific application to this project. The conclusions contained in this report were based on the applicable standards of our profession in this geographic area at the time this report was prepared. No other warranty, express or implied, is made.

5.0 Closing

S&ME appreciates the opportunity to provide this report to the North Carolina Department of Transportation, Geotechnical Engineering Unit. Please let us know if you have any questions concerning this report.

Sincerely,

S&ME, Inc.

Joseph R. Williamson, P.E.
Project Manager
N.C. Registration No. 42168

Gregory J. Canivan, P.E.
Technical Principal

Appendices:

- Appendix I - Certificate of Proficiency
- Appendix II - Instrumented Rod and Accelerometer Calibration Sheets
- Appendix III – Boring Log B-2 and SPT Energy Evaluation Form (Field Log)
- Appendix IV - CME-750X ATV (SN 322938) SPT Energy Measurements Summary Plots and Tables

Appendices

Appendix I

PDCA
PILE DRIVING CONTRACTORS ASSOCIATION

Pile Dynamics, Inc.

This documents that

Joseph Williamson
S&ME, Inc.

has on March 16, 2022 achieved the rank of

MASTER

on the **Dynamic Measurement and Analysis Proficiency Test**.

The individual identified on this document demonstrated to the degree granted above an understanding of theory, data quality evaluation, interpretation and signal matching for high strain dynamic testing of deep foundations. ***It is recommended* that individuals at the Master level seek to attain Expert level through additional study within eight years of the date of this document**

The ability of the individual named to provide appropriate knowledge and advice on a specific project is not implied or warranted by the Pile Driving Contractors Association or Pile Dynamics, Inc. The Pile Driving Contractors Association or Pile Dynamics, Inc. assumes no liability for foundation testing and analysis work performed by the bearer of this certificate. This certificate can be verified at www.PDAproficiencytest.com.

Frank T. Peters, Executive Director
Pile Driving Contractors Association

PILE DYNAMICS, INC. CORPORATE SEAL 1972 OHIO

Garland Likins, Senior Partner
Pile Dynamics, Inc.

No. 3251

Appendix II

Pile Dynamics, Inc.

Quality Assurance for Deep Foundations

PDI Certificate of Calibration

PDI Accelerometer Calibration

Model PR-K Serial # K4664

Cal Date: OCT 16, 2021 Cal Due : OCT 15, 2023

Temperature: 72 deg. F Humidity 65 %

Calibrated at
Pile Dynamics, Inc.
30725 Aurora Road
Cleveland, OH 44139

Manufactured by Pile Dynamics, Inc.

Procedure used: PDA Accelerometer Calibration Procedure 2016-6, Revision 20160422

Equipment was found to be

X in tolerance As Received _____ out of tolerance As Received

X in tolerance As Returned _____ out of tolerance As Returned

PDI Calibration: 380 mv/5000g

Calibration Standards Utilized
Hopkinson Bar Force Calibration F2, verified on July 28, 2021

PDI HopBar DOS PAK, serial number 1273K, verified on July 19, 2021

Calibration performed by: _____
William johnson, Technician

Reviewed by: _____
Robert Sprenger, Production Manager

Accelerometer CC-5 Issued 20160426

30725 Aurora Road • Cleveland, Ohio 44139 USA • +1-216-831-6131 • Fax +1-216-831-0916
E-mail: info@pile.com • www.pile.com

QBTA: ON [ALT-F1/BB=60] Pile Dynamics, Inc. TG F2 DPF

Pile Dynamics
1999-03-17 20:50

FS — 10 | BN 1441 SL 940/ 3440/ 2 | PJ: PN: HOPBAR | A 4 F 2 | -- VS 3.3

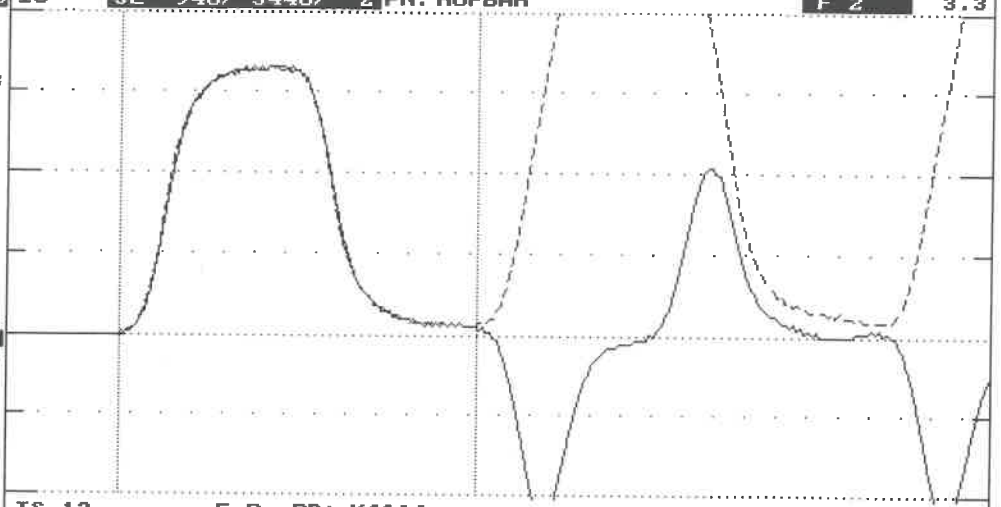
LE 39.6 ft
AR 1.7 in2
EM 30000 Ksi
SP 0.492 K/ft3
WS 16815 ft/s
WC 17032 ft/s

JC 0.40
FM 1.00
VM 1.00

EA/C 30.3 Ks/ft
UN KIPS*0.1
FR 20000 MB 90

DL -31
VT -1 IP 0.00
PK 1 TM-PEAK

F1/2 500/ 213
F3/4 213/ 213
A1/2 999/ 999
A3/4 999/ 380



TS 12 E B PD: K4664
TB 8.0 T1 9.4 2L/C 4.7 VA 1000 VE 1024 LP 0.00 ft LI 1.0

ACCEPT SQ-OFF FL-OFF PR-OFF

VMX= 5.3 FMX= 84 AMX= 169
EMX= 0.4 MEX= 164 FVP= 1.00

ACCEPT

ACCELEROMETER CALIBRATION N.I.S.T. Traceable

SERIAL NUMBER: K4664

CALIBRATION FACTOR: .076 mv/g

PAK (*5000): 380 DATE: 10/16/2021

PDA OPERATOR: Will

<-AT:PIEZORESISTIVE OP: WILL [ver:5.01] AT:PIEZOELECTRIC->

Smart Sensor

Programmed By: WJ CRC Value 4898

Pile Dynamics, Inc.

Quality Assurance for Deep Foundations

PDI Certificate of Calibration

PDI Accelerometer Calibration

Model PR-K Serial # K4665

Cal Date: AUG 10, 2021 Cal Due : AUG 9, 2023

Temperature: 72 deg. F Humidity 70 %

Calibrated at
Pile Dynamics, Inc.
30725 Aurora Road
Cleveland, OH 44139

Manufactured by Pile Dynamics, Inc.

Procedure used: PDA Accelerometer Calibration Procedure 2016-6, Revision 20160422

Equipment was found to be

X in tolerance As Received _____ out of tolerance As Received

X in tolerance As Returned _____ out of tolerance As Returned

PDI Calibration: 365 mv/5000g

Calibration Standards Utilized
Hopkinson Bar Force Calibration F2, verified on July 28, 2021

PDI HopBar DOS PAK, serial number 1273K, verified on July 19, 2021

Calibration performed by: _____
William Johnson, Technician

Reviewed by: _____
Bob Sprenger, production Manager

Accelerometer CC-5 Issued 20160426

30725 Aurora Road • Cleveland, Ohio 44139 USA • +1-216-831-6131 • Fax +1-216-831-0916
E-mail: info@pile.com • www.pile.com

QBTA: ON [ALT-F1/BB=60] Pile Dynamics, Inc. TG F2 DPF

Pile Dynamics
1999-01-07 21:09

FS — 10 | BN 66 SL 805/ 3440/ 99 | PJ: PN: HOPBAR | A 4 F 2 | -- VS 3.3

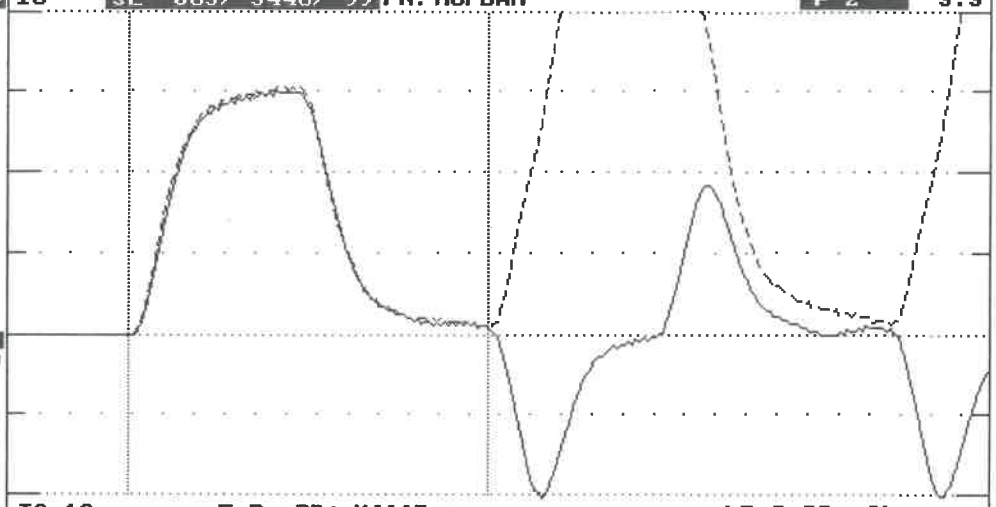
LE 39.6 ft
AR 1.7 in2
EM 30000 Ksi
SP 0.492 K/ft3
WS 16815 ft/s
WC 16851 ft/s

JC 0.40
FM 1.00
VM 1.00

EA/C 30.3 Ks/ft
UN KIPS *0.1
FR 20000 MB 90

DL -44
VT -1 IP 0.00
PK 1 TM-PEAK

F1/2 500/ 213
F3/4 213/ 213
A1/2 999/ 999
A3/4 999/ 365



TS 12 E B PD: K4665 LP 0.00 ft
TB 8.0 T1 9.6 2L/C 4.7 VA 1000 VE 1024 LI 1.0

ACCEPT SQ-OFF FL-OFF PR-OFF

VMX=	4.9	FMX=	75	AMX=	169
EMX=	0.3	MEX=	147	FVP=	0.98

ACCEPT

ACCELEROMETER CALIBRATION N.I.S.T. Traceable

SERIAL NUMBER: K4665

CALIBRATION FACTOR: .073 mV/G

PAK (*5000): 365 DATE: 8/10/2021

PDA OPERATOR: Willis

<-AT:PIEZORESISTIVE OP: WILL [ver:5.01] AT:PIEZOELECTRIC->

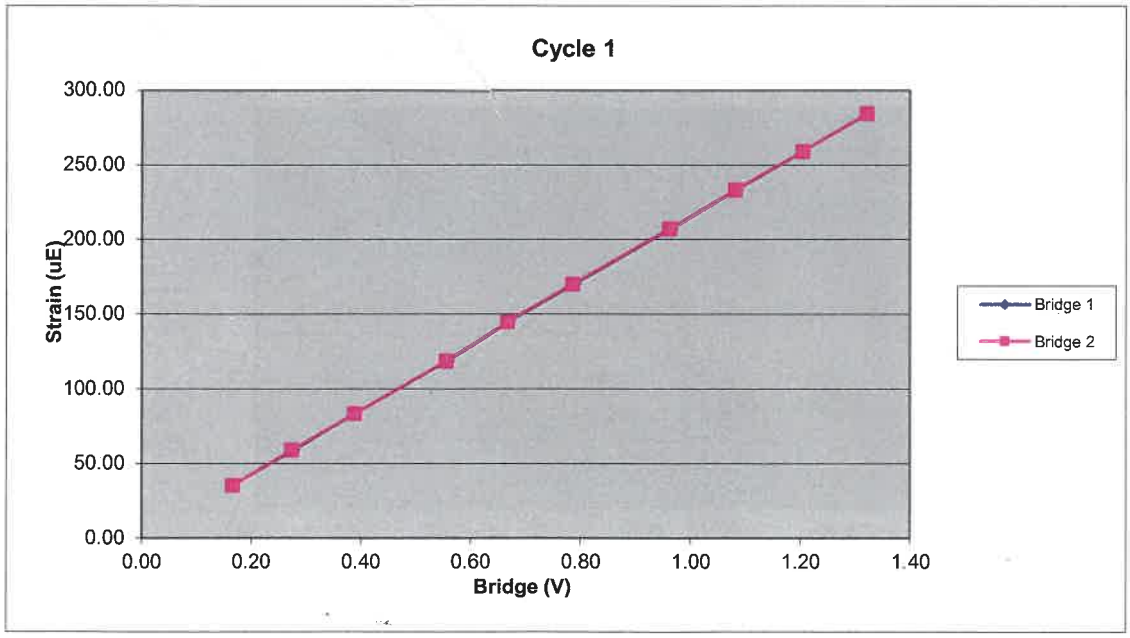
Smart Sensor

Programmed By: WJ CRC Value C59F

203AWJ		Cycle 1		
Sample	**Force (lb)**	**Strain (μE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	1246.03	34.91	0.17	0.17
3	2081.11	58.65	0.28	0.27
4	2941.63	83.02	0.39	0.39
5	4214.76	118.53	0.56	0.56
6	5056.27	144.80	0.67	0.67
7	5965.04	170.09	0.79	0.79
8	7294.42	207.16	0.96	0.96
9	8206.79	233.22	1.08	1.08
10	9138.76	259.03	1.21	1.20
11	10040.70	284.32	1.32	1.32

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**7599.69**	**Force Calibration (lb/V)**	**7601.86**
Offset	-24.15	Offset	-17.41
Correlation	0.999998	Correlation	0.999998
Strain Calibration (μE/V)	**215.94**	**Strain Calibration (μE/V)**	**216.00**
Offset	-0.96	Offset	-0.77
Correlation	0.999977	Correlation	0.999970

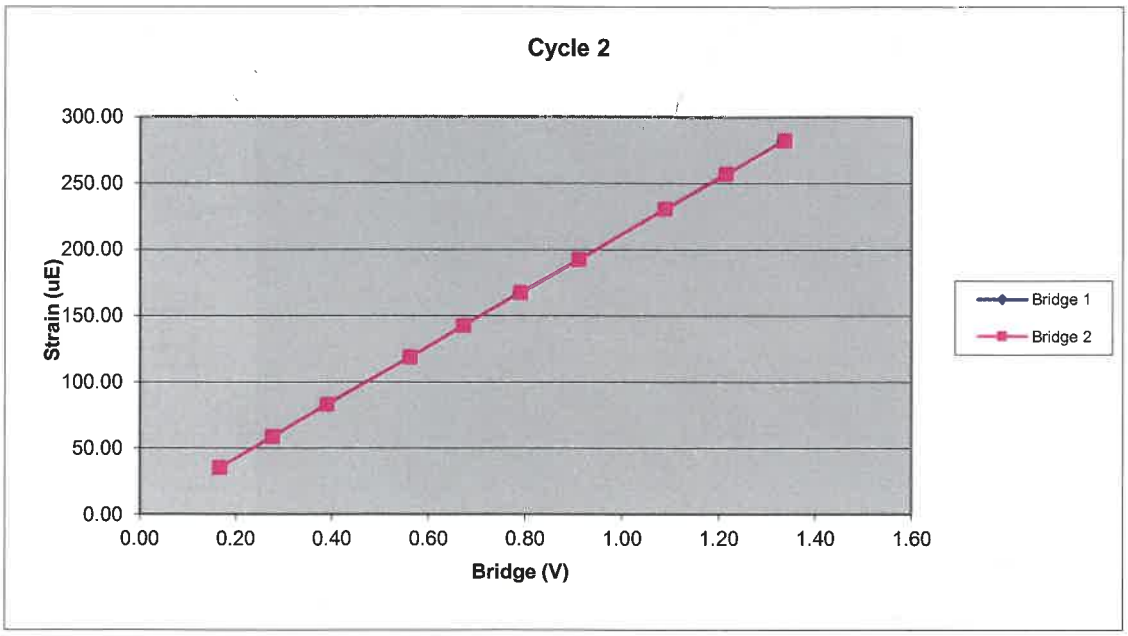
Force Strain Calibration	
EA (Kips)	**35191.11**
Offset	10.07
Correlation	0.999966



203AWJ		Cycle 2		
Sample	**Force (lb)**	**Strain (μE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	1258.51	34.91	0.17	0.17
3	2095.24	58.34	0.28	0.28
4	2959.17	82.77	0.39	0.39
5	4259.41	118.34	0.56	0.56
6	5099.16	142.25	0.67	0.67
7	6003.44	167.19	0.79	0.79
8	6914.94	192.10	0.91	0.91
9	8280.29	230.44	1.09	1.09
10	9224.63	256.64	1.22	1.21
11	10143.64	281.95	1.33	1.34

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**7599.73**	**Force Calibration (lb/V)**	**7596.59**
Offset	**-6.06**	Offset	**-5.65**
Correlation	**0.999998**	Correlation	**0.999998**
Strain Calibration (μE/V)	**211.24**	**Strain Calibration (μE/V)**	**211.15**
Offset	**0.01**	Offset	**0.02**
Correlation	**0.999992**	Correlation	**0.999991**

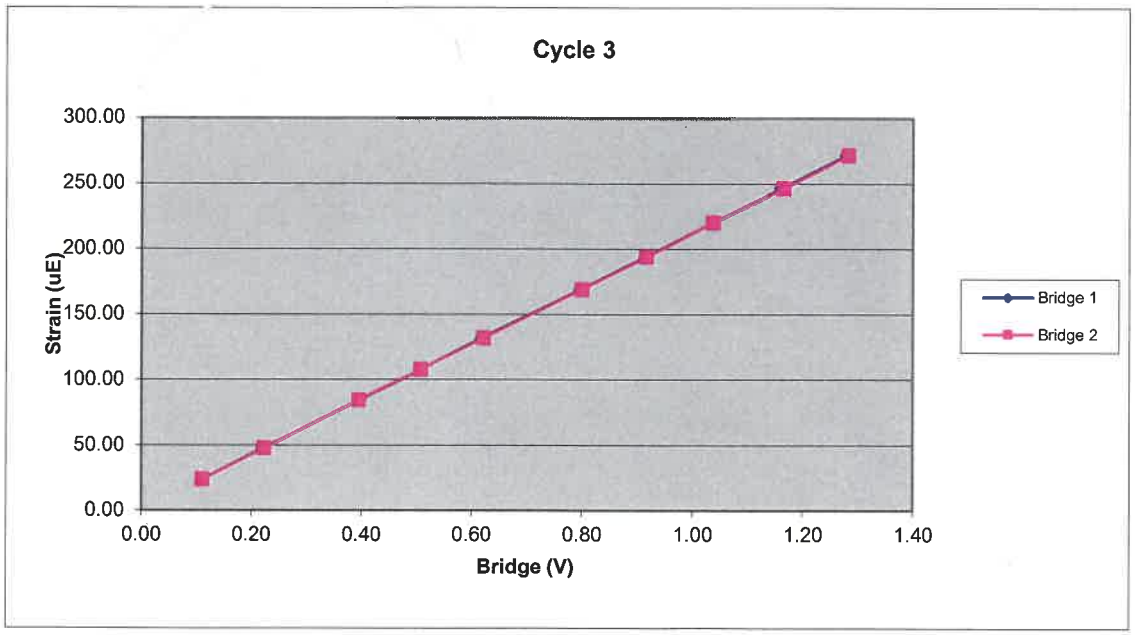
Force Strain Calibration	
EA (Kips)	**35976.99**
Offset	**-6.36**
Correlation	**0.999996**



203AWJ		Cycle 3		
Sample	**Force (lb)**	**Strain (μE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	846.19	23.53	0.11	0.11
3	1695.30	47.55	0.22	0.22
4	3007.23	84.21	0.40	0.40
5	3855.56	107.72	0.51	0.51
6	4714.72	131.93	0.62	0.62
7	6082.40	169.34	0.80	0.80
8	6969.72	194.06	0.92	0.92
9	7881.90	220.26	1.04	1.04
10	8834.83	246.28	1.16	1.17
11	9750.91	271.69	1.28	1.28

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**7615.81**	**Force Calibration (lb/V)**	**7596.50**
Offset	**-9.63**	Offset	**-6.69**
Correlation	**0.999996**	Correlation	**0.999998**
Strain Calibration (μE/V)	**212.11**	**Strain Calibration (μE/V)**	**211.57**
Offset	**0.00**	Offset	**0.08**
Correlation	**0.999995**	Correlation	**0.999995**

Force Strain Calibration	
EA (Kips)	**35905.21**
Offset	**-9.52**
Correlation	**0.999994**



Bridge Excitation (V) 5
Shunt Resitor (ohm) 60.4k

Calibration Factors	**203AWJ**		
Bridge 1 (µE/V)	**213.10**	**Bridge 2 (µE/V)**	**212.91**
EA Factor (Kips)	**35691.10**	**Area (in^2)**	**1.19**

Calibrated by: _____
Calibrated Date: 3/25/2021

Pile Dynamics Inc
30725 Aurora Rd
Solon, OH 44139

Traceable to N.I.S.T.

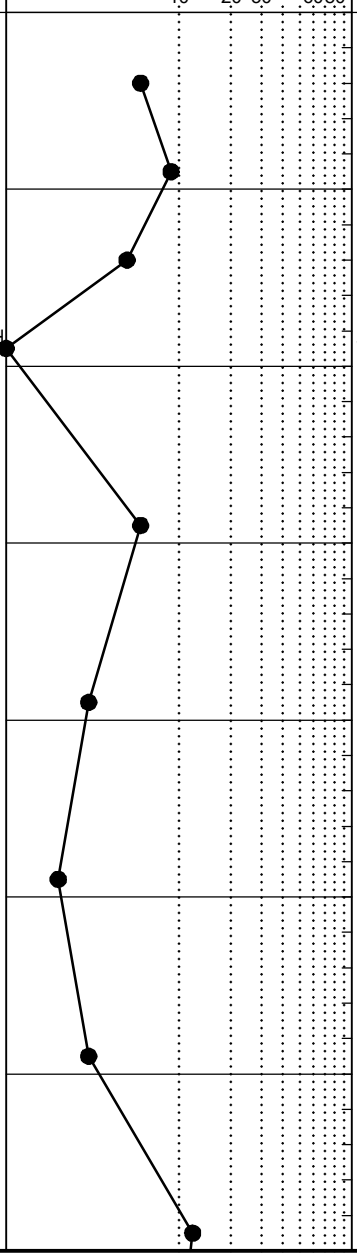
Appendix III

PROJECT:	12th St. Extension - Ph III West Columbia, SC S&ME Project No. 22610494	BORING LOG B-2

DATE DRILLED: **11/10/22**	ELEVATION: **141.0 ft**	**NOTES:** As-Drilled Northing/Easting Coordinates, and Elevation surveyed by Survey One.
DRILL RIG: **CME 750**	BORING DEPTH: **60.0 ft**	
DRILLER: **S Gowan**	WATER LEVEL: **5.4' 24 hr**	
HAMMER TYPE: **Auto**	LOGGED BY: **M. Cooke**	
SAMPLING METHOD: **Split spoon**		NORTHING: **746269** / EASTING: **1989870**
DRILLING METHOD: **Mud Rotary**		

DEPTH (feet)	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet-MSL)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA 1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD	N VALUE
	SURFACE MATERIALS- TOPSOIL - 4 inches								
	ALLUVIUM - CONGAREE RIVER FLOODPLAIN - CLAYEY SAND (SC) - mostly fine to medium sand, some high plasticity fines, moist, gray, loose.			SS-1		3	2	4	6
				SS-2		3	4	5	9
5	**FAT CLAY (CH)** - mostly high plasticity fines, trace fine to medium sands, light gray, moist, stiff.	▼	136.0						
	CLAYEY SAND (SC) - mostly fine to medium sands, some high plasticity fines, wet, gray, loose.			SS-3		3	1	4	5
10	**ORGANIC SOIL (OH)** - mostly high plasticity organic fines, trace fine to medium sands, very dark brown to black, moist to wet, very soft.		131.0	SS-4		WOH	WOH	WOH	WOH
15	**LEAN CLAY (CL)** - mostly medium plasticity fines, trace fine to medium sands, gray, moist, firm		126.0	SS-5		2	3	3	6
20	**FAT CLAY (CH)** - mostly high plasticity fines, trace fine to medium sands, dark gray, wet, soft.		121.0	SS-6		WOH	WOH	3	3
25	**CLAYEY SAND (SC)** - mostly fine sands, some high plasticity fines, light gray, wet, very loose.	HC	116.0	SS-7		WOH	WOH	2	2
30	**POORLY GRADED SAND WITH SILT (SP-SM)** - mostly fine to medium sand, few non plastic fines, trace fine subrounded quartz gravels, light gray to white, wet, very loose.		111.0	SS-8		2	1	2	3
				SS-9		7	7	5	12

STANDARD PENETRATION TEST DATA (blows/ft) / REMARKS



NOTES:

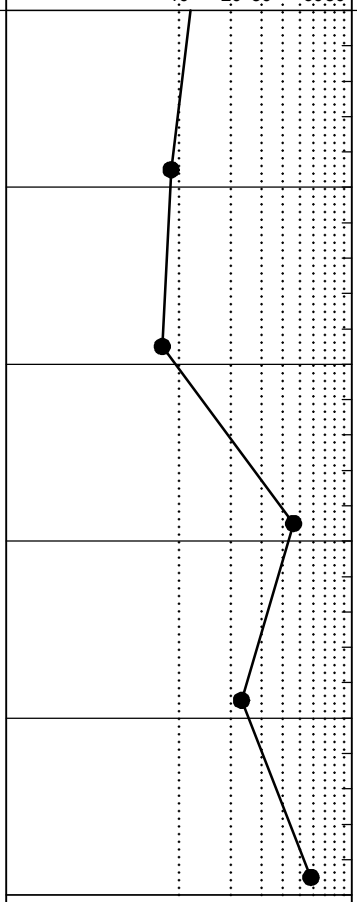
1. *THIS LOG IS ONLY A PORTION OF A REPORT PREPARED FOR THE NAMED PROJECT AND MUST ONLY BE USED TOGETHER WITH THAT REPORT.*
2. *BORING, SAMPLING AND PENETRATION TEST DATA IN GENERAL ACCORDANCE WITH ASTM D-1586.*
3. *STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.*
4. *WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.*

S&ME BORING LOG 22610494 BORING LOGS.GPJ SME COLUMBIA GINT DATA TEMPLATE.GDT 12/21/22

PROJECT:	12th St. Extension - Ph III West Columbia, SC S&ME Project No. 22610494	BORING LOG B-2

DATE DRILLED: **11/10/22**	ELEVATION: **141.0 ft**	**NOTES:** As-Drilled Northing/Easting Coordinates, and Elevation surveyed by Survey One.
DRILL RIG: **CME 750**	BORING DEPTH: **60.0 ft**	
DRILLER: **S Gowan**	WATER LEVEL: **5.4' 24 hr**	
HAMMER TYPE: **Auto**	LOGGED BY: **M. Cooke**	
SAMPLING METHOD: **Split spoon**		NORTHING: **746269** / EASTING: **1989870**
DRILLING METHOD: **Mud Rotary**		

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet-MSL)	SAMPLE NO.	SAMPLE TYPE	BLOW COUNT / CORE DATA 1st 6in / RUN #	2nd 6in / REC	3rd 6in / RQD	STANDARD PENETRATION TEST DATA (blows/ft) / REMARKS	N VALUE
		SILTY SAND WITH GRAVEL (SM) - mostly fine to coarse sands, subrounded gravels, low plasticity fines, reddish-brown, wet, medium dense. *(continued)*									
40		**POORLY GRADED SAND WITH SILT (SP-SM)** - mostly fine to coarse sands, few low plasticity fines, few coarse subrounded quartz gravels, light brown, wet, loose.		101.0	SS-10		6	5	4		9
45				96.0	SS-11		3	4	4		8
50		**COASTAL PLAIN- LEAN CLAY (CL)** - mostly medium pasticity fines, trace fine sands, gray and light brown, moist, hard.		91.0	SS-12		8	19	27		46
55		**SILTY SAND (SM)** - mostly fine to medium sand, little low plasticity fines, light gray and purple, wet, medium dense.		86.0	SS-13		6	11	12		23
		SANDY LEAN CLAY (CL) - mostly medium plasticity fines, some fine to medium sand, light gray and pink, moist, very hard.									
60		Boring terminated at 60 ft		81.0	SS-14		15	25	33		58



S&ME BORING LOG 22610494 BORING LOGS.GPJ SME COLUMBIA GINT DATA TEMPLATE.GDT 12/21/22

NOTES:

1. *THIS LOG IS ONLY A PORTION OF A REPORT PREPARED FOR THE NAMED PROJECT AND MUST ONLY BE USED TOGETHER WITH THAT REPORT.*
2. *BORING, SAMPLING AND PENETRATION TEST DATA IN GENERAL ACCORDANCE WITH ASTM D-1586.*
3. *STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.*
4. *WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.*

SPT Energy Evaluation Form

Project:	ANNUAL SPT ENERGY MEASUREMENT	**Date:**	11/10/2022
Project No.:	1535-22-200	**Weather:**	OVERCAST 60's
Boring No.:	B-2	**Drill Rod Type:**	5-FT LONG AWJ

On-site Personnel

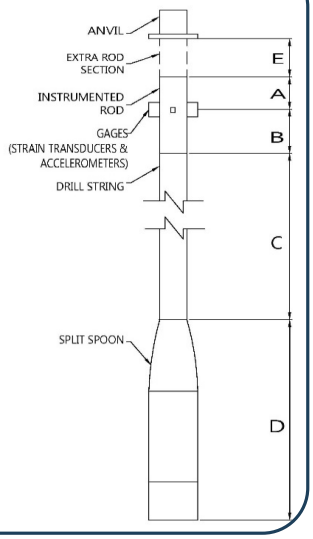
Drilling Company:	S&ME
Rig Operator:	S. GOWAN
Engr/Geologist:	N/A
Client Rep.:	N/A
Analyzer Oper.:	J. WILLIAMSON

Rig/Hammer Info

Drill Rig Make/Model:	CME-750X
Carrier Type:	ATV
Rig Serial No.:	322938
Hammer Type/Model:	CME / AUTO
Hammer Serial No.:	N/A
Hammer Drop System:	CHAIN DRIVE
Lubrication Condition:	PER MANUFACTURERS RECS
Manufacturer Recommended Operation Rate (bpm):	50-55
Typical Drop Height (in.):	30
Typical Hammer Weight (lbs):	140
Anvil Dimension (in.):	12
Drilling Method:	MUD ROTARY w/ 2-7/8" DRAG BIT
Drop Height in Tolerance (y/n)	YES

Rod Info

(A)* + *(B) Instr. Rod Length:	2.0	ft
(B) Instr. Rod Length below Gages:	0.8	ft
(D) Spoon Length:	2.85	ft
(E) Rod Length Above Instr. Rod (if applicable):	-	ft
(B)+(C)+(D) (LE) - Length Below Gauges	**(C)** +3.65	ft
Instr. Rod S/N:	203AWJ	
Instr. Rod Outside Dia.:	1.75	in.
Instr. Rod Area:	1.19	in^2
PDA Make/Model:	PDI / PAX	
PDA Serial No.:	3733L	
Calib. Pulse Test (y/n):	YES	



Gage Info

Gage		Serial No.	Calibration No.
Accel.	A1	K4664	380.0
	A2	K4665	365.0
Strain	F1	203AWJ-1	213.10
	F2	203AWJ-2	212.91

Date of Test	Test Depth Increment (ft to ft)	Test Time Start / Stop (military)	Length of Drill String (ft) *(C)*	(LE) Length below Gages (ft) *(B) + (C) + (D)*	Avg. Meas. Hammer Rate (BPM)	SPT Blow Counts: Total Blows by PDA	6"	12"	18"	N-Value	Extra Blows	AASHTO / USCS Classification
11/10/2022	28.5 - 30	10:21	30	33.65	53	5	2	1	2	**3**	0	SP-SM
	33.5 - 35	10:28	35	38.65	53	18	7	7	5	**12**	0	SM
	38.5 - 40	10:36	40	43.65	53	17	6	5	4	**9**	0	SP-SM
	43.5 - 45	10:56	45	48.65	53	11	3	4	4	**8**	0	SP-SM
	48.5 - 50	11:07	50	53.65	53	56	8	19	27	**46**	2	CL
	53.5 - 55	11:18	55	58.65	53	29	6	11	12	**23**	0	SM
	58.5 - 60	11:28	60	63.65	53	73	15	25	33	**58**	0	CL

Notes: 33.5-35 ft - PDA missed 1 blow plus 1 bad blow = 2 missed blows.
38.5 - 40 ft - Bad Data from PDA. Switched pig tail & main cable & reconfigured wire attachments.
F2 gauge spiking after 2L/c in various blows in all data sets.

NOTE: (1) Note any unusual hammer operating conditions that affect the hammer performance, or changes in operating conditions (e.g. veritcality, weather, or lubrication between trials). (2) Note any changes in rod diameter along drill string and record locations of short rod sections.

Joseph Williamson

Prepared By (print/signature)

11/10/2022

Date

Appendix IV

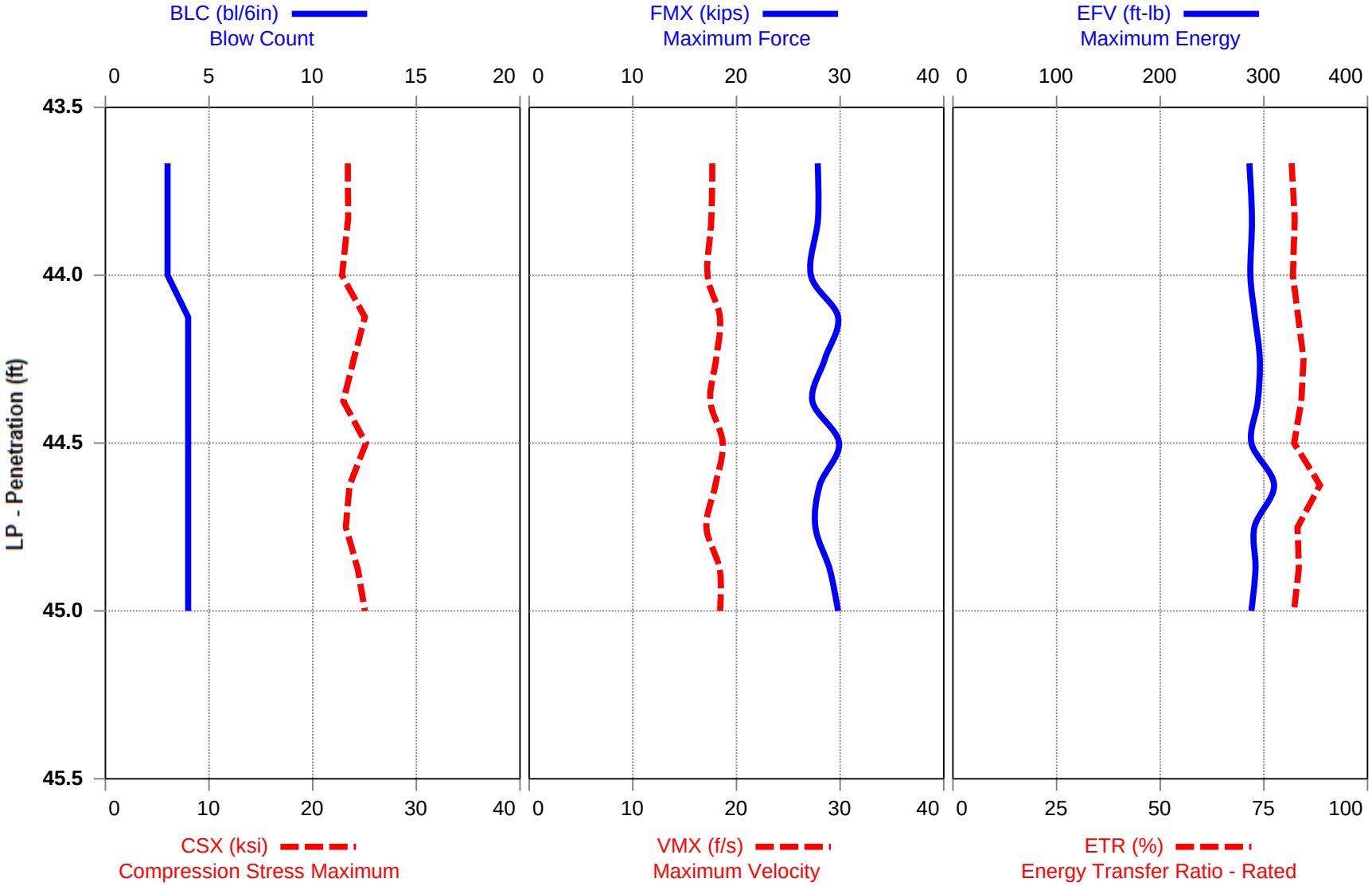
Pile Dynamics, Inc. - PDIPLOT2 Ver 2022.1.62.0 - Case Method & iCAP® Results

Printed: 15-December-2022

Test started: 10-November-2022

CME-750X (SN 322938) - 43.5-45.0 FEET

B-2



S&ME, Inc.
SPT Analyzer Results

PDA-S Ver. 2021.34 - Printed: 12/23/2022

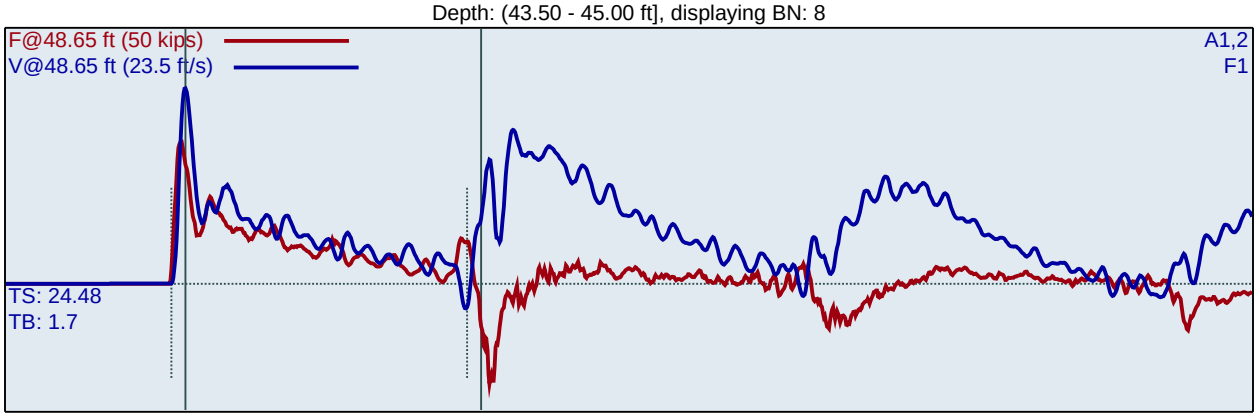
CME-750X (SN 322938)
JRW
B-2

Annual Energy Measurements
Interval start: 11/10/2022

AR: 1.19 in^2
LE: 48.65 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (43.50 - 45.00 ft], displaying BN: 8



F1 : [203 AWJ-1] 213.1 PDICAL (1) FF1
F2 : [203 AWJ-2] 212.91 PDICAL (1) FF1

A1 (PR): [K4664] 380 mv/6.4v/5000g (1) VF1
A2 (PR): [K4665] 365 mv/6.4v/5000g (1) VF1

BPM: Blows/Minute
FMX: Maximum Force
VMX: Maximum Velocity
DMX: Maximum Displacement

CSX: Compression Stress Maximum
DFN: Final Displacement
EFV: Maximum Energy
ETR: Energy Transfer Ratio - Rated

BL#	LP	BC	BPM	FMX	VMX	DMX	CSX	DFN	EFV	ETR
	ft	/6"	bpm	kips	ft/s	in	ksi	in	ft-lb	%
1	43.67	3	1.9	28	17.7	2.00	23.4	2.00	286	81.7
2	43.83	3	53.5	28	17.6	2.00	23.4	2.00	288	82.4
3	44.00	3	53.7	27	17.2	2.00	22.8	2.00	287	82.0
4	44.13	4	53.5	29	18.4	1.67	24.5	1.50	291	83.3
5	44.25	4	53.2	29	18.0	1.54	24.0	1.50	296	84.6
6	44.38	4	53.3	27	17.5	1.50	23.0	1.50	294	84.0
7	44.50	4	53.6	29	18.7	1.50	24.6	1.50	288	82.4
8	44.63	4	53.4	28	18.0	1.52	23.4	1.50	291	83.2
9	44.75	4	53.2	27	17.1	1.77	22.9	1.50	290	82.8
10	44.88	4	53.3	29	18.4	1.60	24.4	1.50	292	83.4
11	45.00	4	53.4	30	18.4	1.50	25.0	1.50	288	82.2
		Average	53.4	29	18.1	1.58	24.0	1.50	291	83.2
		Std Dev	0.1	1	0.5	0.09	0.8	0.00	3	0.7
		Maximum	53.6	30	18.7	1.77	25.0	1.50	296	84.6
		Minimum	53.2	27	17.1	1.50	22.9	1.50	288	82.2

N-value: 8

Sample Interval Time: 11.22 seconds.

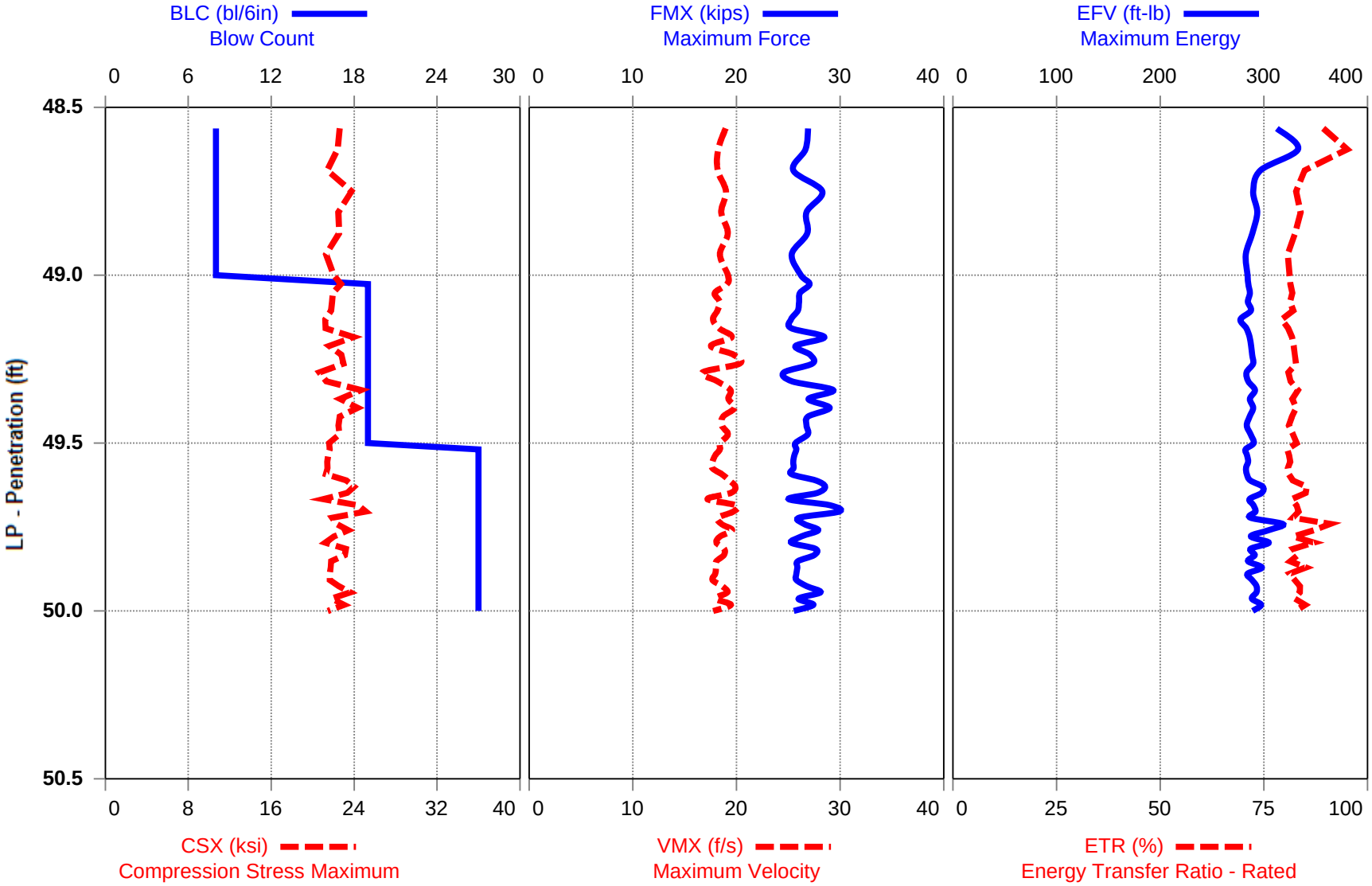
Pile Dynamics, Inc. - PDIPLOT2 Ver 2022.1.62.0 - Case Method & iCAP® Results

Printed: 15-December-2022

Test started: 10-November-2022

CME-750X (SN 322938) - 48.5-50.0 FEET

B-2



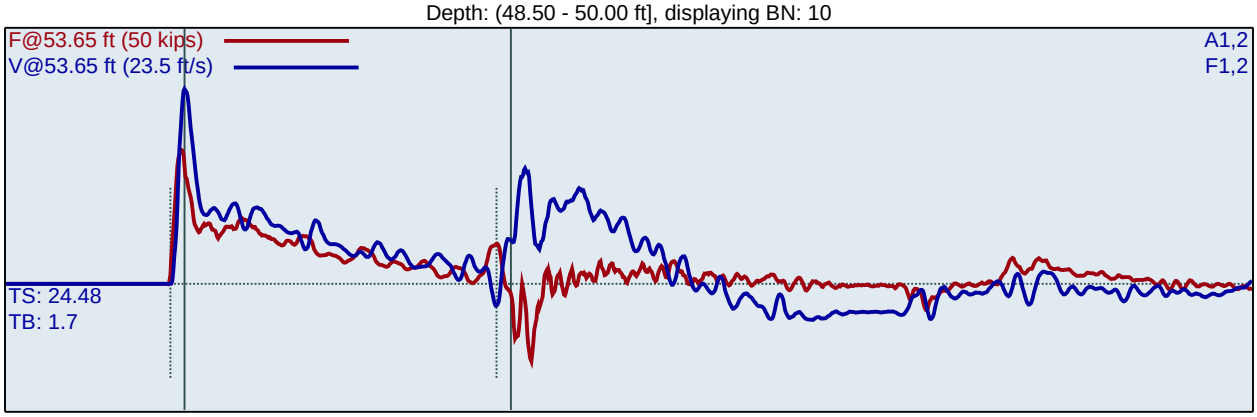
CME-750X (SN 322938)
JRW
B-2

Annual Energy Measurements
Interval start: 11/10/2022

AR: 1.19 in^2
LE: 53.65 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (48.50 - 50.00 ft], displaying BN: 10



F1 : [203 AWJ-1] 213.1 PDICAL (1) FF1

A1 (PR): [K4664] 380 mv/6.4v/5000g (1) VF1
A2 (PR): [K4665] 365 mv/6.4v/5000g (1) VF1

BL#	LP	BC	BPM	FMX	VMX	DMX	CSX	DFN	EFV	ETR
	ft	/6"	bpm	kips	ft/s	in	ksi	in	ft-lb	%
1	48.56	8	1.9	27	19.0	1.18	22.6	0.75	296	84.5
2	48.63	8	42.7	27	18.2	0.99	22.3	0.75	290	82.7
3	48.69	8	54.0	25	18.2	0.79	21.3	0.75	282	80.5
4	48.75	8	53.3	28	19.0	0.75	23.2	0.75	291	83.1
5	48.81	8	53.5	26	18.5	0.75	22.3	0.75	290	82.9
6	48.88	8	53.3	27	19.2	0.75	22.3	0.75	287	81.9
7	48.94	8	53.5	25	18.4	0.75	21.1	0.75	283	80.8
8	49.00	8	53.5	26	19.2	0.75	21.9	0.75	284	81.2
9	49.03	19	53.2	27	19.1	0.56	22.5	0.32	286	81.7
10	49.05	19	53.6	26	17.9	0.56	22.0	0.32	286	81.8
11	49.08	19	53.2	26	18.4	0.54	21.8	0.32	285	81.4
12	49.11	19	53.3	26	18.2	0.54	21.6	0.32	288	82.2
13	49.13	19	53.8	25	17.7	0.52	21.2	0.32	277	79.2
14	49.16	19	53.2	25	18.3	0.51	21.2	0.32	283	80.8
15	49.18	19	53.4	28	19.5	0.50	23.7	0.32	283	81.0
16	49.21	19	53.1	24	17.5	0.51	20.6	0.32	287	81.9
17	49.24	19	53.1	27	19.7	0.51	22.7	0.32	288	82.2
18	49.26	19	53.1	28	20.3	0.49	23.1	0.32	289	82.5
19	49.29	19	53.0	24	16.7	0.49	20.2	0.32	283	80.9
20	49.32	19	53.2	25	18.1	0.48	21.1	0.32	285	81.5
21	49.34	19	53.1	29	19.4	0.48	24.3	0.32	292	83.3
22	49.37	19	52.8	27	19.2	0.46	22.4	0.32	287	82.0
23	49.39	19	53.8	29	19.8	0.46	24.0	0.32	290	82.9
24	49.42	19	53.2	27	18.7	0.45	22.6	0.32	287	81.9
25	49.45	19	53.1	27	18.6	0.44	22.5	0.32	284	81.0
26	49.47	19	53.0	27	19.2	0.44	22.5	0.32	286	81.8
27	49.50	19	53.3	26	18.4	0.44	22.0	0.32	289	82.7
28	49.52	27	53.1	26	18.4	0.42	21.5	0.22	282	80.6
29	49.54	27	52.9	26	17.9	0.43	21.4	0.22	284	81.2
30	49.56	27	53.4	25	17.7	0.43	21.2	0.22	285	81.5
31	49.57	27	53.1	25	17.7	0.42	21.3	0.22	283	80.9

32	49.59	27	52.9	25	18.6	0.41	21.2	0.22	283	80.8
33	49.61	27	53.2	27	19.3	0.41	23.1	0.22	286	81.7
34	49.63	27	52.9	28	19.9	0.41	23.8	0.22	287	82.0
35	49.65	27	53.3	28	19.5	0.43	23.2	0.22	291	83.3
36	49.67	27	53.1	25	17.2	0.41	20.9	0.22	286	81.7
37	49.69	27	53.2	29	20.0	0.41	24.0	0.22	289	82.7
38	49.70	27	52.9	30	19.7	0.41	24.9	0.22	291	83.3
39	49.72	27	53.2	26	18.2	0.41	22.1	0.22	287	82.0
40	49.74	27	53.2	27	18.5	0.41	22.6	0.22	290	82.9
41	49.76	27	53.2	28	19.6	0.41	23.4	0.22	289	82.5
42	49.78	27	53.0	26	18.4	0.41	22.3	0.22	287	82.1
43	49.80	27	53.2	25	18.1	0.40	21.4	0.22	286	81.6
44	49.81	27	53.1	28	18.8	0.39	23.4	0.22	286	81.7
45	49.83	27	52.9	28	18.8	0.40	23.3	0.22	290	82.8
46	49.85	27	53.2	26	18.1	0.39	21.8	0.22	285	81.3
47	49.87	27	53.1	26	18.0	0.39	21.6	0.22	288	82.2
48	49.89	27	53.2	26	17.9	0.39	21.6	0.22	285	81.3
49	49.91	27	52.9	26	17.7	0.39	21.5	0.22	288	82.3
50	49.93	27	53.1	27	18.6	0.39	23.0	0.22	291	83.2
51	49.94	27	52.9	28	19.1	0.39	23.6	0.22	292	83.4
52	49.96	27	53.1	26	18.0	0.38	21.8	0.22	288	82.3
53	49.98	27	53.2	27	19.5	0.40	23.1	0.22	294	84.1
54	50.00	27	53.2	25	17.8	0.39	21.4	0.22	288	82.3
		Average	53.2	27	18.6	0.44	22.3	0.26	287	82.0
		Std Dev	0.2	1	0.8	0.05	1.1	0.05	3	0.9
		Maximum	53.8	30	20.3	0.56	24.9	0.32	294	84.1
		Minimum	52.8	24	16.7	0.38	20.2	0.22	277	79.2

N-value: 46

Sample Interval Time: 59.96 seconds.

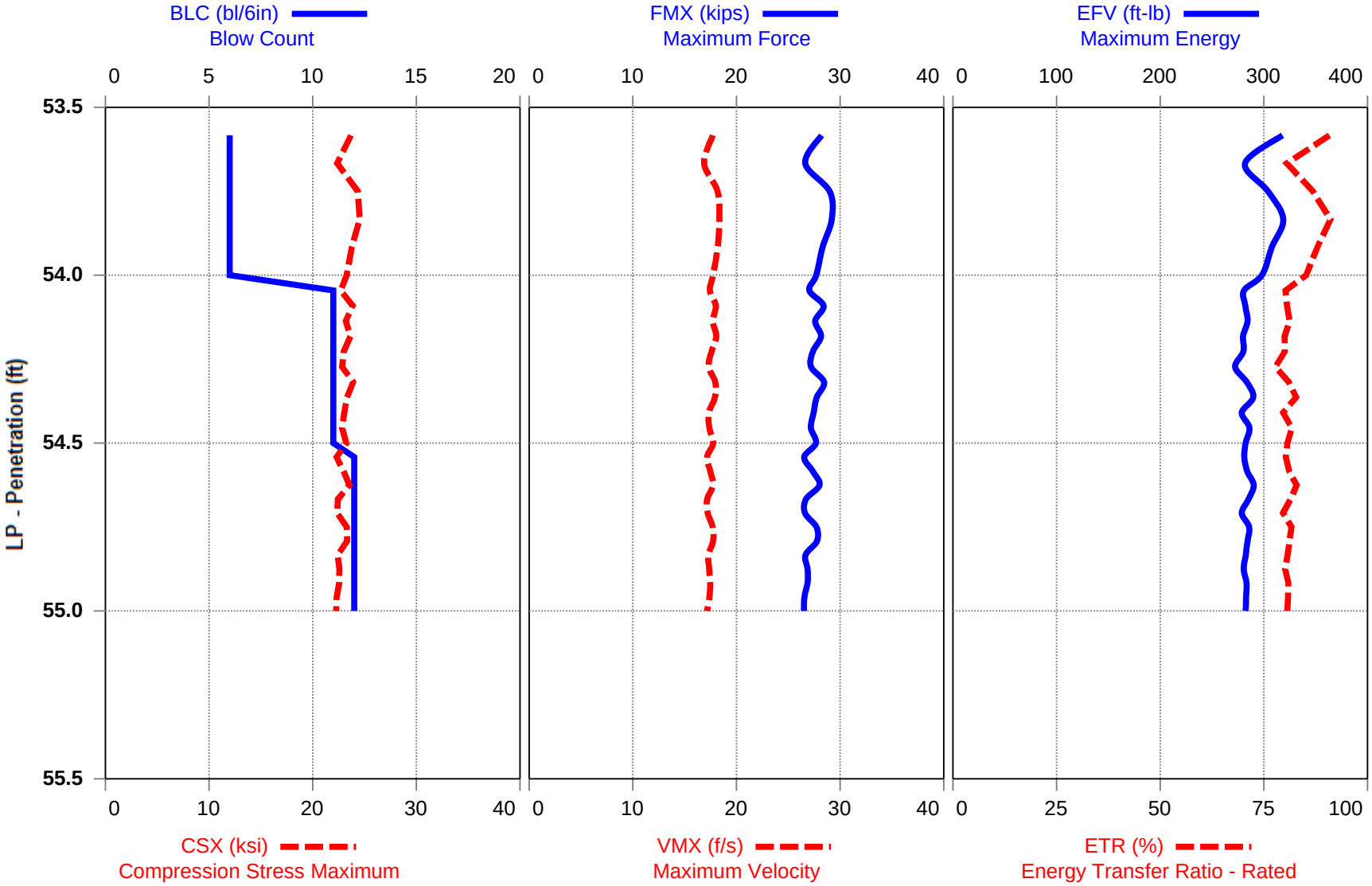
Pile Dynamics, Inc. - PDIPLOT2 Ver 2022.1.62.0 - Case Method & iCAP® Results

Printed: 15-December-2022

Test started: 10-November-2022

CME-750X (SN 322938) - 53.5-55.0 FEET

B-2



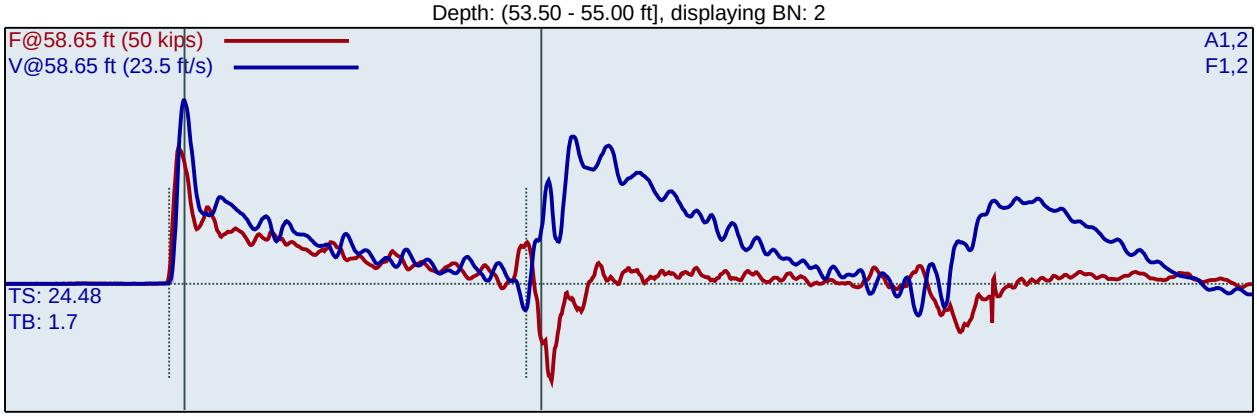
CME-750X (SN 322938)
JRW
B-2

Annual Energy Measurements
Interval start: 11/10/2022

AR: 1.19 in^2
LE: 58.65 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (53.50 - 55.00 ft], displaying BN: 2



F1 : [203 AWJ-1] 213.1 PDICAL (1) FF1

A1 (PR): [K4664] 380 mv/6.4v/5000g (1) VF1
A2 (PR): [K4665] 365 mv/6.4v/5000g (1) VF1

BL#	LP	BC	BPM	FMX	VMX	DMX	CSX	DFN	EFV	ETR
	ft	/6"	bpm	kips	ft/s	in	ksi	in	ft-lb	%
1	53.58	6	1.9	28	17.7	1.41	23.4	1.00	296	84.6
2	53.67	6	55.5	27	16.9	1.15	22.4	1.00	282	80.5
3	53.75	6	53.3	28	18.2	1.00	23.8	1.00	288	82.2
4	53.83	6	53.2	28	18.3	1.00	23.9	1.00	289	82.7
5	53.92	6	53.4	28	18.2	1.00	23.5	1.00	287	82.1
6	54.00	6	53.4	28	17.7	1.00	23.2	1.00	291	83.3
7	54.05	11	53.5	27	17.4	0.61	22.6	0.55	281	80.2
8	54.09	11	53.0	29	18.0	0.57	24.1	0.55	280	80.1
9	54.14	11	53.5	28	17.7	0.60	23.1	0.55	283	80.9
10	54.18	11	53.3	28	18.0	0.58	23.9	0.55	278	79.5
11	54.23	11	53.6	27	17.6	0.58	22.9	0.55	277	79.0
12	54.27	11	53.2	27	17.3	0.57	22.5	0.55	271	77.6
13	54.32	11	53.4	28	18.0	0.57	23.3	0.55	282	80.4
14	54.36	11	53.2	27	17.9	0.58	22.5	0.55	283	80.8
15	54.41	11	53.5	27	17.3	0.58	22.4	0.55	278	79.4
16	54.45	11	53.0	27	17.4	0.59	22.3	0.55	284	81.1
17	54.50	11	53.4	27	17.7	0.56	22.8	0.54	281	80.4
18	54.54	12	53.2	26	17.2	0.57	21.9	0.50	281	80.4
19	54.58	12	53.4	27	17.5	0.56	22.6	0.50	283	80.8
20	54.63	12	53.2	27	17.7	0.60	22.9	0.50	290	82.7
21	54.67	12	53.1	26	17.2	0.58	22.2	0.50	285	81.3
22	54.71	12	53.5	26	17.2	0.57	22.1	0.50	279	79.6
23	54.75	12	53.2	27	17.7	0.57	23.0	0.50	284	81.2
24	54.79	12	53.4	27	17.7	0.59	22.9	0.50	284	81.1
25	54.83	12	53.4	26	17.3	0.59	22.1	0.50	282	80.6
26	54.88	12	53.4	26	17.4	0.58	22.2	0.50	280	80.1
27	54.92	12	53.0	27	17.5	0.57	22.4	0.50	282	80.6
28	54.96	12	53.2	26	17.4	0.58	22.1	0.50	282	80.6
29	55.00	12	53.4	27	17.2	0.58	22.3	0.50	281	80.3

Average	53.3	27	17.5	0.58	22.7	0.52	281	80.4
Std Dev	0.2	1	0.3	0.01	0.5	0.02	3	1.0
Maximum	53.6	29	18.0	0.61	24.1	0.55	290	82.7
Minimum	53.0	26	17.2	0.56	21.9	0.50	271	77.6

N-value: 23

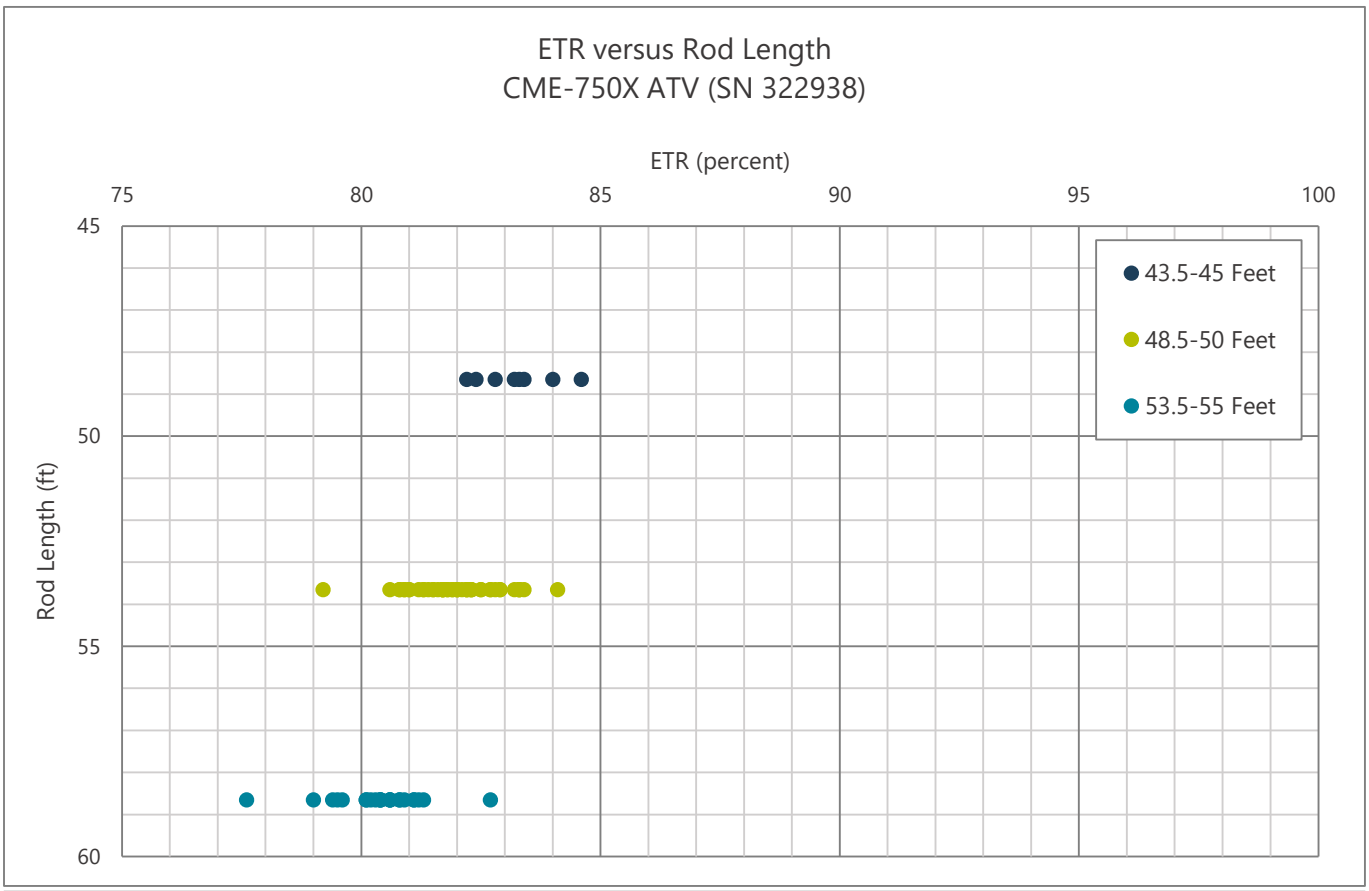
Sample Interval Time: 31.43 seconds.

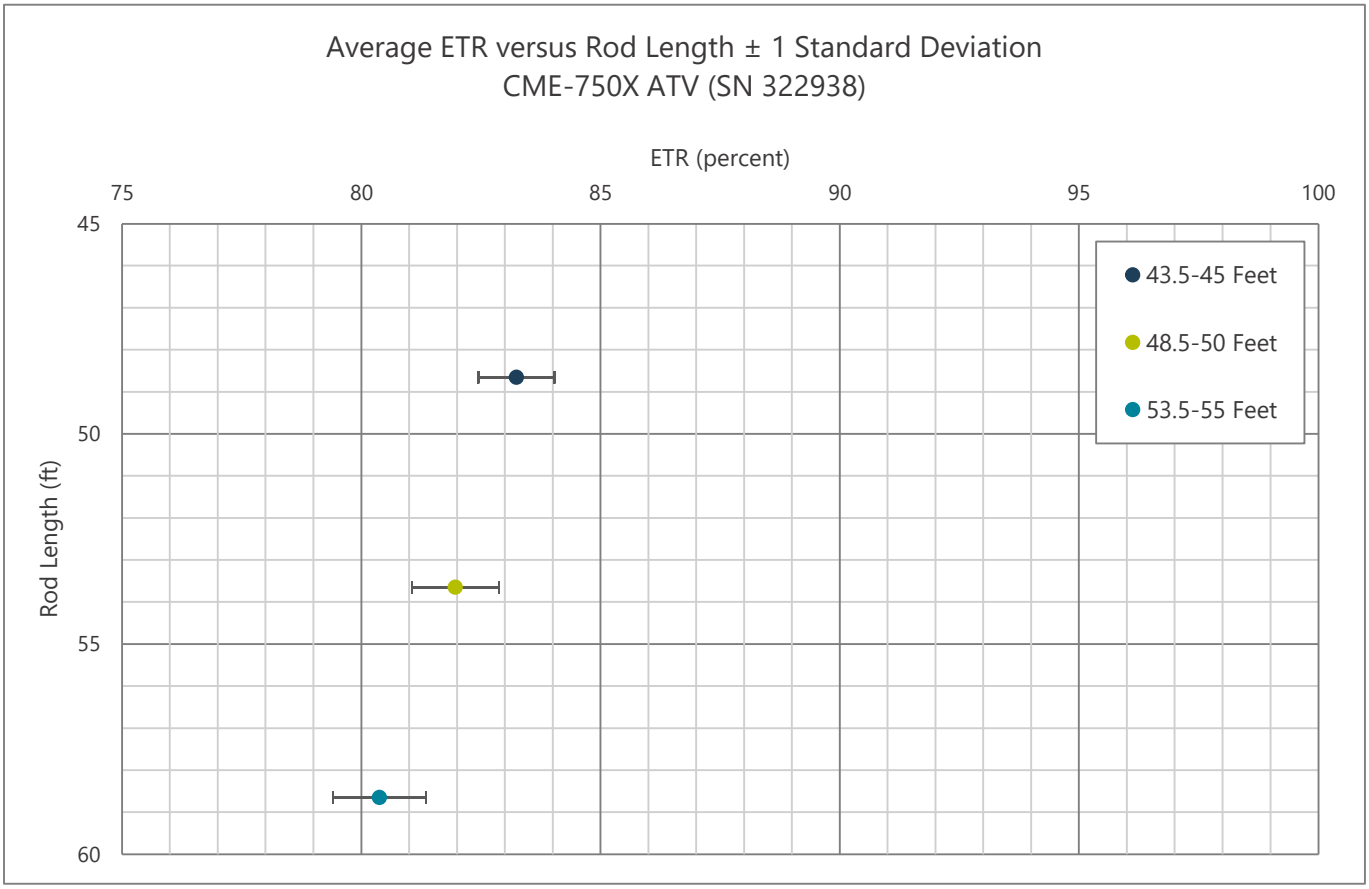
Summary of SPT Test Results

Project: CME-750X (SN 322938), Test Date: 11/10/2022

BPM: Blows/Minute
FMX: Maximum Force
VMX: Maximum Velocity
DMX: Maximum Displacement
CSX: Compression Stress Maximum
DFN: Final Displacement
EFV: Maximum Energy
ETR: Energy Transfer Ratio - Rated

Instr. Length ft	Start Depth ft	Final Depth ft	Blows Applied /6"	**N Value**	**N60 Value**	Average BPM bpm	Average FMX kips	Average VMX ft/s	Average DMX in	Average CSX ksi	Average DFN in	Average EFV ft-lb	Average ETR %
48.65	43.50	45.00	**3-4-4**	**8**	**10**	53.4	29	18.1	1.58	24.0	1.50	291	83.2
53.65	48.50	50.00	**8-19-27**	**46**	**62**	53.2	27	18.6	0.44	22.3	0.26	287	82.0
58.65	53.50	55.00	**6-11-12**	**23**	**31**	53.3	27	17.5	0.58	22.7	0.52	281	80.4
					Overall Average Values:	53.2	27	18.2	0.60	22.6	0.47	286	81.6
					Standard Deviation:	0.2	1	0.8	0.34	1.0	0.37	4	1.3
					Overall Maximum Value:	53.8	30	20.3	1.77	25.0	1.50	296	84.6
					Overall Minimum Value:	52.8	24	16.7	0.38	20.2	0.22	271	77.6


ETR versus Rod Length
CME-750X ATV (SN 322938)
ETR (percent)
75
80
85
90
95
100
45
50
55
60
Rod Length (ft)
43.5-45 Feet
48.5-50 Feet
53.5-55 Feet


Average ETR versus Rod Length ± 1 Standard Deviation
CME-750X ATV (SN 322938)
ETR (percent)
75
80
85
90
95
100
45
50
55
60
Rod Length (ft)
43.5-45 Feet
48.5-50 Feet
53.5-55 Feet

Report of SPT Energy Measurements
S&ME CME-550X ATV
(Serial No. 290593)
Blythewood, South Carolina

PREPARED FOR:

North Carolina Department of Transportation
Geotechnical Engineering Unit
1589 Mail Service Center
Raleigh, North Carolina 27699

PREPARED BY:

S&ME, Inc.
8848 Red Oak Boulevard, Suite A
Charlotte, North Carolina 28217

December 27, 2023

December 27, 2023

North Carolina Department of Transportation
Geotechnical Engineering Unit
1589 Mail Service Center
Raleigh, North Carolina 27699

Attention: Mr. Greg Bodenheimer, P.E.

Cc: Ms. Cheryl A. Youngblood, L.G.
Ms. Christina M. Bruinsma, L.G.

Reference: **Report of SPT Energy Measurements**
S&ME CME-550X ATV (Serial No. 290593)
Blythewood, South Carolina
NC PE Firm License No. F-0176

Dear Mr. Bodenheimer:

We have completed the Standard Penetration Test (SPT) energy measurements on the automatic hammer used with our CME-550X ATV-mounted drill rig (Serial No. 290593). This service was performed by Mr. Joseph Williamson, P.E. of our firm on November 17, 2023, in general accordance with ASTM D4633 and the most recent revision of the North Carolina Department of Transportation (NCDOT) Geotechnical Engineering Unit's requirements. Review of the data quality and analyses was performed by Mr. Williamson. A copy of the Certificate of Proficiency issued by Pile Dynamics based on the Dynamic Measurement and Analysis Proficiency Test for Mr. Williamson is included in Appendix I. The testing procedures, equipment used during testing, and detailed results are presented in this report.

1.0 Dynamic Testing Methodology

Testing was performed using a model PAX (Serial No. 3726L) Pile Driving Analyzer ™ (PDA) manufactured by Pile Dynamics, Inc. The PDA was used to record and interpret data from two piezoresistive accelerometers (Serial Nos. K4664 and K4665) bolted to a 2.0-foot long AWJ drill rod (Serial No. 203) internally instrumented with two strain transducers. Calibration sheets for the accelerometers and the instrumented rod are included in Appendix II. The instrumented AWJ drill rod has a cross-sectional area of 1.22 square inches and an outside diameter of approximately 1¾ inches. Therefore, we calculate the inside diameter to be approximately 1¼ inches at the gauge location. The accelerometers and strain gauges, which are diametrically opposed near the middle of the instrumented rod, monitor acceleration and strain for each hammer blow. The analyzer converts the data to velocities and forces and computes the maximum transferred hammer energies with the "EFV" method described in ASTM D4633. Preliminary results are recorded and displayed in real time for each blow.

2.0 Testing and Observations

S&ME personnel were on site November 17, 2023, to observe and perform high-strain dynamic testing during SPT sampling on the CME-550X ATV-mounted drill rig operated by Larry Shrader of S&ME. The measurements were taken during drilling of a test hole adjacent to a previous soil test boring at an S&ME project site in Blythewood, South Carolina. SPT energy measurements were recorded during four sampling intervals that generally met the NCDOT testing requirements. Two of the samples do not specifically meet the required N-value or rod length interval. However, analysis of the test data indicates the data from these samples generally agrees with the two samples that do meet the testing requirements. Preliminary test results were shared with Mr. Bodenheimer on December 19, 2023 for review. Mr. Bodenheimer agreed that, collectively the four samples provide an appropriate evaluation of the hammer energy transfer. The information presented in the tables below summarizes the equipment and tooling used during the SPT energy measurements. The SPT Energy Evaluation Form and the Soil Test Boring Log from the adjacent boring are included in Appendix III.

Table 2-1: Drill Rig Information

Manufacturer	CME
Model	550X
Serial Number	290593
Operator	L. Shrader
Carrier	ATV

Table 2-2: Hammer Information

Model / Type	CME / Auto
Serial Number	290593
Typical Drop Height (inches)	30
Typical Ram Weight (pounds)	140
Ram Serial Number	N/A

Table 2-3: Drilling and Instrumented Rod Information

Instrumented Rod Type	AWJ (Serial No. 203)
OD (inches)[1]	1¾
ID (inches)[2]	1¼
Cross-Sectional Area (in²)[3]	1.22
Total Instrumented Rod Length (feet)[1]	2.0
Length Below Gages (feet)[1]	0.7
Typical Rod Lengths (feet)	5
Split-Spoon Length (feet)[1]	2.85

3.0 Dynamic Testing Results

The total rod length from the instrumentation to the tip of the split-spoon sampler was determined by adding 3.55 ft to the drill rod length at each sample depth. The SPT Energy Measurement Data Summary tables in Appendix IV present the test data from every hammer blow at each sampling interval, along with representative force and velocity traces for each test interval. Per ASTM D4633, only the blows from the final foot of each sample interval (i.e. the blows that determine the N-value) are considered when computing the average measurement values of each test interval.

The reported blow counts obtained by the drill rig personnel, a summary of the test data, and average computed hammer energy and transfer ratio values are provided in Table 3-1. Based on the test data, the automatic hammer on the CME-550X operated at an average rate of about 59 blows per minute (bpm) during dynamic testing. The measured average transferred hammer energy (EFV) of the four sample intervals tested ranged from 316 to 326 ft-lbs, which corresponds to Energy Transfer Ratio (ETR) values of 90.3 to 93.2%, respectively. Plots and tables of the following are also included in the Appendix and present the test data with depth for each test interval:

- Penetration vs. BLC[4]
- Penetration vs. FMX[5]
- Penetration vs. EFV[6]
- Penetration vs. CSX[7]
- Penetration vs. VMX[8]
- Penetration vs. ETR[9]
- ETR vs. Rod Length
- Average ETR vs. Rod Length

[1] Measured with engineer's tape measure.
[2] Calculated using measured OD and Area from instrument rod calibration record.
[3] From instrument rod calibration record.
[4] BLC - Blow Count per 6-in. increment
[5] FMX - Maximum Compressive Force
[6] EFV – Maximum Transferred Energy
[7] CSX – Maximum Compressive Stress
[8] VMX – Maximum Velocity
[9] ETR – Energy Transfer Ratio – Ratio of Calculated Energy to Theoretical Energy of 140 lb hammer falling 30 inches

Table 3-1: Summary of Dynamic Testing Results

Data Set ID	Sample Depth (ft)	Drill Rod Length (ft)	Instrumentation to Sampler Tip Length (ft)	Blows per 6" Increment / N-value	Soil Sample Description (Piedmont Residual)	Avg. BPM	Avg. EFV (ft-lbs)	Avg. ETR (%)
1	48.5 – 50.0	50.0	53.55	6-8-13 / **21**	SANDY SILT	58.6	316	90.3
2	53.5 – 55.0	55.0	58.55	6-11-17 / **28**	SANDY SILT	58.7	326	93.2
3	56.0 – 57.5	57.5	60.55	7-9-17 / **26**	SANDY SILT	58.6	320	91.3
4	58.5 – 60.0	60.0	63.55	15-27-44 / **71**	SANDY SILT	58.8	320	91.4
					Overall Average	**58.7**	**321**	**91.6**

The overall average transferred hammer energy for the automatic hammer on the CME-550X ATV-mounted drill rig (SN 290593) was 321 foot-pounds, with an average ETR of 91.6%.

4.0 Limitations of Report

This report has been prepared in accordance with generally accepted geotechnical engineering practice for specific application to this project. The conclusions contained in this report were based on the applicable standards of our profession in this geographic area at the time this report was prepared. No other warranty, express or implied, is made.

5.0 Closing

S&ME appreciates the opportunity to provide this report to the North Carolina Department of Transportation, Geotechnical Engineering Unit. Please let us know if you have any questions concerning this report.

Sincerely,

S&ME, Inc.

Joseph R. Williamson, P.E.
Project Manager
N.C. Registration No. 42168

Gregory J. Canivan, P.E.
Technical Principal

Appendices:

- Appendix I - Certificates of Proficiency
- Appendix II - Instrumented Rod and Accelerometer Calibration Sheets
- Appendix III - SPT Energy Evaluation Form (Field Log)
- Appendix IV - CME-550X ATV (SN 290593) SPT Energy Measurements Summary Plots and Tables

Appendices

Appendix I- Certificate of Proficiency

PDCA
PILE DRIVING CONTRACTORS ASSOCIATION

Pile Dynamics, Inc.

This documents that

Joseph Williamson
S&ME, Inc.

has on March 16, 2022 achieved the rank of

MASTER

on the **Dynamic Measurement and Analysis Proficiency Test**.

The individual identified on this document demonstrated to the degree granted above an understanding of theory, data quality evaluation, interpretation and signal matching for high strain dynamic testing of deep foundations. ***It is recommended* that individuals at the Master level seek to attain Expert level through additional study within eight years of the date of this document**

The ability of the individual named to provide appropriate knowledge and advice on a specific project is not implied or warranted by the Pile Driving Contractors Association or Pile Dynamics, Inc. The Pile Driving Contractors Association or Pile Dynamics, Inc. assumes no liability for foundation testing and analysis work performed by the bearer of this certificate. This certificate can be verified at www.PDAproficiencytest.com.

Frank T. Peters, Executive Director
Pile Driving Contractors Association

PILE DYNAMICS, INC. CORPORATE SEAL 1972 OHIO

Garland Likins, Senior Partner
Pile Dynamics, Inc.

No. 3251

Appendix II - Calibration Sheets

Accelerometer Calibration Certificate
Pile Dynamics, Inc.

Calibrated by Pile Dynamics, Inc.
Calibration performed on 17Aug2023

Serial No:	K4664	**Temperature:**	77.6 °F
Model:	PR	**Humidity:**	51%
Calibrated on:	Channel 3 on 8G 5161 LE		

Ref Acc 1:	72505! 1035 g's/volt	**Cal on:**	24Mar2022
Ref Acc 2:	72517! 1049 g's/volt	**Cal on:**	24Mar2022

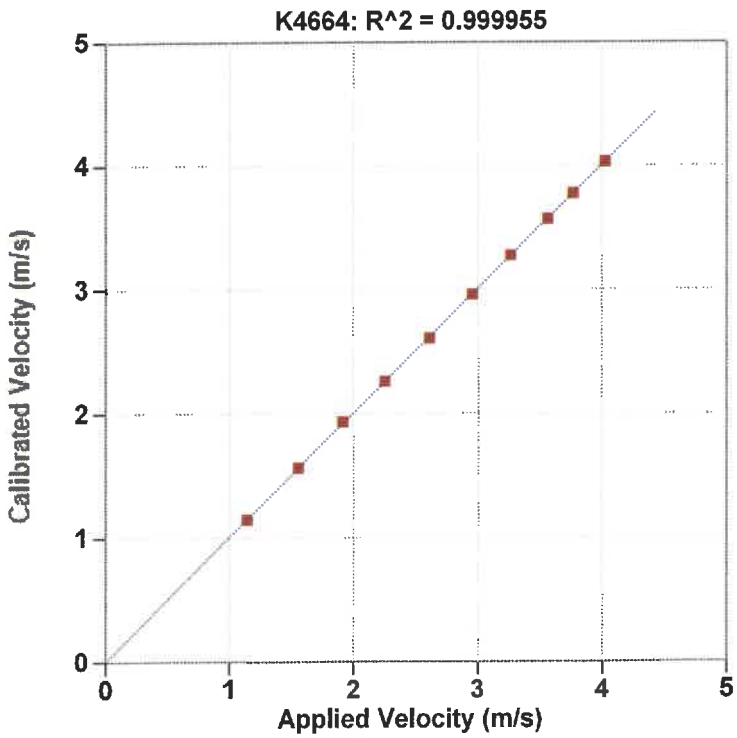
Reference accelerometer calibrations are traceable to the United States National Institute of Standards and Technology (NIST).

PDA CALIBRATION FACTOR

376.6 mv/5000g
(75.3 μv/g)
R^2: 0.999955 [Chip programmed]

Operator: William Johnson

Signed



Reference Velocity	S/N K4664 Velocity
m/s	m/s
1.146	1.143
1.560	1.559
1.915	1.932
2.255	2.258
2.612	2.606
2.962	2.958
3.270	3.273
3.569	3.566
3.772	3.773
4.030	4.027

Maximum Acceleration: 879 g's

Date printed: 17Aug2023, version: 2020.30.170 -1.28

Accelerometer Calibration Certificate
Pile Dynamics, Inc.

Calibrated by Pile Dynamics, Inc.
Calibration performed on 17Aug2023

Serial No:	K4665	**Temperature:**	77.6 °F
Model:	PR	**Humidity:**	51%
Calibrated on:	Channel 3 on 8G 5161 LE		

Ref Acc 1:	72505! 1035 g's/volt	**Cal on:**	24Mar2022
Ref Acc 2:	72517! 1049 g's/volt	**Cal on:**	24Mar2022

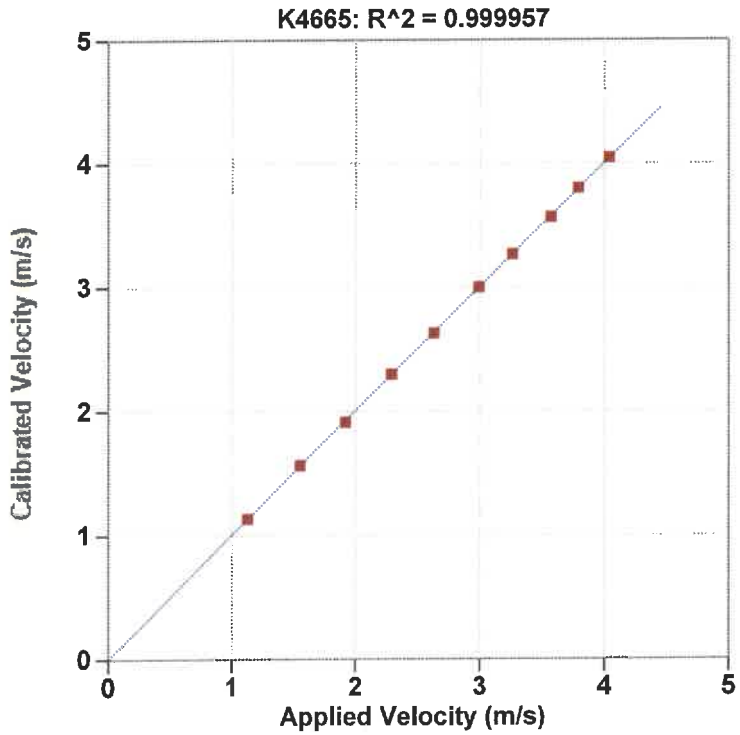
Reference accelerometer calibrations are traceable to the United States National Institute of Standards and Technology (NIST).

PDA CALIBRATION FACTOR

375.3 mv/5000g
(75.1 µv/g)
R^2: 0.999957 [Chip programmed]

Operator: William Johnson

Signed



Reference Velocity m/s	S/N K4665 Velocity m/s
1.129	1.131
1.555	1.560
1.922	1.910
2.291	2.295
2.633	2.627
2.994	2.999
3.262	3.264
3.573	3.564
3.791	3.797
4.038	4.041

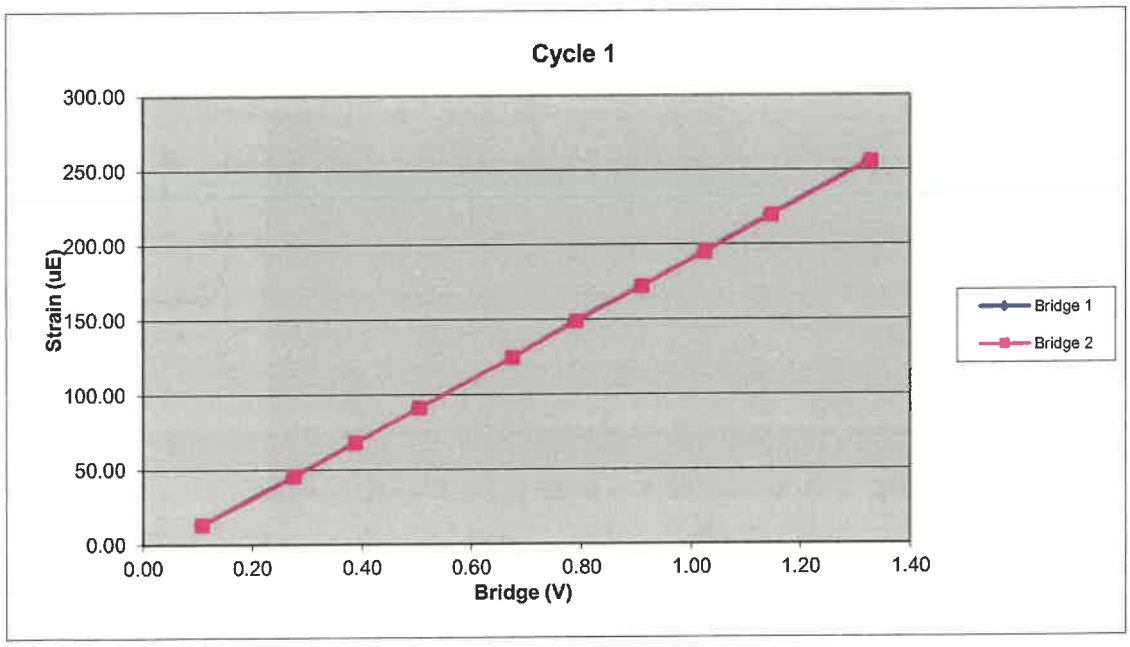
Maximum Acceleration: 880 g's

Date printed: 17Aug2023, version: 2020.30.170 -1.10

203AWJ		Cycle 1		
Sample	**Force (lb)**	**Strain (μE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	819.88	13.18	0.11	0.11
3	2100.72	45.33	0.27	0.28
4	2947.11	68.12	0.39	0.39
5	3827.72	90.98	0.50	0.51
6	5122.01	124.83	0.67	0.68
7	5996.48	148.92	0.79	0.79
8	6896.87	172.25	0.91	0.91
9	7771.24	195.27	1.02	1.03
10	8694.53	219.87	1.15	1.15
11	10075.00	255.83	1.33	1.33

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**7576.32**	**Force Calibration (lb/V)**	**7575.14**
Offset	14.17	Offset	2.97
Correlation	0.999999	Correlation	0.999999
Strain Calibration (μE/V)	**199.46**	**Strain Calibration (μE/V)**	**199.43**
Offset	-9.00	Offset	-9.29
Correlation	0.999979	Correlation	0.999982

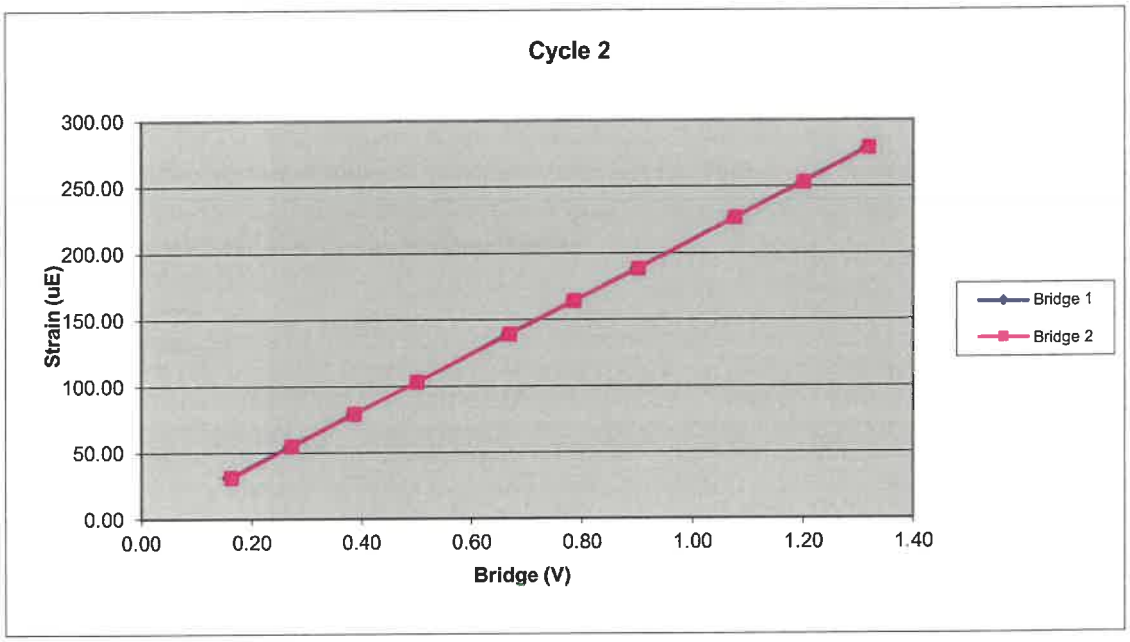
Force Strain Calibration	
EA (Kips)	**37982.46**
Offset	356.04
Correlation	0.999980



203AWJ		Cycle 2		
Sample	**Force (lb)**	**Strain (μE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	1217.00	30.72	0.16	0.16
3	2060.56	54.45	0.27	0.27
4	2939.22	78.94	0.39	0.39
5	3811.73	102.81	0.50	0.50
6	5082.83	138.71	0.67	0.67
7	5976.20	163.65	0.78	0.79
8	6861.10	187.95	0.90	0.90
9	8194.67	226.13	1.08	1.08
10	9130.84	252.84	1.20	1.20
11	10039.52	278.74	1.32	1.32

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**7616.13**	**Force Calibration (lb/V)**	**7615.56**
Offset	**1.43**	Offset	**-11.88**
Correlation	**0.999999**	Correlation	**0.999997**
Strain Calibration (μE/V)	**213.80**	**Strain Calibration (μE/V)**	**213.79**
Offset	**-3.74**	Offset	**-4.12**
Correlation	**0.999987**	Correlation	**0.999990**

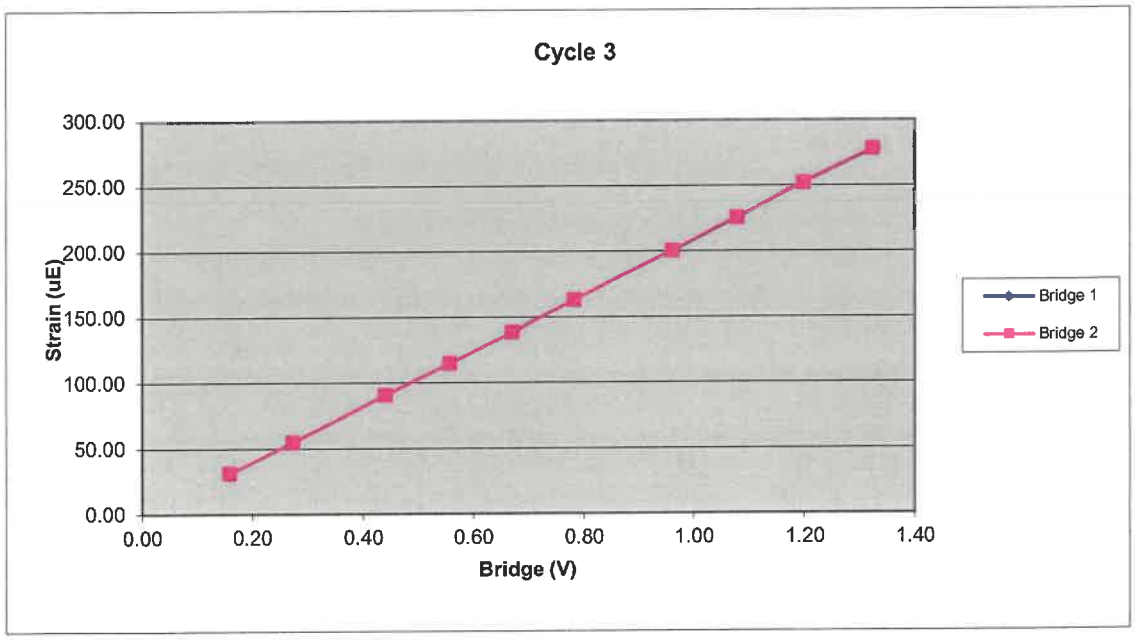
Force Strain Calibration	
EA (Kips)	**35621.25**
Offset	**134.95**
Correlation	**0.999985**



203AWJ		Cycle 3		
Sample	**Force (lb)**	**Strain (µE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	1216.12	31.38	0.16	0.16
3	2078.01	54.75	0.27	0.27
4	3348.13	90.71	0.44	0.44
5	4248.62	114.98	0.56	0.56
6	5110.90	138.68	0.67	0.67
7	5966.16	163.47	0.78	0.78
8	7338.73	200.80	0.96	0.96
9	8226.55	225.96	1.08	1.08
10	9144.10	252.26	1.20	1.20
11	10093.62	278.03	1.32	1.32

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**7621.84**	**Force Calibration (lb/V)**	**7635.13**
Offset	**-0.64**	Offset	**-3.95**
Correlation	**0.999999**	Correlation	**0.999999**
Strain Calibration (µE/V)	**212.12**	**Strain Calibration (µE/V)**	**212.49**
Offset	**-2.91**	Offset	**-3.01**
Correlation	**0.999979**	Correlation	**0.999985**

Force Strain Calibration	
EA (Kips)	**35930.12**
Offset	**104.27**
Correlation	**0.999985**



Bridge Excitation (V) 5
Shunt Resitor (ohm) 60.4k

Calibration Factors	203AWJ		
Bridge 1 (µE/V)	208.46	Bridge 2 (µE/V)	208.57
EA Factor (Kips)	36511.28	Area (in^2)	1.22

Calibrated by: Sean Bower
Calibrated Date: 8/24/2023

Pile Dynamics Inc
30725 Aurora Rd
Solon, OH 44139

Traceable to N.I.S.T.

Appendix III – Field Log

SPT Energy Evaluation Form

Project: I-77 EXIT 26 PHASE I
Project No.: 236 10178A
Boring No.: TEST HOLE A

Date: 11/17/23
Weather: CLEAR 70°
Drill Rod Type: 5' LONG AWJ

On-site Personnel

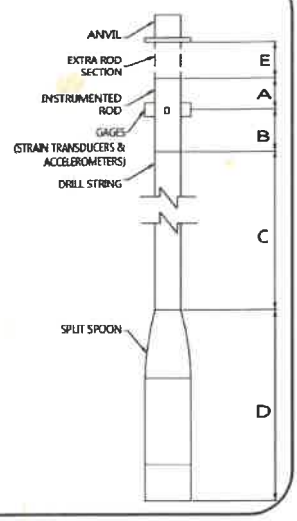
Drilling Company: SME
Rig Operator: L. SPRADER
Engr/Geologist: N/A
Client Rep.: N/A
Analyzer Oper.: J. WILLIAMSON

Rig/Hammer Info

Drill Rig Make/Model: CME-550X
Carrier Type: ATV
Rig Serial No.: 290593 (R-49)
Hammer Type/Model: AUTO / CME
Hammer Serial No.:
Hammer Drop System: CHAIN DRIVE
Lubrication Condition: PER MANUFACTURER REC'S.
Manufacturer Recommended Operation Rate (bpm): 50-55
Typical Drop Height (in.): 30
Typical Hammer Weight (lbs): 140
Anvil Dimension (in.): 12
Drilling Method: 2 1/4" HSA
Drop Height in Tolerance (y/n): Y

Rod Info

(A) + (B) Instr. Rod Length: 7.0 ft
(B) Instr. Rod Length below Gages: 0.7 ft
(D) Spoon Length: 2.85 ft
(E) Rod Length Above Instr. Rod (if applicable): 0 ft
(B)+(C)+(D) (LE) - Length Below Gauges: **(C)** + 3.55 ft
Instr. Rod S/N: 203 AWJ
Instr. Rod Outside Dia.: 1.75 in.
Instr. Rod Area: 1.22 in^2
PDA Make/Model: PDI / PAX
PDA Serial No.: 3733L
Calib. Pulse Test (y/n): Y



Gage Info

Gage		Serial No.	Calibration No.
Accel.	A3	K 4664	376.6
	A4	K 4665	375.3
Strain	F3	203 AWJ-1	208.46
	F4	203 AWJ-2	208.57

Date of Test	Test Depth Increment (ft to ft)	Test Time Start / Stop (military)	Length of Drill String (ft) (C)	(LE) Length below Gages (ft) (B) + (C) + (D)	Avg. Meas. Hammer Rate (BPM)	SPT Blow Counts: Total Blows by PDA	6"	12"	18"	N-Value	Extra Blows	AASHTO / USCS Classification
11/17/23	38.5-40.0	11:01	39	42.55			25	26	50+	100+		
	43.5-45	11:19	45	48.55		97	14	35	50/0.3	100+		
	48.5-50.0	11:34	50	53.55		27	6	8	13	21	0	
	53.5-55.0	11:48	55	58.55		34	6	11	17	28	0	
	56.0-57.5	12:05	57	60.55		33	7	9	17	26	0	
	58.5-60.0	12:18	60	63.55		86	15	27	44	71	0	

Notes: F2 SPIKING ON FIRST SAMPLE. SWAPPED OUT PIGTAIL. ALSO SEVERAL BAD BLOWS RECORDED B/ PDA
" " & LAST SAMPLE.

NOTE: (1) Note any unusual hammer operating conditions that affect the hammer performance, or changes in operating conditions (e.g. veritcality, weather, or lubrication between trials). (2) Note any changes in rod diameter along drill string and record locations of short rod sections.

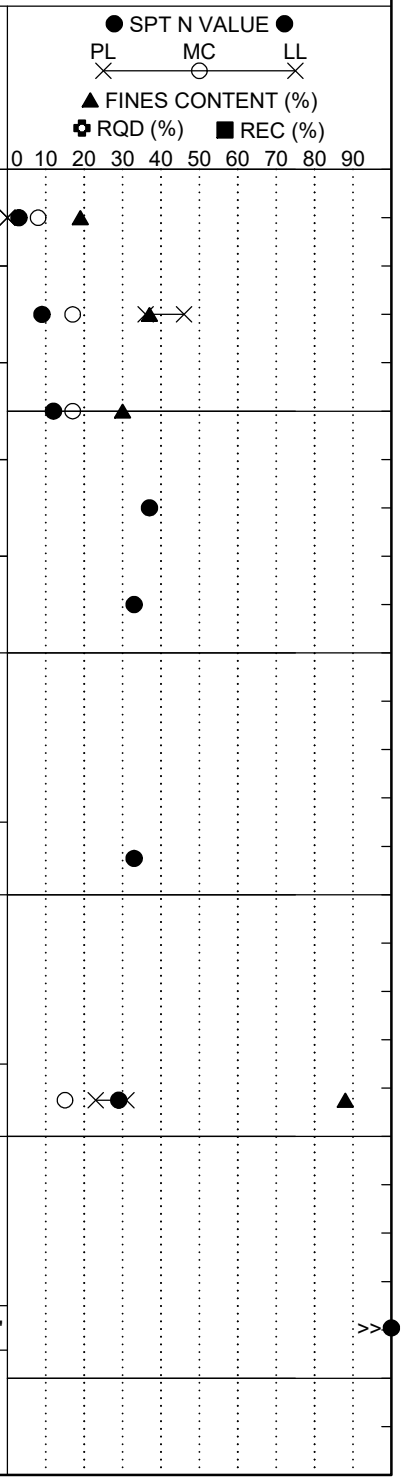
Joseph Williamson
Prepared By (print/signature)

11/17/23
Date

SCDOT Soil Test Log

Project ID:	23610178A	**County:**	Richland	**Boring No.:**	EB-1W
Site Description:	I-77 Exit 26 Phase I			**Route:**	US-21
Eng./Geo.:	S. Melecosky	**Boring Location:**		**Offset:**	
Alignment:	Proposed				
Elev.:	445.3 ft	**Latitude:**	34.18986277	**Longitude:**	-80.97066934
Date Started:	7/19/2023				
Total Depth:	89.6 ft	**Soil Depth:**	71.6 ft	**Core Depth:**	18 ft
Date Completed:	7/21/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic
Energy Ratio:	81.6%				
Core Size:	NQ	**Driller:**	S. Gowan	**Groundwater:**	**TOB** NA
24HR	NA				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	Grassy							
	0.5	**SURFACE MATERIAL** - TOPSOIL - 6 inches.	0.0	SS-1	1	1	2	4	3
		COASTAL PLAIN - very loose, moist, light reddish brown, Silty fine to medium SAND (SM) (A-2-4), little nonplastic fines, 5YR6/4. LL=NP, PL=NP, PI=NP, NMC=8.2%, %#200=19	2.0	SS-2	3	3	6	7	9
440.3		@1.8 feet - loose, yellowish red with light gray, (A-5(0)), 5YR5/8, 5YR7/1. LL=46, PL=36, PI=10, NMC=17.4%, %#200=37	4.0	SS-3	3	5	7	13	12
		@4 feet - medium dense.	6.0						
		@6 feet - dense, yellowish red, 5YR5/8.		SS-4	16	19	18	25	37
		@7.2 feet - reddish yellow with pinkish gray, 7.5YR6/6, 7.5YR7/2.	8.0						
		@9.2 feet - pink, 7.5YR8/4.		SS-5	7	16	17	20	33
435.3									
		@12 feet - pinkish white, fine to coarse, 7.5YR8/2.	13.5						
	13.7								
	14.2	Hard, moist, pinkish white, fat CLAY (CH), 7.5YR8/2.		SS-6	10	16	17		33
430.3		Dense, wet, reddish yellow, Silty fine to coarse SAND (SM), some low plasticity fines, 7.5YR7/6.							
	17.0	@14.5 feet - white with reddish yellow, 7.5YR8/1, 7.5YR7/6.							
		Very stiff, moist, white with reddish yellow, lean CLAY (CL) (A-4(7)), few fine to medium sands, 7.5YR8/1, 7.5YR6/8. LL=31, PL=23, PI=8, NMC=15%, %#200=88	18.5	SS-7	11	12	17		29
425.3									
			23.5						
	24.2			SS-8	22	50/5"			50/5"
420.3		Very dense, wet, white to reddish yellow, Silty fine to medium SAND (SM), some low plasticity fines, 5YR8/1, 5YR7/8.							



LEGEND

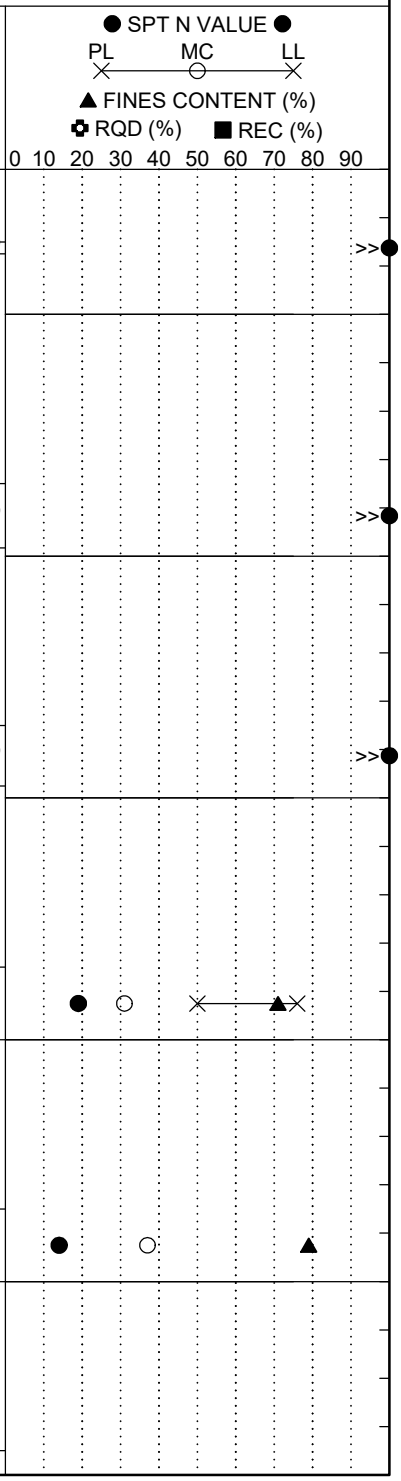
Continued Next Page

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	23610178A	**County:**	Richland	**Boring No.:**	EB-1W
Site Description:	I-77 Exit 26 Phase I			**Route:**	US-21
Eng./Geo.:	S. Melecosky	**Boring Location:**		**Offset:**	
Alignment:	Proposed				
Elev.:	445.3 ft	**Latitude:**	34.18986277	**Longitude:**	-80.97066934
Date Started:	7/19/2023				
Total Depth:	89.6 ft	**Soil Depth:**	71.6 ft	**Core Depth:**	18 ft
Date Completed:	7/21/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic
Energy Ratio:	81.6%				
Core Size:	NQ	**Driller:**	S. Gowan	**Groundwater:**	**TOB** NA
24HR	NA				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
			28.5	SS-9	50/3"				50/3"
415.3									
	33.5	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, moist to wet, reddish yellow with pinkish white, SILT with Sand (ML), little fine to medium sands, 5YR7/8, 5YR8/2.	33.5	SS-10	20	33	50/4"		50/4"
410.3									
		@38.5 feet - reddish yellow with pinkish white and pale yellow, 5YR7/8, 5YR8/2, 2.5Y8/2.	38.5	SS-11	17	36	50/3"		50/3"
405.3									
	43.5	**PIEDMONT RESIDUUM** - very stiff, moist, reddish yellow with pale yellow, Sandy elastic SILT (MH) (A-7-5(23)), some fine to medium sands, trace fine rock fragments, 5YR7/8, 2.5Y8/2. LL=76, PL=50, PI=26, NMC=31%, %#200=71	43.5	SS-12	5	8	11		19
400.3									
		@48.5 feet - stiff.	48.5	SS-13	4	6	8		14
395.3									
		@53.5 feet - hard, strong brown with light	53.5						



LEGEND

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SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	23610178A	**County:**	Richland	**Boring No.:**	EB-1W
Site Description:	I-77 Exit 26 Phase I			**Route:**	US-21
Eng./Geo.:	S. Melecosky	**Boring Location:**		**Offset:**	
Alignment:	Proposed				
Elev.:	445.3 ft	**Latitude:**	34.18986277	**Longitude:**	-80.97066934
Date Started:	7/19/2023				
Total Depth:	89.6 ft	**Soil Depth:**	71.6 ft	**Core Depth:**	18 ft
Date Completed:	7/21/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic
Energy Ratio:	81.6%				
Core Size:	NQ	**Driller:**	S. Gowan	**Groundwater:**	**TOB** NA
24HR	NA				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value	SPT N VALUE (PL MC LL) / FINES CONTENT (%) / RQD (%) / REC (%) (0 10 20 30 40 50 60 70 80 90)
		brown, 7.5YR4/6, 7.5YR6/8.		SS-14	10	18	25		43	
390.3										
	58.5		58.5							
		Dense, moist, greenish gray, Silty fine SAND (SM), some low plasticity fines, 10BG5/1.		SS-15	8	17	25		42	
385.3										
	62.0	**PARTIALLY WEATHERED ROCK (PWR)** - very dense, moist, greenish gray, Silty fine to coarse SAND (SM), some low plasticity fines, 10BG5/1.	63.5	SS-16	50/5"				50/5"	>>
380.3										
			68.5	SS-17	50/3"				50/3"	>>
375.3										
	71.6	Tri-Cone Bit Refusal at 71.6 feet. Install casing to 60 feet for coring.	71.6							
		METAMORPHIC BEDROCK - ARGILLITE, light greenish gray with dark bluish gray, laminated, very fine grained, moderately weathered, strong rock, 70ºdown, Sh, VN, Su, No, St-Ir, VC, R, 10G7/1, 10B4/1.		RC-1						%REC=90, RQD=43
370.3			74.6							
		@72.2 feet - quartz interbedding.								
		@72.5 feet - absent quartz interbedding.		RC-2						%REC=54, RQD=22
		@74.6 feet - residual soil, Sd, VR.								
		@75.9 feet - absent residual soil.								
			79.6							
365.3		@79.6 feet - Qz, Sd, Pl-Ir.								

Continued Next Page

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT 23610178A SCDOT BORING LOGS_NEW MASTER 8-29.GPJ SCDOT_DATATEMPLATE.GDT 10/23/23

SCDOT Soil Test Log

Project ID:	23610178A	**County:**	Richland	**Boring No.:**	EB-1W
Site Description:	I-77 Exit 26 Phase I			**Route:**	US-21
Eng./Geo.:	S. Melecosky	**Boring Location:**		**Offset:**	
Alignment:	Proposed				
Elev.:	445.3 ft	**Latitude:**	34.18986277	**Longitude:**	-80.97066934
Date Started:	7/19/2023				
Total Depth:	89.6 ft	**Soil Depth:**	71.6 ft	**Core Depth:**	18 ft
Date Completed:	7/21/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW/RC	**Hammer Type:**	Automatic
Energy Ratio:	81.6%				
Core Size:	NQ	**Driller:**	S. Gowan	**Groundwater:**	**TOB** NA
24HR	NA				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value	● SPT N VALUE ● PL MC LL ▲ FINES CONTENT (%) ✿ RQD (%) ■ REC (%) 0 10 20 30 40 50 60 70 80 90
					RC-3						%REC=100, RQD=64
360.3		@84.6 feet - No, Pl-Wa.		84.6							
		@86.6-87.7 feet - light greenish gray, absent laminations, 10G7/1.			RC-4						%REC=100, RQD=54
	89.6										
355.3		Boring Terminated at 89.6 feet.									
350.3											
345.3											
340.3											

LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT 23610178A SCDOT BORING LOGS_NEW MASTER 8-29.GPJ SCDOT_DATATEMPLATE.GDT 10/23/23

Appendix IV – SPT Energy Measurement Plots and Tables

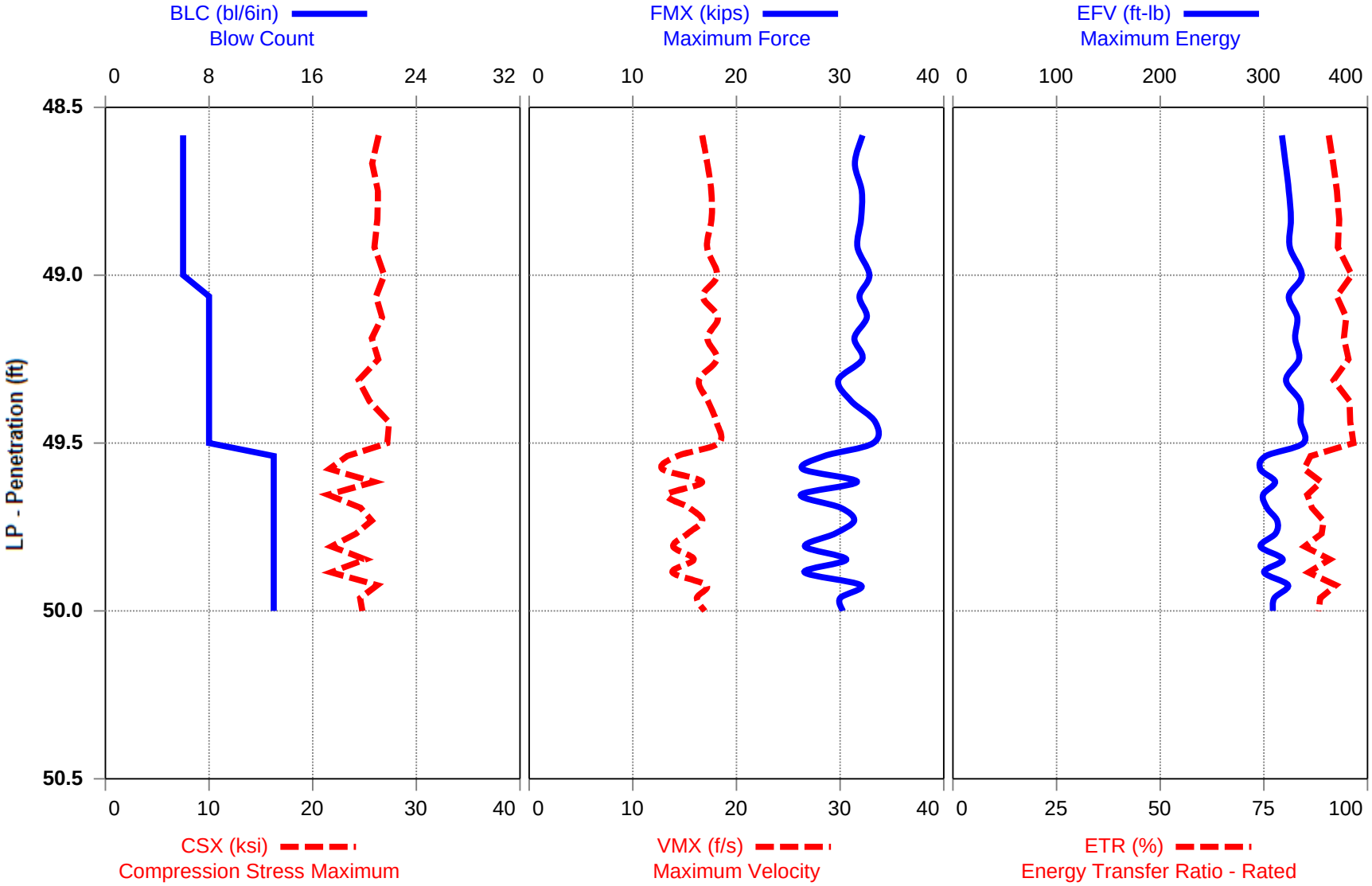
Pile Dynamics, Inc. - PDIPLOT2 Ver 2022.1.62.0 - Case Method & iCAP® Results

Printed: 20-December-2023

Test started: 17-November-2023

CME-550X SN 290593 - 48.5-50.0 FEET

TEST HOLE A



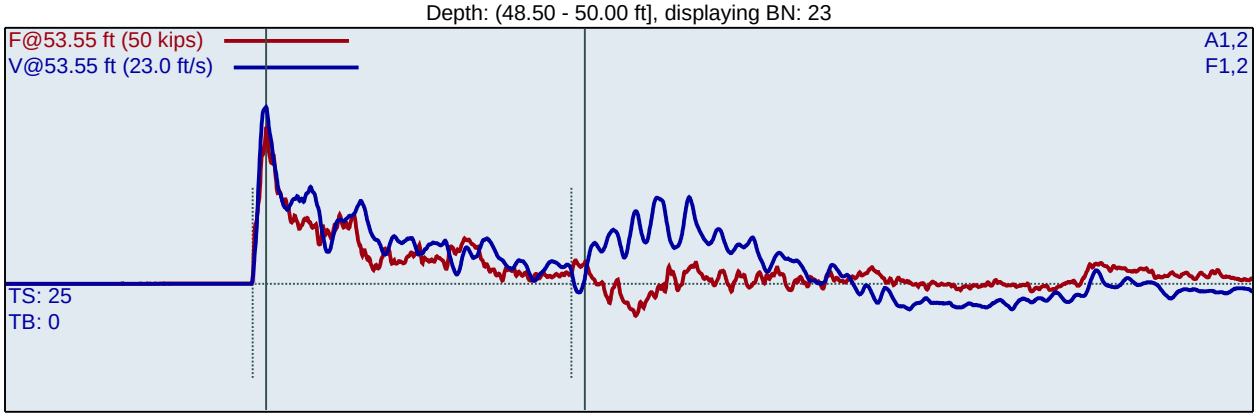
CME-550X SN 290593
JRW
TEST HOLE A

48.5-50.0 FEET
Interval start: 11/17/2023

AR: 1.22 in^2
LE: 53.55 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (48.50 - 50.00 ft], displaying BN: 23



F1 : [203 AWJ-1] 208.46 PDICAL (1) FF1
F2 : [203 AWJ-2] 208.57 PDICAL (1) FF1

A1 (PR): [K4664] 376.6 mv/6.4v/5000g (1) VF1
A2 (PR): [K4665] 375.3 mv/6.4v/5000g (1) VF1

BPM: Blows/Minute
FMX: Maximum Force
VMX: Maximum Velocity
DMX: Maximum Displacement

CSX: Compression Stress Maximum
DFN: Final Displacement
EFV: Maximum Energy
ETR: Energy Transfer Ratio - Rated

BL#	LP	BC	BPM	FMX	VMX	DMX	CSX	DFN	EFV	ETR
	ft	/6"	bpm	kips	ft/s	in	ksi	in	ft-lb	%
1	48.58	6	1.9	32	16.7	1.00	26.4	1.00	317	90.6
2	48.67	6	58.6	31	17.2	1.03	25.7	1.01	321	91.7
3	48.75	6	58.1	32	17.6	1.00	26.3	1.00	324	92.6
4	48.83	6	58.6	32	17.6	1.00	26.2	1.00	326	93.1
5	48.92	6	57.9	32	17.2	1.00	26.0	1.00	325	92.8
6	49.00	6	58.8	33	18.1	1.00	26.9	1.00	337	96.2
7	49.06	8	58.1	32	16.8	0.76	26.1	0.75	324	92.5
8	49.13	8	59.0	33	18.2	0.75	26.7	0.75	332	94.8
9	49.19	8	58.1	31	17.2	0.78	25.7	0.75	330	94.3
10	49.25	8	58.7	32	18.1	0.78	26.3	0.75	334	95.4
11	49.31	8	58.5	30	16.4	0.81	24.4	0.75	321	91.8
12	49.38	8	58.9	31	17.3	0.75	25.5	0.75	335	95.7
13	49.44	8	58.5	33	18.1	0.77	27.4	0.75	335	95.8
14	49.50	8	58.7	33	18.3	0.77	27.2	0.75	338	96.6
15	49.54	13	58.6	28	14.3	0.55	23.3	0.47	302	86.3
16	49.58	13	58.5	26	12.8	0.57	21.6	0.46	296	84.7
17	49.62	13	59.0	32	16.7	0.52	25.9	0.46	311	88.8
18	49.65	13	58.4	26	13.3	0.55	21.5	0.46	299	85.4
19	49.69	13	58.8	30	15.4	0.51	24.6	0.46	303	86.5
20	49.73	13	58.8	31	16.7	0.54	25.7	0.46	313	89.3
21	49.77	13	58.3	30	15.3	0.55	24.2	0.46	311	88.9
22	49.81	13	59.0	27	13.9	0.52	21.8	0.46	297	84.8
23	49.85	13	58.3	31	15.9	0.55	25.1	0.46	318	90.9
24	49.88	13	59.1	27	13.8	0.52	21.8	0.46	300	85.7
25	49.92	13	58.3	32	17.1	0.55	26.2	0.46	323	92.3
26	49.96	13	58.8	30	16.2	0.52	24.6	0.46	310	88.6
27	50.00	13	58.3	30	16.9	0.51	24.8	0.46	309	88.1

Average	58.6	30	16.1	0.63	24.8	0.57	316	90.3
Std Dev	0.3	2	1.6	0.12	1.8	0.14	14	3.9
Maximum	59.1	33	18.3	0.81	27.4	0.75	338	96.6
Minimum	58.1	26	12.8	0.51	21.5	0.46	296	84.7

N-value: 21

Sample Interval Time: 26.58 seconds.

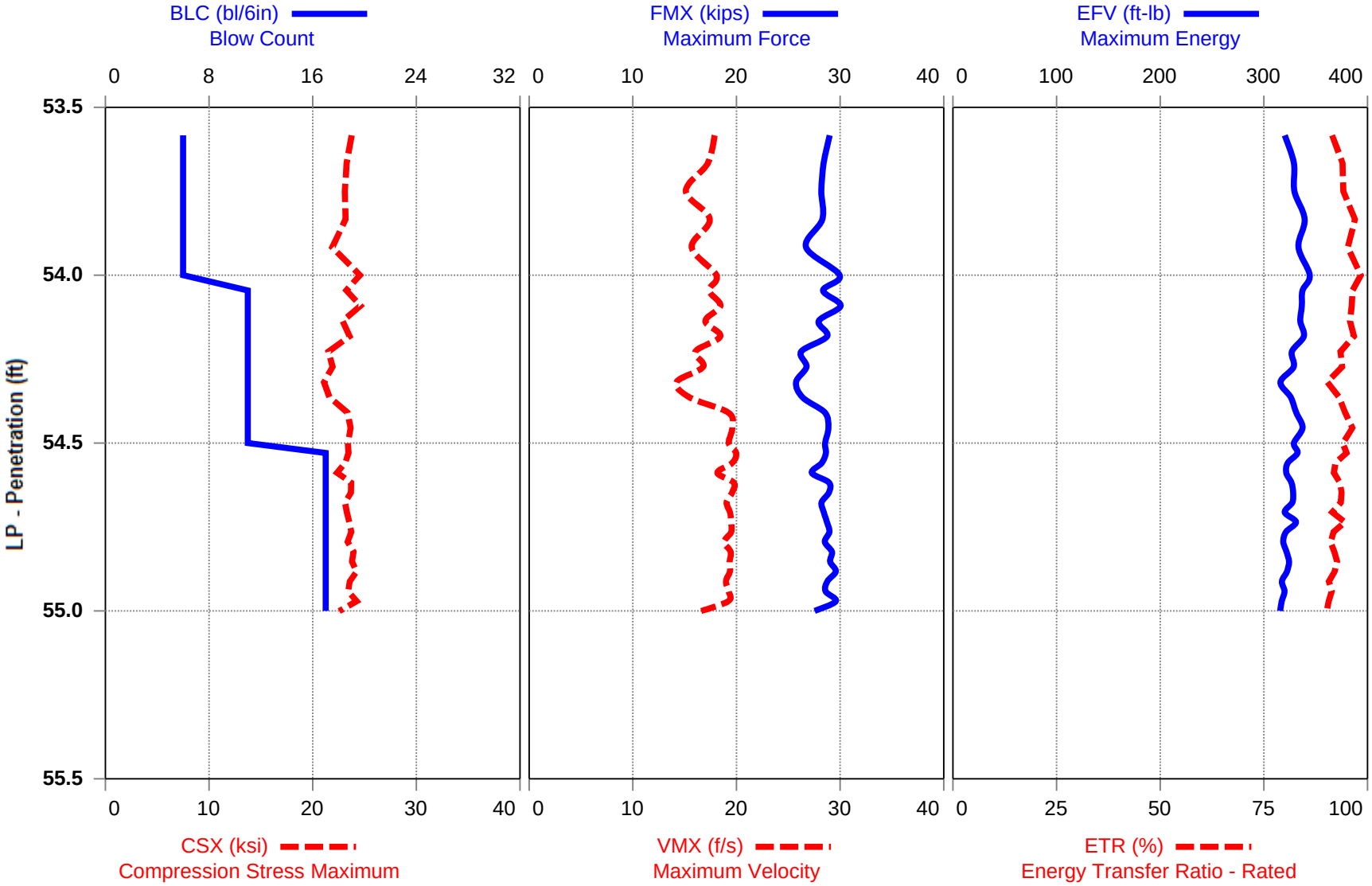
Pile Dynamics, Inc. - PDIPLOT2 Ver 2022.1.62.0 - Case Method & iCAP® Results

Printed: 20-December-2023

Test started: 17-November-2023

CME-550X SN 290593 - 53.5-55.0 FEET

TEST HOLE A



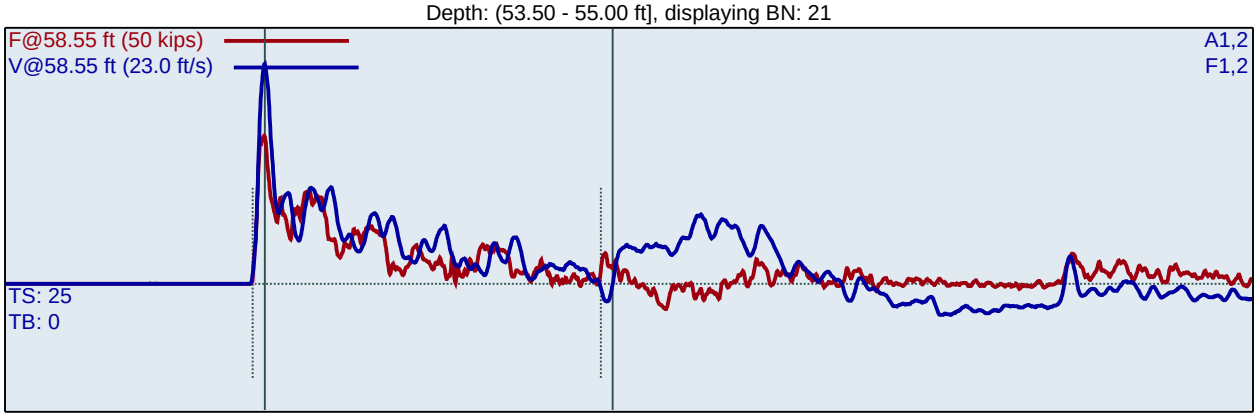
CME-550X SN 290593
JRW
TEST HOLE A

48.5-50.0 FEET
Interval start: 11/17/2023

AR: 1.22 in^2
LE: 58.55 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (53.50 - 55.00 ft], displaying BN: 21



F1 : [203 AWJ-1] 208.46 PDICAL (1) FF1
F2 : [203 AWJ-2] 208.57 PDICAL (1) FF1

A1 (PR): [K4664] 376.6 mv/6.4v/5000g (1) VF1
A2 (PR): [K4665] 375.3 mv/6.4v/5000g (1) VF1

BL#	LP	BC	BPM	FMX	VMX	DMX	CSX	DFN	EFV	ETR
	ft	/6"	bpm	kips	ft/s	in	ksi	in	ft-lb	%
1	53.58	6	1.9	29	17.9	1.15	23.8	1.01	320	91.4
2	53.67	6	58.7	28	17.2	1.01	23.3	1.00	329	94.0
3	53.75	6	58.6	28	15.1	1.01	23.1	1.00	329	94.1
4	53.83	6	58.5	28	17.4	1.00	23.2	1.00	339	96.9
5	53.92	6	58.4	27	15.7	1.01	21.9	1.00	333	95.2
6	54.00	6	58.9	30	18.1	1.00	24.6	1.00	344	98.3
7	54.05	11	58.2	28	17.4	0.78	23.2	0.55	337	96.3
8	54.09	11	59.3	30	18.5	0.68	24.6	0.55	337	96.2
9	54.14	11	58.4	28	17.0	0.67	22.9	0.54	335	95.7
10	54.18	11	58.9	29	18.4	0.65	23.6	0.55	338	96.7
11	54.23	11	58.6	26	16.0	0.62	21.5	0.55	327	93.4
12	54.27	11	58.9	27	16.8	0.61	21.9	0.54	329	93.9
13	54.32	11	58.9	26	14.2	0.60	21.1	0.55	316	90.3
14	54.36	11	58.7	26	15.5	0.63	21.6	0.54	326	93.1
15	54.41	11	58.9	29	19.2	0.61	23.4	0.54	331	94.6
16	54.45	11	58.5	29	19.6	0.60	23.7	0.55	337	96.3
17	54.50	11	59.1	29	19.3	0.60	23.4	0.54	329	94.0
18	54.53	17	58.6	29	20.0	0.53	23.5	0.35	332	94.9
19	54.56	17	59.0	28	19.6	0.53	23.1	0.35	323	92.2
20	54.59	17	58.6	27	18.2	0.53	22.4	0.35	322	91.9
21	54.62	17	58.6	29	19.7	0.51	23.7	0.35	327	93.3
22	54.65	17	58.9	29	19.6	0.52	23.7	0.35	328	93.7
23	54.68	17	58.6	28	19.0	0.51	23.1	0.35	327	93.5
24	54.71	17	59.2	28	19.4	0.50	23.3	0.35	320	91.5
25	54.74	17	58.4	29	19.5	0.51	23.5	0.35	331	94.6
26	54.76	17	59.1	29	19.5	0.50	23.7	0.35	321	91.8
27	54.79	17	58.4	29	18.8	0.49	23.4	0.35	319	91.0
28	54.82	17	58.9	29	19.4	0.48	23.9	0.35	322	91.9
29	54.85	17	58.7	29	19.3	0.49	23.8	0.35	324	92.6
30	54.88	17	58.5	30	19.4	0.48	24.2	0.35	322	92.1
31	54.91	17	58.9	29	19.0	0.48	23.6	0.35	317	90.6

32	54.94	17	58.5	29	19.3	0.48	23.4	0.35	320	91.4
33	54.97	17	59.1	30	19.2	0.47	24.2	0.35	317	90.6
34	55.00	17	58.4	28	16.6	0.48	22.6	0.35	316	90.2
		Average	58.7	28	18.5	0.55	23.2	0.43	326	93.2
		Std Dev	0.3	1	1.5	0.08	0.8	0.09	7	1.9
		Maximum	59.3	30	20.0	0.78	24.6	0.55	338	96.7
		Minimum	58.2	26	14.2	0.47	21.1	0.35	316	90.2

N-value: 28

Sample Interval Time: 33.66 seconds.

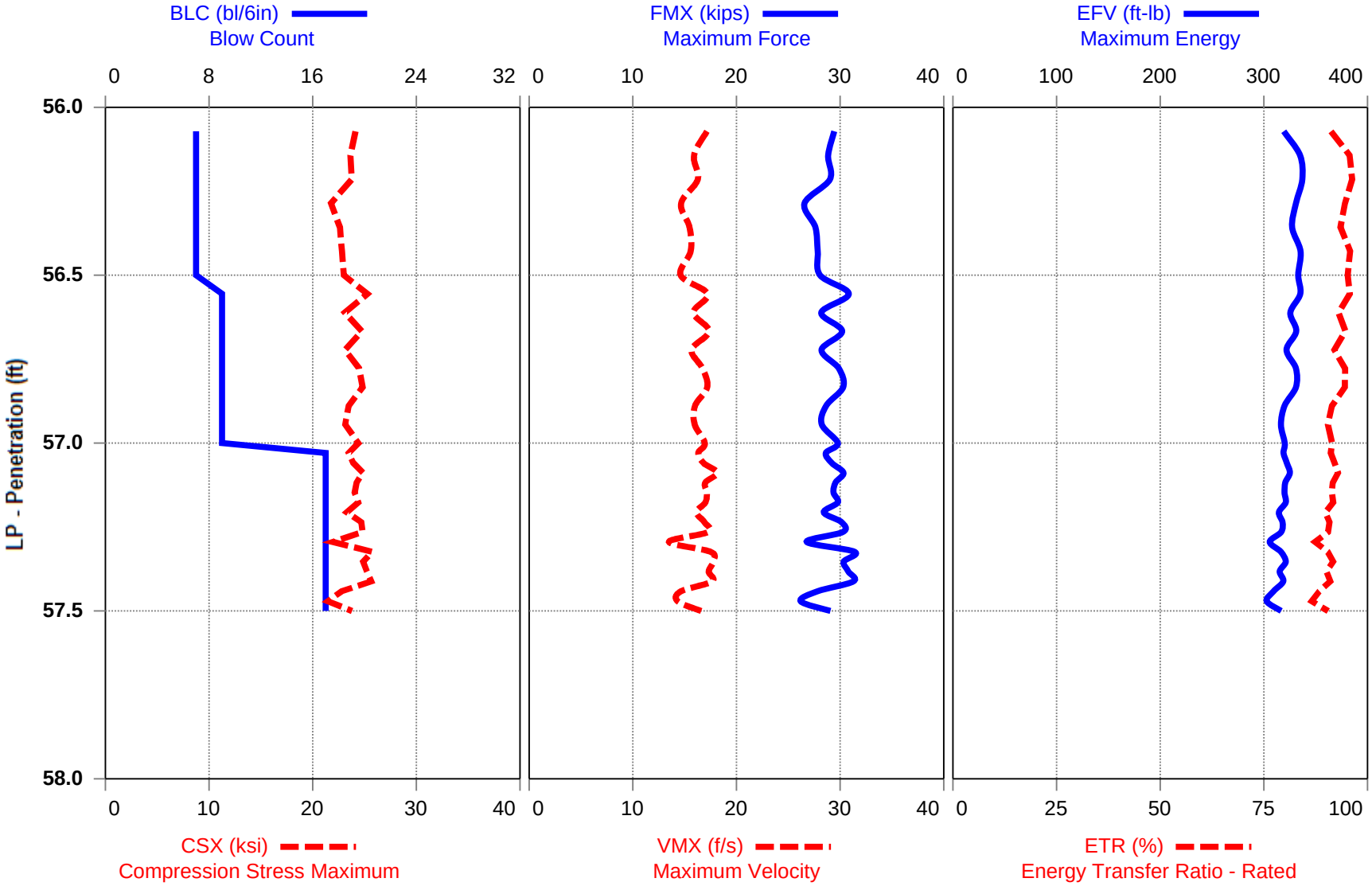
Pile Dynamics, Inc. - PDIPLOT2 Ver 2022.1.62.0 - Case Method & iCAP® Results

Printed: 20-December-2023

Test started: 17-November-2023

CME-550X SN 290593 - 56.0-57.5 FEET

TEST HOLE A



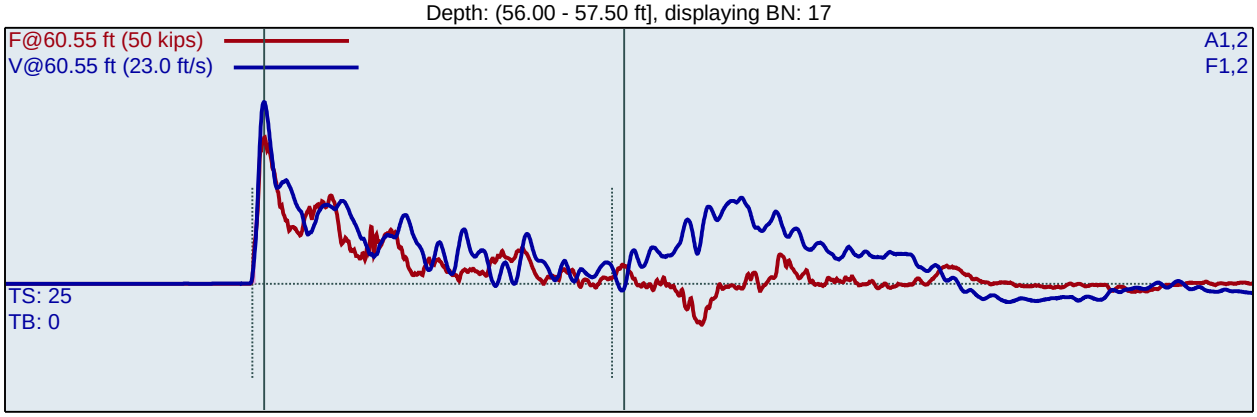
CME-550X SN 290593
JRW
TEST HOLE A

48.5-50.0 FEET
Interval start: 11/17/2023

AR: 1.22 in^2
LE: 60.55 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (56.00 - 57.50 ft], displaying BN: 17



F1 : [203 AWJ-1] 208.46 PDICAL (1) FF1
F2 : [203 AWJ-2] 208.57 PDICAL (1) FF1

A1 (PR): [K4664] 376.6 mv/6.4v/5000g (1) VF1
A2 (PR): [K4665] 375.3 mv/6.4v/5000g (1) VF1

BL#	LP	BC	BPM	FMX	VMX	DMX	CSX	DFN	EFV	ETR
	ft	/6"	bpm	kips	ft/s	in	ksi	in	ft-lb	%
1	56.07	7	1.9	29	17.1	1.01	24.1	0.86	319	91.1
2	56.14	7	58.0	29	15.9	0.87	23.6	0.86	335	95.6
3	56.21	7	58.3	29	16.3	0.87	23.8	0.86	337	96.3
4	56.29	7	58.3	27	14.7	0.89	21.8	0.86	331	94.5
5	56.36	7	58.8	28	15.5	0.88	22.6	0.86	327	93.4
6	56.43	7	58.3	28	15.6	0.88	22.8	0.86	335	95.8
7	56.50	7	58.6	28	14.6	0.87	23.0	0.86	333	95.2
8	56.56	9	58.4	31	17.2	0.75	25.3	0.66	335	95.7
9	56.61	9	58.9	28	15.8	0.73	23.1	0.67	325	93.0
10	56.67	9	58.3	30	17.3	0.75	24.7	0.66	331	94.6
11	56.72	9	58.8	28	15.7	0.74	23.1	0.67	322	92.0
12	56.78	9	58.3	30	16.7	0.76	24.5	0.67	331	94.6
13	56.83	9	58.6	30	17.2	0.75	24.8	0.67	331	94.5
14	56.89	9	58.7	29	16.0	0.74	23.5	0.67	320	91.4
15	56.94	9	58.4	28	16.0	0.73	23.1	0.67	316	90.4
16	57.00	9	58.8	30	16.9	0.67	24.4	0.67	320	91.4
17	57.03	17	58.5	29	16.3	0.63	23.5	0.36	319	91.1
18	57.06	17	58.8	29	16.8	0.61	23.9	0.35	322	92.0
19	57.09	17	58.4	30	18.1	0.60	24.9	0.35	325	92.9
20	57.12	17	58.9	30	17.0	0.57	24.2	0.35	321	91.6
21	57.15	17	58.5	29	17.1	0.56	24.1	0.36	320	91.4
22	57.18	17	58.8	30	17.0	0.55	24.4	0.35	321	91.7
23	57.21	17	58.7	28	16.1	0.50	23.3	0.35	314	89.8
24	57.24	17	58.7	30	16.9	0.49	24.7	0.35	318	90.8
25	57.26	17	58.9	30	17.3	0.48	24.8	0.35	317	90.5
26	57.29	17	58.5	27	13.5	0.48	21.9	0.35	306	87.3
27	57.32	17	59.1	31	17.5	0.47	25.7	0.35	316	90.4
28	57.35	17	58.3	30	17.7	0.46	24.9	0.35	321	91.7
29	57.38	17	58.9	31	17.3	0.46	25.2	0.35	315	90.1
30	57.41	17	58.6	31	17.6	0.46	25.6	0.35	318	91.0
31	57.44	17	58.5	28	14.6	0.45	22.8	0.36	309	88.3

32	57.47	17	58.7	26	14.3	0.45	21.5	0.35	303	86.5
33	57.50	17	58.7	29	16.6	0.45	23.8	0.35	317	90.5
		Average	58.6	29	16.6	0.59	24.1	0.46	320	91.3
		Std Dev	0.2	1	1.1	0.12	1.1	0.15	7	2.1
		Maximum	59.1	31	18.1	0.76	25.7	0.67	335	95.7
		Minimum	58.3	26	13.5	0.45	21.5	0.35	303	86.5

N-value: 26

Sample Interval Time: 32.73 seconds.

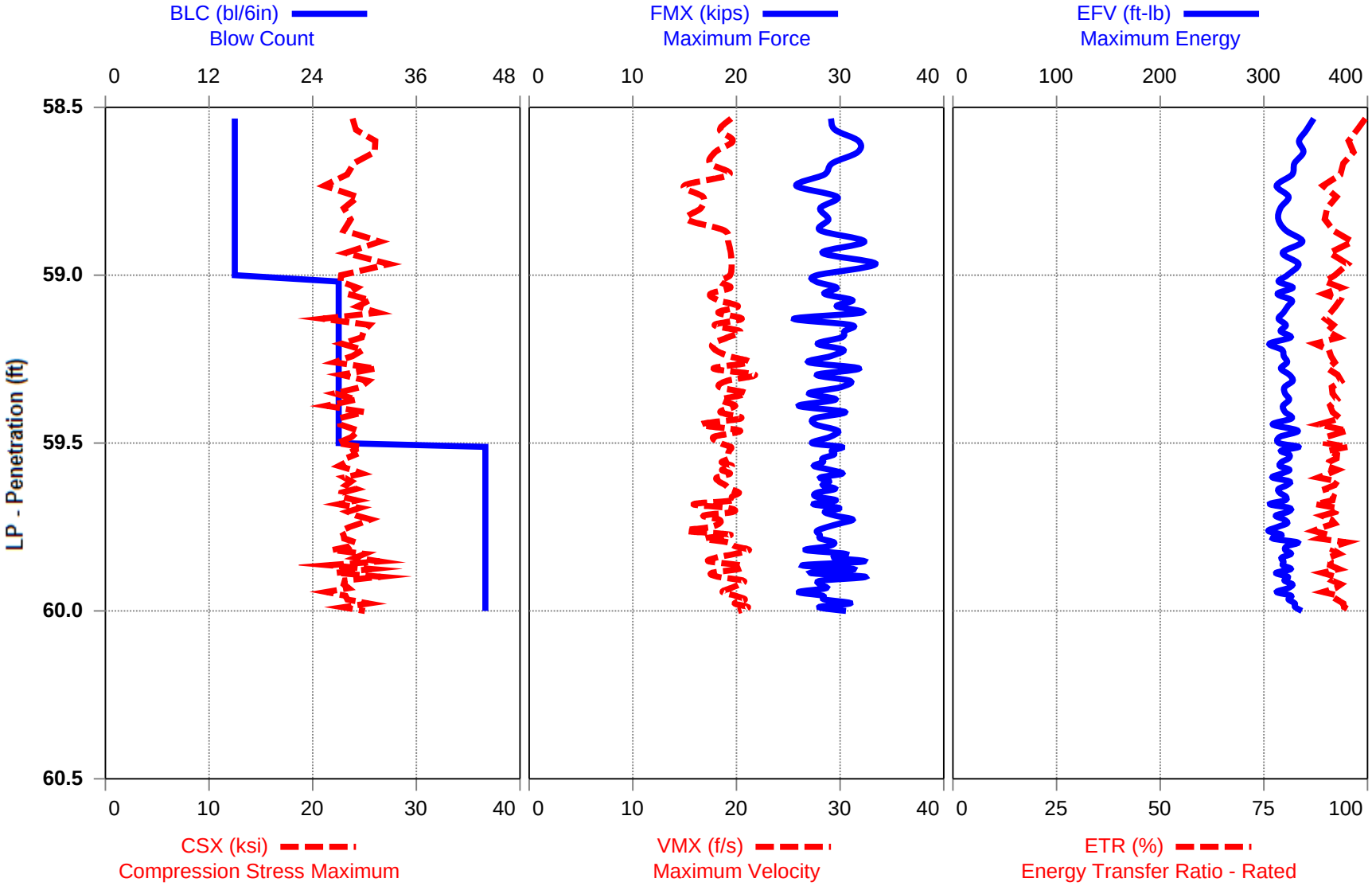
Pile Dynamics, Inc. - PDIPLOT2 Ver 2022.1.62.0 - Case Method & iCAP® Results

Printed: 20-December-2023

Test started: 17-November-2023

CME-550X SN 290593 - 58.5-60.0 FEET

TEST HOLE A



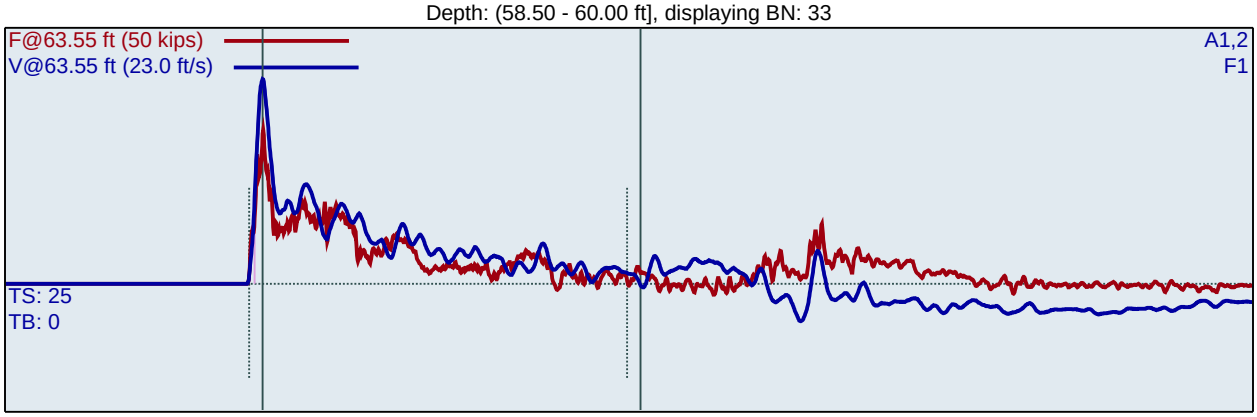
CME-550X SN 290593
JRW
TEST HOLE A

48.5-50.0 FEET
Interval start: 11/17/2023

AR: 1.22 in^2
LE: 63.55 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (58.50 - 60.00 ft], displaying BN: 33



F1 : [203 AWJ-1] 208.46 PDICAL (1) FF1
F2 : [203 AWJ-2] 208.57 PDICAL (1) FF1

A1 (PR): [K4664] 376.6 mv/6.4v/5000g (1) VF1
A2 (PR): [K4665] 375.3 mv/6.4v/5000g (1) VF1

BL#	LP	BC	BPM	FMX	VMX	DMX	CSX	DFN	EFV	ETR
	ft	/6"	bpm	kips	ft/s	in	ksi	in	ft-lb	%
1	58.53	15	1.9	29	19.5	0.82	23.9	0.40	348	99.4
2	58.57	15	58.1	29	18.4	0.63	24.2	0.40	341	97.5
3	58.60	15	58.8	32	19.6	0.57	26.0	0.40	334	95.4
4	58.63	15	58.4	32	17.9	0.58	26.0	0.40	338	96.6
5	58.67	15	59.0	29	17.4	0.56	24.0	0.40	329	94.1
6	58.70	15	59.1	28	19.3	0.54	23.3	0.40	327	93.5
7	58.73	15	58.3	26	15.0	0.53	21.1	0.40	312	89.2
8	58.77	15	59.2	30	16.8	0.52	24.4	0.40	324	92.5
9	58.80	15	58.4	28	16.6	0.52	23.0	0.40	316	90.2
10	58.83	15	59.4	29	15.2	0.51	23.7	0.40	314	89.7
11	58.87	15	58.4	28	18.8	0.49	23.0	0.40	321	91.7
12	58.90	15	58.9	32	19.2	0.50	26.5	0.40	337	96.3
13	58.93	15	59.1	28	19.4	0.48	23.2	0.40	318	90.9
14	58.97	15	58.7	33	19.5	0.48	27.4	0.40	333	95.2
15	59.00	15	59.2	28	19.4	0.49	22.7	0.40	322	92.1
16	59.02	27	58.3	28	18.4	0.48	22.7	0.22	314	89.8
17	59.04	27	59.4	30	19.4	0.48	24.3	0.22	328	93.6
18	59.06	27	58.2	29	17.5	0.47	23.4	0.22	313	89.5
19	59.07	27	59.1	31	18.2	0.48	25.5	0.22	327	93.3
20	59.09	27	58.7	30	20.1	0.46	24.3	0.22	323	92.3
21	59.11	27	59.0	32	18.2	0.46	26.3	0.22	319	91.1
22	59.13	27	58.7	26	20.5	0.44	21.0	0.22	314	89.7
23	59.15	27	58.7	31	17.9	0.45	25.5	0.22	321	91.7
24	59.17	27	59.1	30	20.3	0.44	24.9	0.22	316	90.3
25	59.19	27	58.4	30	19.1	0.46	24.7	0.22	326	93.0
26	59.20	27	58.9	28	17.7	0.43	22.8	0.22	305	87.2
27	59.22	27	58.7	30	18.0	0.44	24.8	0.22	317	90.7
28	59.24	27	58.9	29	19.3	0.43	23.8	0.22	319	91.2
29	59.26	27	58.6	27	21.2	0.44	22.1	0.22	322	92.1
30	59.28	27	59.0	32	17.8	0.41	26.1	0.22	316	90.4
31	59.30	27	58.5	28	21.8	0.42	22.8	0.22	324	92.7

32	59.31	27	58.7	31	19.1	0.40	25.4	0.23	328	93.6
33	59.33	27	59.0	30	18.4	0.40	24.6	0.23	320	91.3
34	59.35	27	58.5	27	21.0	0.39	22.1	0.22	320	91.5
35	59.37	27	58.9	30	18.5	0.39	24.2	0.22	324	92.6
36	59.39	27	58.6	26	19.9	0.39	21.3	0.22	318	91.0
37	59.41	27	59.2	30	18.4	0.38	25.0	0.22	320	91.5
38	59.43	27	58.3	28	20.4	0.38	22.6	0.22	327	93.4
39	59.44	27	59.1	28	16.6	0.38	22.7	0.22	308	88.1
40	59.46	27	58.7	30	20.3	0.39	24.4	0.22	333	95.0
41	59.48	27	58.8	29	17.8	0.38	23.8	0.22	315	90.1
42	59.50	27	59.2	27	18.5	0.39	22.4	0.23	315	89.9
43	59.51	44	58.6	30	19.5	0.40	24.7	0.13	333	95.2
44	59.52	44	59.2	29	19.3	0.38	23.9	0.14	317	90.5
45	59.53	44	58.2	29	19.2	0.38	24.1	0.14	324	92.6
46	59.55	44	59.2	28	19.3	0.38	23.2	0.13	324	92.5
47	59.56	44	58.5	28	18.6	0.38	23.2	0.14	317	90.6
48	59.57	44	58.9	27	19.6	0.38	22.5	0.13	315	90.1
49	59.58	44	58.9	29	18.6	0.39	23.8	0.14	324	92.7
50	59.59	44	58.6	30	19.4	0.38	24.8	0.14	317	90.5
51	59.60	44	59.0	28	18.1	0.38	23.0	0.14	308	88.1
52	59.61	44	58.6	29	18.3	0.39	23.7	0.14	324	92.7
53	59.63	44	58.9	28	18.9	0.39	23.2	0.14	322	92.1
54	59.64	44	58.3	30	19.4	0.37	24.2	0.14	314	89.7
55	59.65	44	59.0	28	20.2	0.37	22.8	0.14	315	90.0
56	59.66	44	58.2	28	19.6	0.38	22.7	0.14	321	91.7
57	59.67	44	59.0	30	19.7	0.38	24.2	0.14	320	91.5
58	59.68	44	58.7	27	15.9	0.37	22.5	0.14	306	87.4
59	59.69	44	58.7	30	19.2	0.38	24.5	0.14	325	92.7
60	59.70	44	59.1	29	19.7	0.38	23.4	0.14	323	92.4
61	59.72	44	58.4	30	16.8	0.37	24.2	0.14	311	89.0
62	59.73	44	59.1	31	18.3	0.38	25.6	0.14	319	91.3
63	59.74	44	58.4	30	18.4	0.37	24.6	0.13	322	92.1
64	59.75	44	58.9	29	17.4	0.38	23.5	0.14	313	89.3
65	59.76	44	58.6	28	15.2	0.37	22.8	0.14	304	87.0
66	59.77	44	58.9	28	19.4	0.37	23.0	0.14	317	90.5
67	59.78	44	58.6	28	16.9	0.38	23.0	0.14	309	88.2
68	59.80	44	58.6	29	19.2	0.38	24.1	0.13	332	94.9
69	59.81	44	58.9	29	19.8	0.37	23.7	0.14	322	92.0
70	59.82	44	58.6	27	21.2	0.38	21.9	0.14	321	91.6
71	59.83	44	59.0	31	19.9	0.38	25.0	0.14	326	93.1
72	59.84	44	58.4	29	18.0	0.38	24.1	0.14	317	90.6
73	59.85	44	59.3	32	17.4	0.38	26.5	0.14	319	91.1
74	59.86	44	58.4	26	20.3	0.37	21.6	0.14	318	90.9
75	59.88	44	59.1	31	20.2	0.38	25.7	0.14	326	93.1
76	59.89	44	58.6	27	17.6	0.38	22.2	0.14	312	89.1
77	59.90	44	58.6	32	18.2	0.38	26.6	0.14	323	92.3
78	59.91	44	58.8	28	20.6	0.37	23.1	0.13	320	91.4
79	59.92	44	58.5	28	20.3	0.38	23.0	0.14	327	93.6
80	59.93	44	59.1	29	19.4	0.38	23.5	0.14	323	92.3
81	59.94	44	58.4	26	18.7	0.37	21.3	0.13	312	89.2
82	59.95	44	59.1	28	19.9	0.38	23.2	0.14	326	93.2
83	59.97	44	58.5	28	20.8	0.37	23.4	0.14	324	92.5
84	59.98	44	58.7	31	19.8	0.37	25.4	0.14	330	94.1
85	59.99	44	58.8	28	21.1	0.39	22.9	0.13	330	94.3
86	60.00	44	58.7	31	20.2	0.39	25.1	0.14	337	96.1
		Average	58.8	29	19.0	0.40	23.8	0.17	320	91.4
		Std Dev	0.3	2	1.3	0.03	1.3	0.04	7	1.9
		Maximum	59.4	32	21.8	0.48	26.6	0.23	337	96.1
		Minimum	58.2	26	15.2	0.37	21.0	0.13	304	87.0

N-value: 71

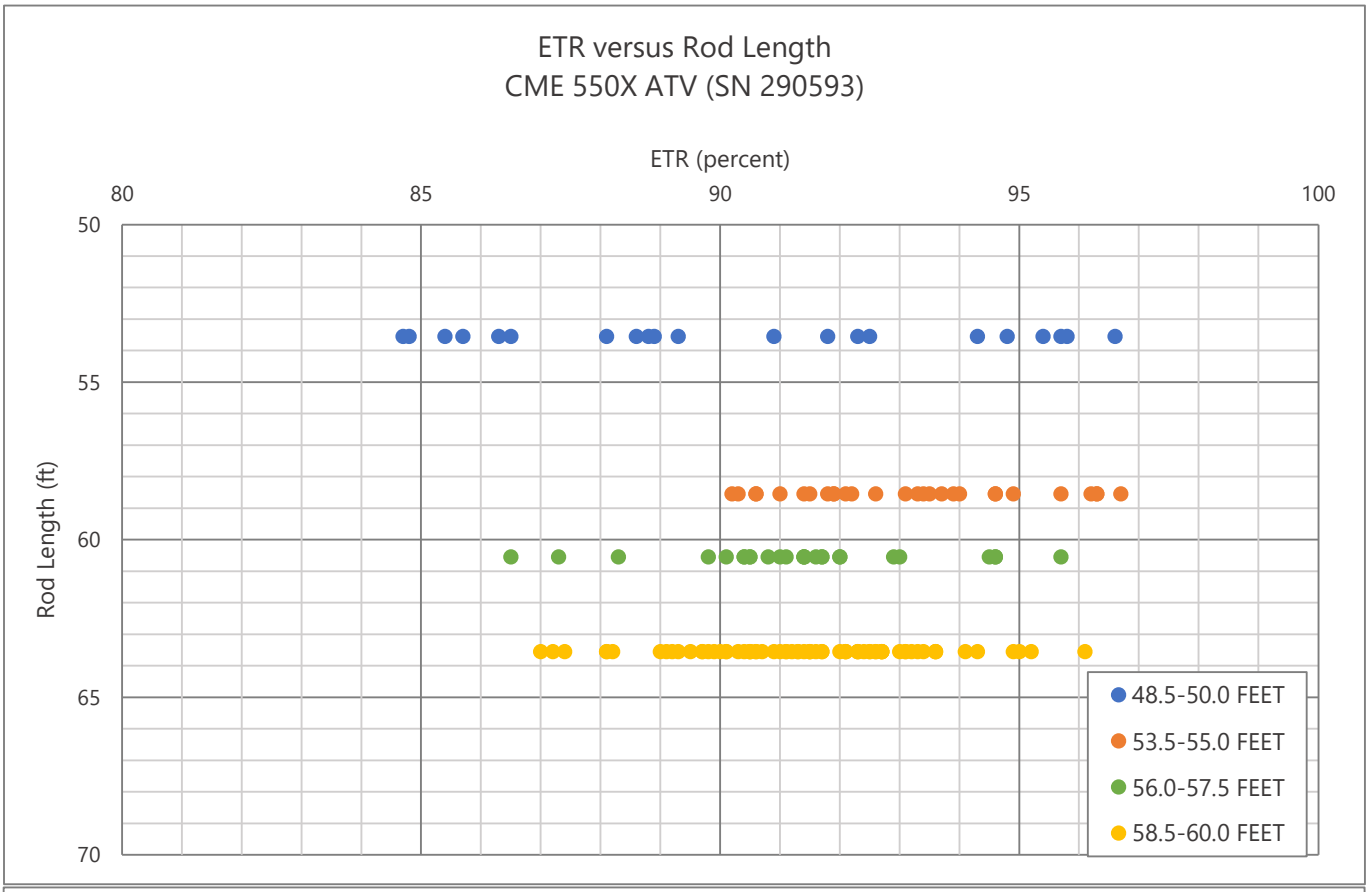
Sample Interval Time: 86.68 seconds.

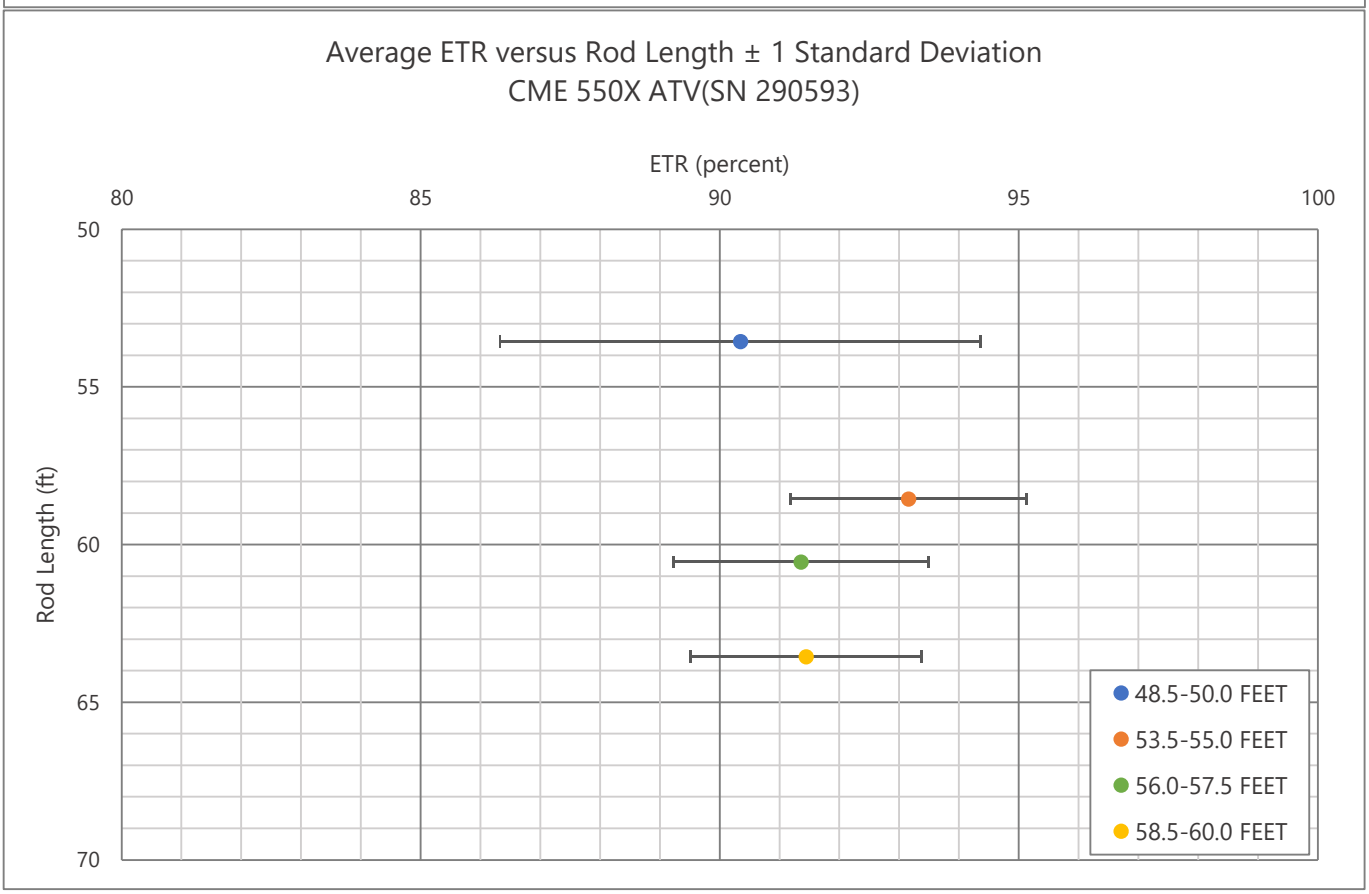
Summary of SPT Test Results

Project: CME-550X SN 290593, Test Date: 11/17/2023

BPM: Blows/Minute
FMX: Maximum Force
VMX: Maximum Velocity
DMX: Maximum Displacement
CSX: Compression Stress Maximum
DFN: Final Displacement
EFV: Maximum Energy
ETR: Energy Transfer Ratio - Rated

Instr. Length ft	Start Depth ft	Final Depth ft	Blows Applied /6"	**N Value**	**N60 Value**	Average BPM bpm	Average FMX kips	Average VMX ft/s	Average DMX in	Average CSX ksi	Average DFN in	Average EFV ft-lb	Average ETR %
53.55	48.50	50.00	**6-8-13**	**21**	**32**	58.6	30	16.1	0.63	24.8	0.57	316	90.3
58.55	53.50	55.00	**6-11-17**	**28**	**42**	58.7	28	18.5	0.55	23.2	0.43	326	93.2
60.55	56.00	57.50	**7-9-17**	**26**	**39**	58.6	29	16.6	0.59	24.1	0.46	320	91.3
63.55	58.50	60.00	**15-27-44**	**71**	**108**	58.8	29	19.0	0.40	23.8	0.17	320	91.4
					Overall Average Values:	58.7	29	18.1	0.49	23.9	0.33	321	91.6
					Standard Deviation:	0.3	2	1.8	0.12	1.3	0.19	9	2.5
					Overall Maximum Value:	59.4	33	21.8	0.81	27.4	0.75	338	96.7
					Overall Minimum Value:	58.1	26	12.8	0.37	21.0	0.13	296	84.7


ETR versus Rod Length
CME 550X ATV (SN 290593)
ETR (percent)
80
85
90
95
100
Rod Length (ft)
50
55
60
65
70
48.5-50.0 FEET
53.5-55.0 FEET
56.0-57.5 FEET
58.5-60.0 FEET


Average ETR versus Rod Length ± 1 Standard Deviation
CME 550X ATV(SN 290593)
ETR (percent)
80
85
90
95
100
Rod Length (ft)
50
55
60
65
70
48.5-50.0 FEET
53.5-55.0 FEET
56.0-57.5 FEET
58.5-60.0 FEET

Report of SPT Energy Measurements
S&ME CME-550X ATV Rig
(Serial No. 293193)
Blythewood, South Carolina

PREPARED FOR:

North Carolina Department of Transportation
Geotechnical Engineering Unit
1589 Mail Service Center
Raleigh, North Carolina 27699

PREPARED BY:

S&ME, Inc.
8848 Red Oak Boulevard, Suite A
Charlotte, North Carolina 28217

December 27, 2023

December 27, 2023

North Carolina Department of Transportation
Geotechnical Engineering Unit
1589 Mail Service Center
Raleigh, North Carolina 27699

Attention: Mr. Greg Bodenheimer, P.E.

Cc: Ms. Cheryl A. Youngblood, L.G.
Ms. Christina M. Bruinsma, L.G.

Reference: **Report of SPT Energy Measurements**
S&ME CME-550X ATV Rig (Serial No. 293193)
Blythewood, South Carolina
NC PE Firm License No. F-0176

Dear Mr. Bodenheimer:

We have completed the Standard Penetration Test (SPT) energy measurements on the automatic hammer used with our CME-550X ATV-mounted drill rig (Serial No. 293193). This service was performed by Mr. Joseph Williamson, P.E. of our firm on November 17, 2023, in general accordance with ASTM D4633 and the most recent revision of the North Carolina Department of Transportation (NCDOT) Geotechnical Engineering Unit's requirements. Review of the data quality and analyses was performed by Mr. Williamson. A copy of the Certificate of Proficiency issued by Pile Dynamics based on the Dynamic Measurement and Analysis Proficiency Test for Mr. Williamson is included in Appendix I. The testing procedures, equipment used during testing, and detailed results are presented in this report.

1.0 Dynamic Testing Methodology

Testing was performed using a model PAX (Serial No. 3726L) Pile Driving Analyzer ™ (PDA) manufactured by Pile Dynamics, Inc. The PDA was used to record and interpret data from two piezoresistive accelerometers (Serial Nos. K4664 and K4665) bolted to a 2.0-foot long AWJ drill rod (Serial No. 203) internally instrumented with two strain transducers. Calibration sheets for the accelerometers and the instrumented rod are included in Appendix II. The instrumented AWJ drill rod has a cross-sectional area of 1.22 square inches and an outside diameter of approximately 1¾ inches. Therefore, we calculate the inside diameter to be approximately 1¼ inches at the gauge location. The accelerometers and strain gauges, which are diametrically opposed near the middle of the instrumented rod, monitor acceleration and strain for each hammer blow. The analyzer converts the data to velocities and forces and computes the maximum transferred hammer energies with the "EFV" method described in ASTM D4633. Preliminary results are recorded and displayed in real time for each blow.

2.0 Testing and Observations

S&ME personnel were on site November 17, 2023, to observe and perform high-strain dynamic testing during SPT sampling on the CME-550X ATV-mounted drill rig operated by Sam Eubanks of S&ME. The measurements were taken during drilling of a test hole adjacent to a previous soil test boring at an S&ME project site in Blythewood, South Carolina. SPT energy measurements were recorded during three sampling intervals that met the NCDOT required blow count criteria. The information presented in the tables below summarizes the equipment and tooling used during the SPT energy measurements. The SPT Energy Evaluation Form and the Soil Test Boring Log from the adjacent boring are included in Appendix III.

Table 2-1: Drill Rig Information

Manufacturer	CME
Model	550X
Serial Number	293193
Operator	S. Eubanks
Carrier	ATV

Table 2-2: Hammer Information

Model / Type	CME / Auto
Serial Number	293193
Typical Drop Height (inches)	30
Typical Ram Weight (pounds)	140
Ram Serial Number	N/A

Table 2-3: Drilling and Instrumented Rod Information

Instrumented Rod Type	AWJ (Serial No. 203)
OD (inches)[1]	1¾
ID (inches)[2]	1¼
Cross-Sectional Area (in^2)[3]	1.22
Total Instrumented Rod Length (feet)[1]	2.0
Length Below Gages (feet)[1]	0.7
Typical Rod Lengths (feet)	5
Split-Spoon Length (feet)[1]	2.85

[1] Measured with engineer's tape measure.
[2] Calculated using measured OD and Area from instrument rod calibration record.
[3] From instrument rod calibration record.

3.0 Dynamic Testing Results

The total rod length from the instrumentation to the tip of the split-spoon sampler was determined by adding 3.55 ft to the drill rod length at each sample depth. The SPT Energy Measurement Data Summary tables in Appendix IV present the test data from every hammer blow at each sampling interval, along with representative force and velocity traces for each test interval. Per ASTM D4633, only the blows from the final foot of each sample interval (i.e. the blows that determine the N-value) are considered when computing the average measurement values of each test interval.

The reported blow counts obtained by the drill rig personnel, a summary of the test data, and average computed hammer energy and transfer ratio values are provided in Table 3-1. Based on the test data, the automatic hammer on the CME-550X operated at an average rate of about 55 blows per minute (bpm) during dynamic testing. The measured average transferred hammer energy (EFV) of the three sample intervals ranged from 301 to 312 ft-lbs, which corresponds to Energy Transfer Ratio (ETR) values of 86.1 to 89.3%, respectively. Plots and tables of the following are also included in Appendix III and present the test data with depth for each test interval:

- Penetration vs. BLC[4]
- Penetration vs. FMX[5]
- Penetration vs. EFV[6]
- Penetration vs. CSX[7]
- Penetration vs. VMX[8]
- Penetration vs. ETR[9]
- ETR vs. Rod Length
- Average ETR vs. Rod Length

Table 3-1: Summary of Dynamic Testing Results

Data Set ID	Sample Depth (ft)	Drill Rod Length (ft)	Instrumentation to Sampler Tip Length (ft)	Blows per 6" Increment / N-value	Soil Sample Description	Avg. BPM	Avg. EFV (ft-lbs)	Avg. ETR (%)
1	43.5 – 45.0	45	48.55	8-15-20 / **35**	Elastic SILT	55.2	304	86.9
2	48.5 – 50.0	50	53.55	5-7-11 / **18**	Elastic SILT	55.2	301	86.1
3	53.5 – 55.0	55	58.55	8-14-18 / **32**	Elastic SILT	55.0	312	89.3
Overall Average						**55.1**	**307**	**87.6**

The overall average transferred hammer energy for the automatic hammer on the CME-550X ATV-mounted drill rig (SN 293193) was 307 foot-pounds, with an average ETR of 87.6%.

[4] BLC - Blow Count per 6-in. increment
[5] FMX - Maximum Compressive Force
[6] EFV – Maximum Transferred Energy
[7] CSX – Maximum Compressive Stress
[8] VMX – Maximum Velocity
[9] ETR – Energy Transfer Ratio – Ratio of Calculated Energy to Theoretical Energy of 140 lb hammer falling 30 inches

4.0 Limitations of Report

This report has been prepared in accordance with generally accepted geotechnical engineering practice for specific application to this project. The conclusions contained in this report were based on the applicable standards of our profession in this geographic area at the time this report was prepared. No other warranty, express or implied, is made.

5.0 Closing

S&ME appreciates the opportunity to provide this report to the North Carolina Department of Transportation, Geotechnical Engineering Unit. Please let us know if you have any questions concerning this report.

Sincerely,

S&ME, Inc.

Joseph R. Williamson, P.E.
Project Manager
N.C. Registration No. 42168

Gregory J. Canivan, P.E.
Technical Principal

Appendices:

- Appendix I - Certificate of Proficiency
- Appendix II - Accelerometer and Instrumented Rod Calibration Sheets
- Appendix III - SPT Energy Evaluation Form (Field Log)
- Appendix IV - CME-550X ATV (SN 293193) SPT Energy Measurement Summary Plots and Tables

Appendix I- Certificate of Proficiency

PDCA
PILE DRIVING CONTRACTORS ASSOCIATION

Pile Dynamics, Inc.

This documents that

Joseph Williamson
S&ME, Inc.

has on March 16, 2022 achieved the rank of

MASTER

on the **Dynamic Measurement and Analysis Proficiency Test**.

The individual identified on this document demonstrated to the degree granted above an understanding of theory, data quality evaluation, interpretation and signal matching for high strain dynamic testing of deep foundations. ***It is recommended* that individuals at the Master level seek to attain Expert level through additional study within eight years of the date of this document**

The ability of the individual named to provide appropriate knowledge and advice on a specific project is not implied or warranted by the Pile Driving Contractors Association or Pile Dynamics, Inc. The Pile Driving Contractors Association or Pile Dynamics, Inc. assumes no liability for foundation testing and analysis work performed by the bearer of this certificate. This certificate can be verified at www.PDAproficiencytest.com.

Frank T. Peters, Executive Director
Pile Driving Contractors Association

PILE DYNAMICS, INC. CORPORATE SEAL 1972 OHIO

Garland Likins, Senior Partner
Pile Dynamics, Inc.

No. 3251

Appendix II - Calibration Sheets

Accelerometer Calibration Certificate
Pile Dynamics, Inc.

Calibrated by Pile Dynamics, Inc.
Calibration performed on 17Aug2023

Serial No:	K4664	**Temperature:**	77.6 °F
Model:	PR	**Humidity:**	51%
Calibrated on:	Channel 3 on 8G 5161 LE		

Ref Acc 1:	72505! 1035 g's/volt	**Cal on:**	24Mar2022
Ref Acc 2:	72517! 1049 g's/volt	**Cal on:**	24Mar2022

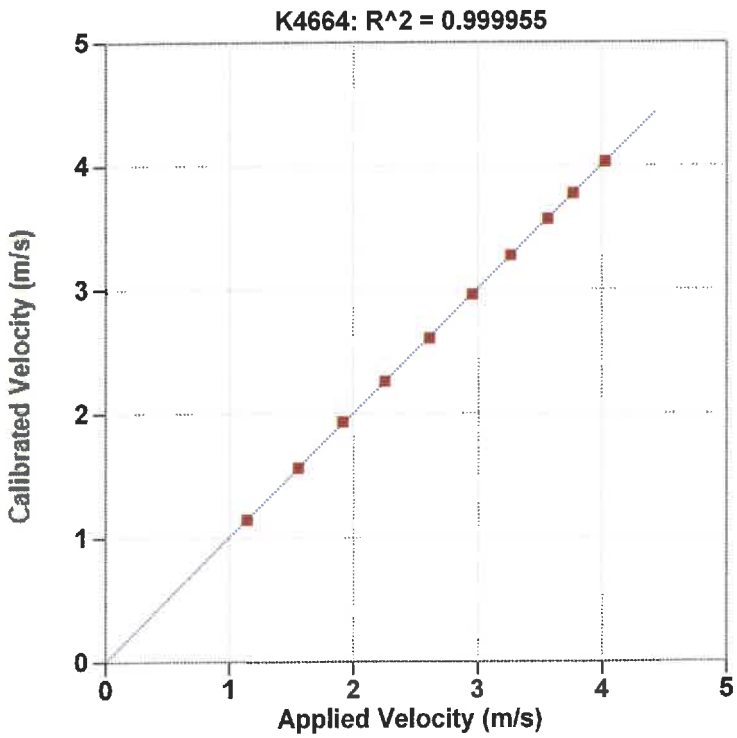
Reference accelerometer calibrations are traceable to the United States National Institute of Standards and Technology (NIST).

PDA CALIBRATION FACTOR

376.6 mv/5000g
(75.3 μv/g)
R^2: 0.999955 [Chip programmed]

Operator: William Johnson

Signed



Reference Velocity	S/N K4664 Velocity
m/s	m/s
1.146	1.143
1.560	1.559
1.915	1.932
2.255	2.258
2.612	2.606
2.962	2.958
3.270	3.273
3.569	3.566
3.772	3.773
4.030	4.027

Maximum Acceleration: 879 g's

Date printed: 17Aug2023, version: 2020.30.170 -1.28

Accelerometer Calibration Certificate
Pile Dynamics, Inc.

Calibrated by Pile Dynamics, Inc.
Calibration performed on 17Aug2023

Serial No:	K4665	**Temperature:**	77.6 °F
Model:	PR	**Humidity:**	51%
Calibrated on:	Channel 3 on 8G 5161 LE		

Ref Acc 1:	72505! 1035 g's/volt	**Cal on:**	24Mar2022
Ref Acc 2:	72517! 1049 g's/volt	**Cal on:**	24Mar2022

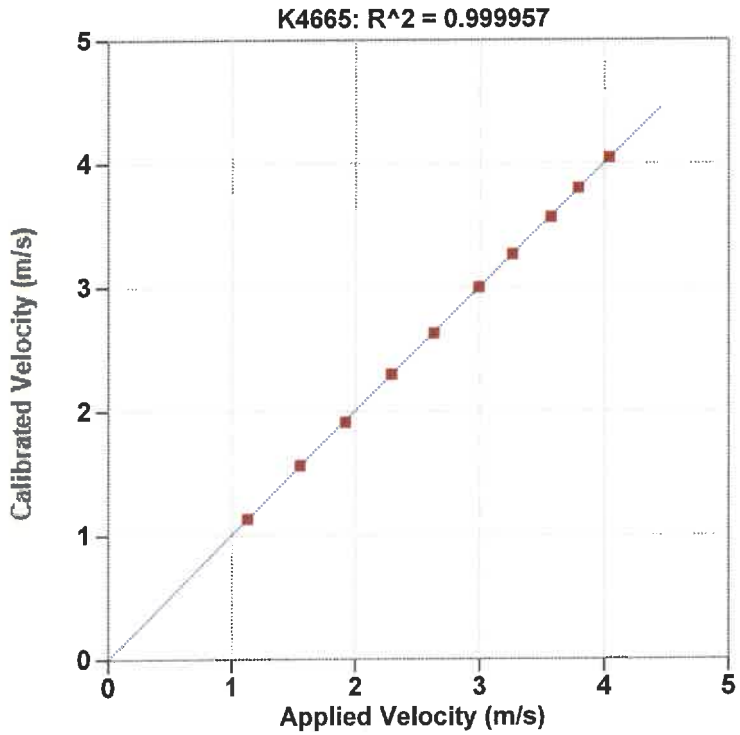
Reference accelerometer calibrations are traceable to the United States National Institute of Standards and Technology (NIST).

PDA CALIBRATION FACTOR

375.3 mv/5000g
(75.1 µv/g)
R^2: 0.999957 [Chip programmed]

Operator: William Johnson

Signed



Reference Velocity m/s	S/N K4665 Velocity m/s
1.129	1.131
1.555	1.560
1.922	1.910
2.291	2.295
2.633	2.627
2.994	2.999
3.262	3.264
3.573	3.564
3.791	3.797
4.038	4.041

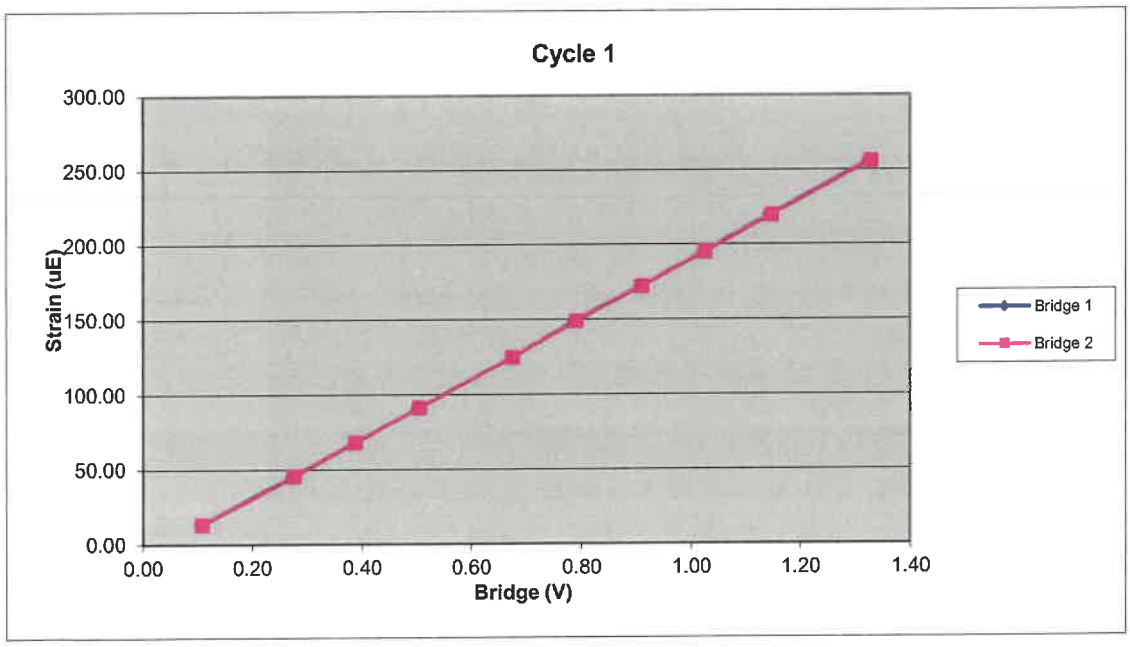
Maximum Acceleration: 880 g's

Date printed: 17Aug2023, version: 2020.30.170 -1.10

203AWJ		Cycle 1		
Sample	**Force (lb)**	**Strain (μE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	819.88	13.18	0.11	0.11
3	2100.72	45.33	0.27	0.28
4	2947.11	68.12	0.39	0.39
5	3827.72	90.98	0.50	0.51
6	5122.01	124.83	0.67	0.68
7	5996.48	148.92	0.79	0.79
8	6896.87	172.25	0.91	0.91
9	7771.24	195.27	1.02	1.03
10	8694.53	219.87	1.15	1.15
11	10075.00	255.83	1.33	1.33

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**7576.32**	**Force Calibration (lb/V)**	**7575.14**
Offset	14.17	Offset	2.97
Correlation	0.999999	Correlation	0.999999
Strain Calibration (μE/V)	**199.46**	**Strain Calibration (μE/V)**	**199.43**
Offset	-9.00	Offset	-9.29
Correlation	0.999979	Correlation	0.999982

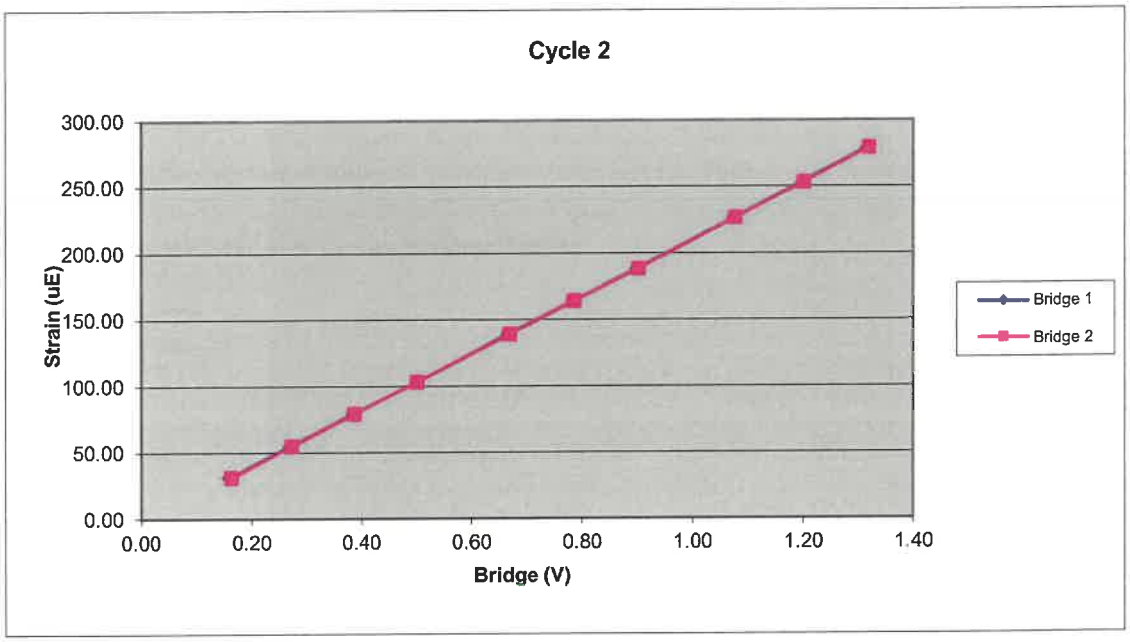
Force Strain Calibration	
EA (Kips)	**37982.46**
Offset	356.04
Correlation	0.999980



203AWJ		Cycle 2		
Sample	**Force (lb)**	**Strain (μE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	1217.00	30.72	0.16	0.16
3	2060.56	54.45	0.27	0.27
4	2939.22	78.94	0.39	0.39
5	3811.73	102.81	0.50	0.50
6	5082.83	138.71	0.67	0.67
7	5976.20	163.65	0.78	0.79
8	6861.10	187.95	0.90	0.90
9	8194.67	226.13	1.08	1.08
10	9130.84	252.84	1.20	1.20
11	10039.52	278.74	1.32	1.32

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**7616.13**	**Force Calibration (lb/V)**	**7615.56**
Offset	**1.43**	Offset	**-11.88**
Correlation	**0.999999**	Correlation	**0.999997**
Strain Calibration (μE/V)	**213.80**	**Strain Calibration (μE/V)**	**213.79**
Offset	**-3.74**	Offset	**-4.12**
Correlation	**0.999987**	Correlation	**0.999990**

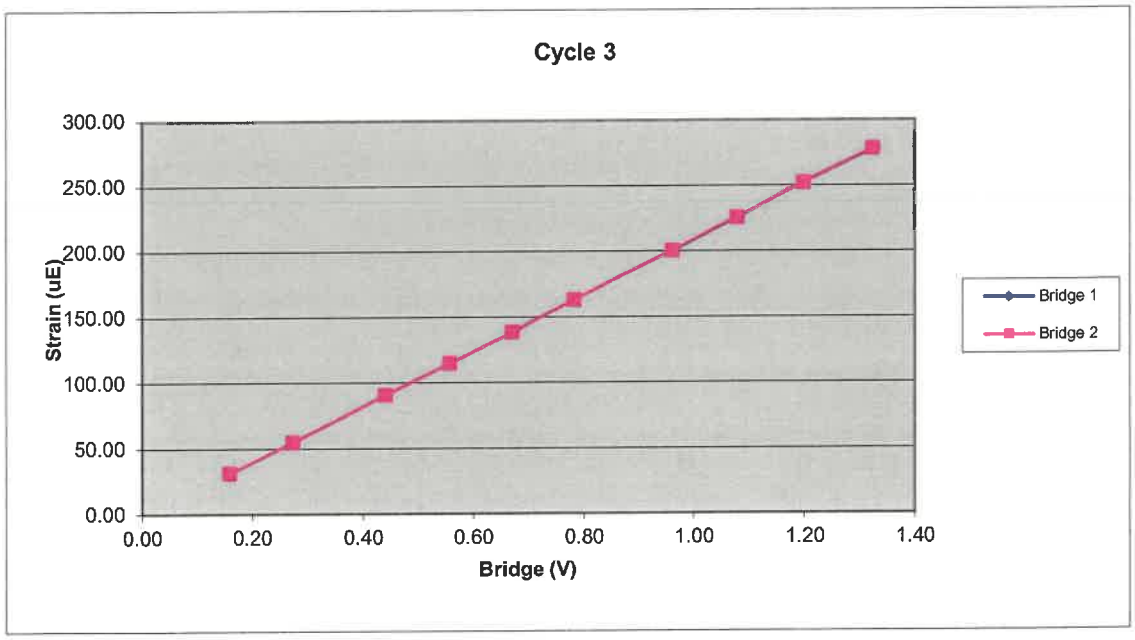
Force Strain Calibration	
EA (Kips)	**35621.25**
Offset	**134.95**
Correlation	**0.999985**



203AWJ		Cycle 3		
Sample	**Force (lb)**	**Strain (µE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	1216.12	31.38	0.16	0.16
3	2078.01	54.75	0.27	0.27
4	3348.13	90.71	0.44	0.44
5	4248.62	114.98	0.56	0.56
6	5110.90	138.68	0.67	0.67
7	5966.16	163.47	0.78	0.78
8	7338.73	200.80	0.96	0.96
9	8226.55	225.96	1.08	1.08
10	9144.10	252.26	1.20	1.20
11	10093.62	278.03	1.32	1.32

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**7621.84**	**Force Calibration (lb/V)**	**7635.13**
Offset	**-0.64**	Offset	**-3.95**
Correlation	**0.999999**	Correlation	**0.999999**
Strain Calibration (µE/V)	**212.12**	**Strain Calibration (µE/V)**	**212.49**
Offset	**-2.91**	Offset	**-3.01**
Correlation	**0.999979**	Correlation	**0.999985**

Force Strain Calibration	
EA (Kips)	**35930.12**
Offset	**104.27**
Correlation	**0.999985**



Bridge Excitation (V) 5
Shunt Resitor (ohm) 60.4k

Calibration Factors	203AWJ		
Bridge 1 (µE/V)	208.46	Bridge 2 (µE/V)	208.57
EA Factor (Kips)	36511.28	Area (in^2)	1.22

Calibrated by: Sean Bower
Calibrated Date: 8/24/2023

Pile Dynamics Inc
30725 Aurora Rd
Solon, OH 44139

Traceable to N.I.S.T.

Appendix III – Field Log

SPT Energy Evaluation Form

Project: I-77 EXIT 26 PHASE I
Project No.: 23610178A
Boring No.: TEST HOLE B

Date: 11/17/23
Weather: CLEAR 70°
Drill Rod Type: 5' LONG AWJ

On-site Personnel

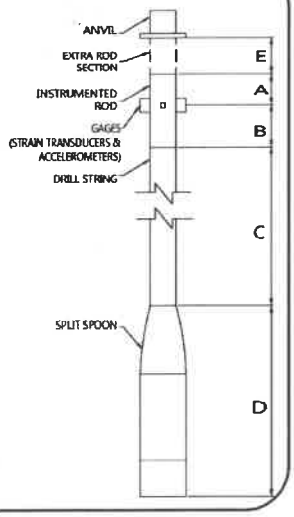
Drilling Company: SEME
Rig Operator: S. EUBANKS
Engr/Geologist: N/A
Client Rep.: N/A
Analyzer Oper.: J. WILLIAMSON

Rig/Hammer Info

Drill Rig Make/Model: CME-550X
Carrier Type: ATV
Rig Serial No.: 293193 (R-46)
Hammer Type/Model: AUTO / CME
Hammer Serial No.: N/A
Hammer Drop System: CHAIN DRIVE
Lubrication Condition: PER MAN. RECS.
Manufacturer Recommended Operation Rate (bpm): 50-55
Typical Drop Height (in.): 30
Typical Hammer Weight (lbs): 140
Anvil Dimension (in.): 12
Drilling Method: MUD ROTARY w/ 2-15/16" DRAG BIT
Drop Height in Tolerance (y/n): Y

Rod Info

(A) + (B) Instr. Rod Length: 2.0 ft
(B) Instr. Rod Length below Gages: 0.7 ft
(D) Spoon Length: 2.85 ft
(E) Rod Length Above Instr. Rod (if applicable): 0 ft
(B)+(C)+(D) (LE) - Length Below Gauges: **(C)** + 3.55 ft
Instr. Rod S/N: 203AWJ
Instr. Rod Outside Dia.: 1.75 in.
Instr. Rod Area: 1.22 in^2
PDA Make/Model: PDI / PAX
PDA Serial No.: 3733L
Calib. Pulse Test (y/n): Y



Gage Info

Gage		Serial No.	Calibration No.
Accel.	A3	K4664	376.6
	A4	K4665	375.3
Strain	F3	203AWJ-1	208.46
	F4	203AWJ-2	208.57

Date of Test	Test Depth Increment (ft to ft)	Test Time Start / Stop (military)	Length of Drill String (ft) (C)	(LE) Length below Gages (ft) (B) + (C) + (D)	Avg. Meas. Hammer Rate (BPM)	SPT Blow Counts: Total Blows by PDA	6"	12"	18"	N-Value	Extra Blows	AASHTO / USCS Classification
11/17/23	38.5-40.0	10:46	40	43.55		93	15	28	50	78	0	
	43.5-45.0	11:11	45	48.55		43	8	15	20	35	0	
	48.5-50.0	11:24	50	53.55		23	5	7	11	18	0	
	53.5-55.0	11:38	55	58.55		40	8	14	18	32	0	
	58.5-60.0	11:55	60	63.55		86	15	32	39	71	0	

Notes: F2 SPIKING ON FIRST SAMPLE SWAPPED P.G TAIL.

NOTE: (1) Note any unusual hammer operating conditions that affect the hammer performance, or changes in operating conditions (e.g. veritcality, weather, or lubrication between trials). (2) Note any changes in rod diameter along drill string and record locations of short rod sections.

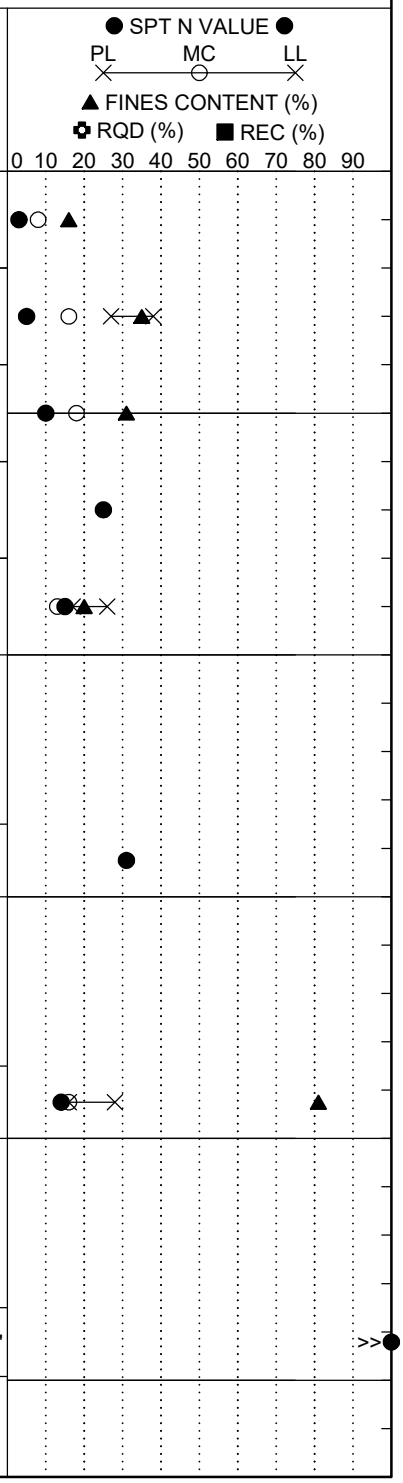
Joseph Williamson
Prepared By (print/signature)

11/17/23
Date

SCDOT Soil Test Log

Project ID:	23610178A	**County:**	Richland	**Boring No.:**	EB-2W
Site Description:	I-77 Exit 26 Phase I			**Route:**	US-21
Eng./Geo.:	Z. Zelaya	**Boring Location:**		**Offset:**	
Alignment:	Proposed				
Elev.:	445.0 ft	**Latitude:**	34.18975869	**Longitude:**	-80.97072615
Date Started:	7/24/2023				
Total Depth:	98.8 ft	**Soil Depth:**	98.8 ft	**Core Depth:**	N/A ft
Date Completed:	7/25/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	81.6%				
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** NA
24HR	5.2 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	0.0	Grassy							
	0.3	**SURFACE MATERIAL** - TOPSOIL - 3 inches.	0.0	SS-1	1	2	1	2	3
		COASTAL PLAIN - very loose, moist, brown to light brown, Silty fine to medium SAND (SM), little low plasticity fines, trace roots, 7.5YR4/3, 7.5YR6/4. NMC=8.0%, %#200=16	2.0	SS-2	2	2	3	5	5
440.0		@2.5 feet - loose, moist to wet, brown with yellowish red and light gray, (A-2-6), 7.5YR4/5, 5YR5/8, 5YR7/1. LL=38, PL=27, PI=11, NMC=16%, %#200=35	4.0	SS-3	2	4	6	9	10
	6.0	@4 feet - brown, light gray, yellowish red, 7.5YR4/5, 5YR7/1, 5YR5/8. NMC=18%, %#200=31	6.0	SS-4	11	12	13	14	25
	8.0	Medium dense, moist to wet, layered brown with yellowish red and light gray, fine to medium SAND with Clay (SP-SC), few medium plasticity fines, 7.5YR4/5, 5YR5/8, 5YR7/1.	8.0	SS-5	9	5	10	16	15
435.0		Medium dense, moist to wet, light gray with very pale brown mottles, Clayey fine to medium SAND (SC) (A-2-4), little medium plasticity fines, 10YR7/2, 10YR8/4. LL=26, PL=17, PI=9, NMC=13%, %#200=20							
	13.5	Dense, moist to wet, light gray and white, fine to coarse SAND with Silt (SP-SM), few low plasticity fines, 10YR7/2, 10YR8/1.	13.5	SS-6	16	17	14		31
430.0									
	18.5	Medium dense, moist, light gray with brownish yellow mottles, lean CLAY with Sand (CL) (A-6(8)), little fine sands, 10YR7/2, 10YR6/8. LL=28, PL=16, PI=12, NMC=16%, %#200=81	18.5	SS-7	2	5	9		14
425.0									
	23.5	Very hard, dry to moist, light gray with brownish yellow, SILT (ML), trace fine to medium sands, 10YR7/2, 10YR6/8.	23.5	SS-8	12	25	50/5"		50/5"
420.0									



LEGEND

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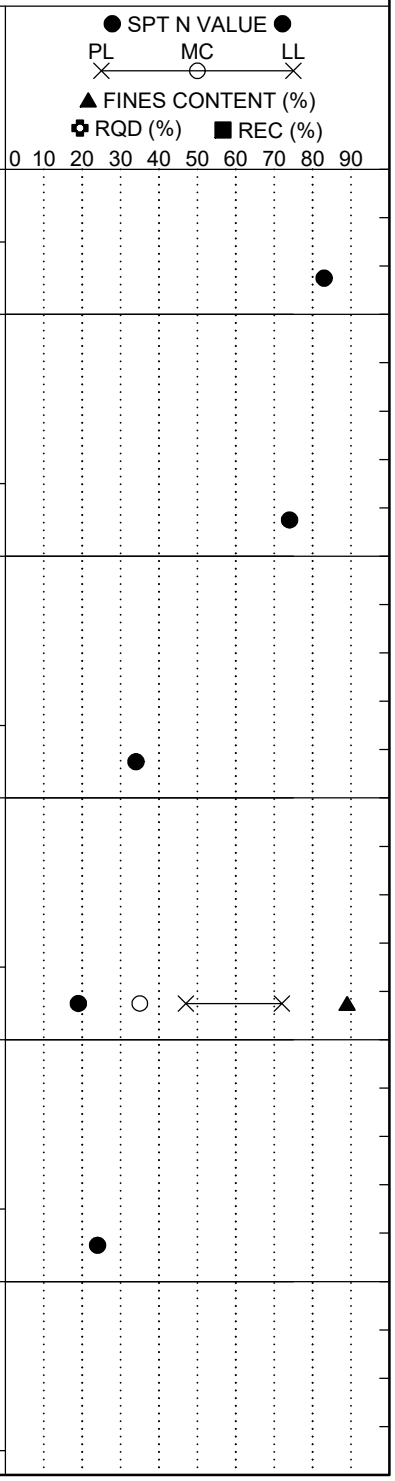
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	23610178A	**County:**	Richland	**Boring No.:**	EB-2W
Site Description:	I-77 Exit 26 Phase I			**Route:**	US-21
Eng./Geo.:	Z. Zelaya	**Boring Location:**		**Offset:**	
Alignment:	Proposed				
Elev.:	445.0 ft	**Latitude:**	34.18975869	**Longitude:**	-80.97072615
Date Started:	7/24/2023				
Total Depth:	98.8 ft	**Soil Depth:**	98.8 ft	**Core Depth:**	N/A ft
Date Completed:	7/25/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	81.6%				
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** NA
24HR	5.2 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
	28.5		28.5						
415.0		Very dense, moist to wet, light gray with brownish yellow mottles, Clayey fine to coarse SAND (SC), some medium plasticity fines, 10YR7/2, 10YR6/8.		SS-9	29	33	50		83
	33.5		33.5						
410.0		**PIEDMONT RESIDUUM** - very hard, dry to moist, laminated yellow with white and very pale brown layers, elastic SILT (MH), few fine to medium sands, 10YR8/6, 10YR8/1, 10YR8/3.		SS-10	13	26	48		74
			38.5						
		@38.5 feet - hard, dry, relict rock structure.		SS-11	9	14	20		34
405.0									
			43.5						
400.0		@43.5 feet - very stiff, laminated brownish yellow with white mottles and very pale brown, (A-7-5(31)), 10YR6/8, 10YR8/1, 10YR8/3. LL=72, PL=47, PI=25, NMC=35%, %#200=89		SS-12	4	7	12		19
			48.5						
395.0		@48.5 feet - laminated red, strong brown and brownish yellow, 2.5YR4/6, 7.5YR5/8, 10YR6/8.		SS-13	7	10	14		24
			53.5						
		@53.5 feet - dry to moist, few fine to coarse							



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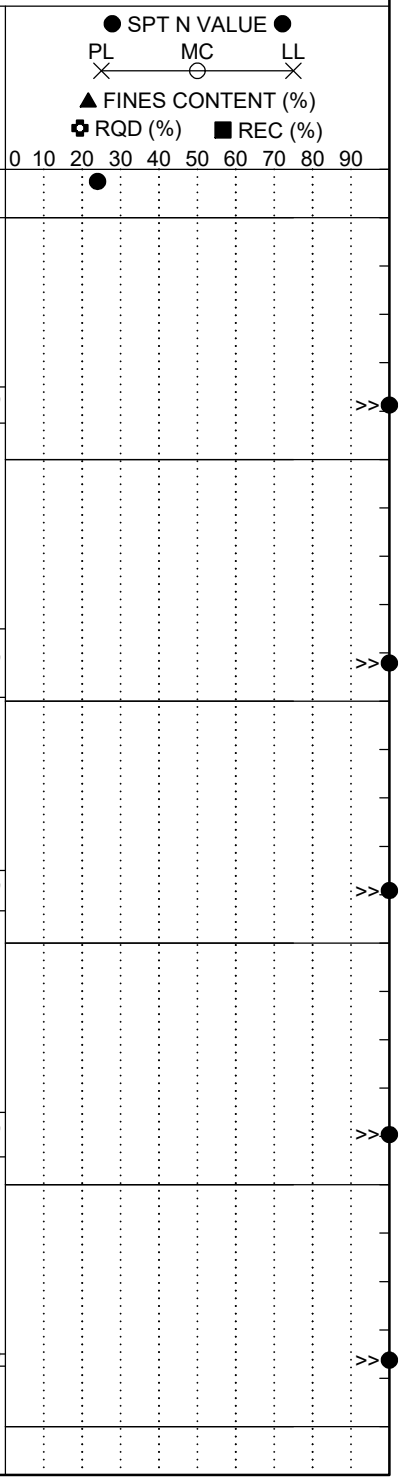
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	23610178A	**County:**	Richland	**Boring No.:**	EB-2W
Site Description:	I-77 Exit 26 Phase I			**Route:**	US-21
Eng./Geo.:	Z. Zelaya	**Boring Location:**		**Offset:**	
Alignment:	Proposed				
Elev.:	445.0 ft	**Latitude:**	34.18975869	**Longitude:**	-80.97072615
Date Started:	7/24/2023				
Total Depth:	98.8 ft	**Soil Depth:**	98.8 ft	**Core Depth:**	N/A ft
Date Completed:	7/25/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	81.6%				
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** NA
24HR	5.2 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
		sands.		SS-14	7	10	14		24
390.0									
	58.5	**PARTIALLY WEATHERED ROCK (PWR)** - very hard, dry, brownish yellow and strong brown laminated, SILT with Sand (ML), few fine to coarse sands, trace fine rock fragments, relict rock structure, 10YR6/8, 7.5YR5/8.	58.5	SS-15	49	50/3"			50/3"
385.0									
		@63.5 feet - brownish yellow, gray and dark gray laminated, trace fine to coarse rock fragments, 10YR6/8, 7.5YR6/1, 7.5YR4/1.	63.5	SS-16	22	29	50/5"		50/5"
380.0									
	68.5	Very hard, dry, laminated very dark gray, very dark greenish gray and yellowish brown, Sandy SILT (ML), some fine to medium sands, trace fine rock fragments, 10YR3/1, GLEY3/1, 10YR5/4.	68.5	SS-17	39	50/4"			50/4"
375.0									
	73.5	Very hard, dry, dark greenish gray with dark gray and white mottles, Sandy SILT with gravel (ML), some fine to medium sands, little fine gravel, 10Y4/1, 4/N, 10YR8/1.	73.5	SS-18	36	50/5"			50/5"
370.0									
			78.5	SS-19	50/3"				50/3"
365.0									



LEGEND

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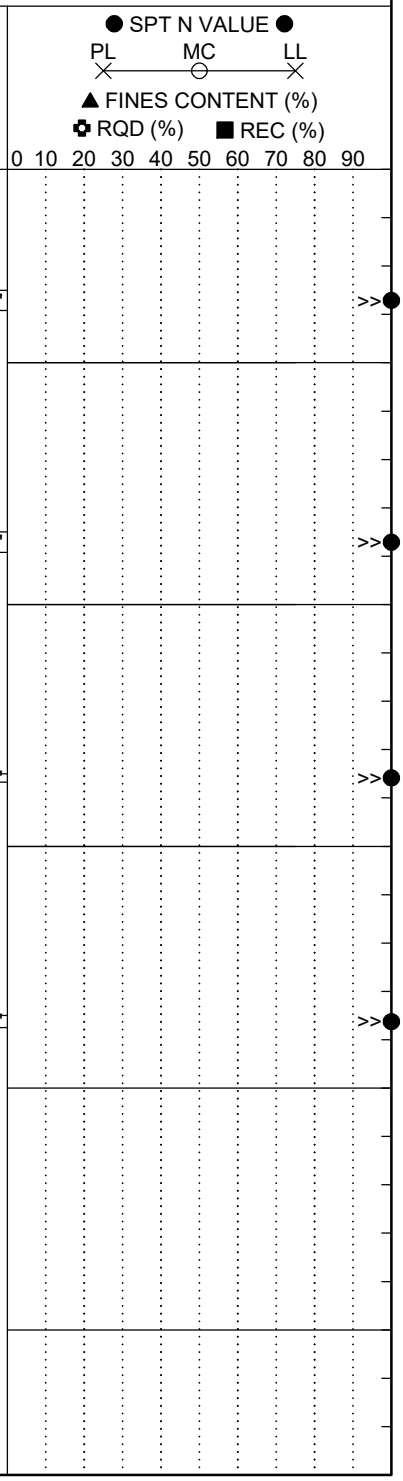
SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SCDOT Soil Test Log

Project ID:	23610178A	**County:**	Richland	**Boring No.:**	EB-2W
Site Description:	I-77 Exit 26 Phase I			**Route:**	US-21
Eng./Geo.:	Z. Zelaya	**Boring Location:**		**Offset:**	
Alignment:	Proposed				
Elev.:	445.0 ft	**Latitude:**	34.18975869	**Longitude:**	-80.97072615
Date Started:	7/24/2023				
Total Depth:	98.8 ft	**Soil Depth:**	98.8 ft	**Core Depth:**	N/A ft
Date Completed:	7/25/2023				
Bore Hole Diameter (in):	4	**Sampler Configuration**		**Liner Required:**	Y (N)
Liner Used:	Y (N)				
Drill Machine:	CME-550X	**Drill Method:**	RW	**Hammer Type:**	Automatic
Energy Ratio:	81.6%				
Core Size:	N/A	**Driller:**	S. Gowan	**Groundwater:**	**TOB** NA
24HR	5.2 ft				

Elevation (ft)	Depth (ft)	MATERIAL DESCRIPTION	Graphic Log	Sample Depth (ft)	Sample No./Type	1st 6"	2nd 6"	3rd 6"	4th 6"	N Value
				83.5	SS-20	50/5"				50/5"
360.0										
				88.5	SS-21	50/5"				50/5"
		@88.5 feet - little fine to coarse rock fragments.								
355.0										
				93.5	SS-22	50/2"				50/2"
350.0										
	98.5			98.5	SS-23	50/3"				50/3"
	98.8	Very dense, dry to moist, dark greenish gray with dark gray and white, Silty fine to coarse SAND with gravel (SM), little fine gravel, 10Y4/1, 4/N, 10YR8/1.								
345.0										
		Boring Terminated at 98.8 feet.								
340.0										



LEGEND

SAMPLER TYPE		DRILLING METHOD	
SS - Split Spoon	NQ - Rock Core, 1-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash
UD - Undisturbed Sample	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core
AWG - Rock Core, 1-1/8"	CT - Continuous Tube	DC - Driving Casing	

SC_DOT 23610178A SCDOT BORING LOGS_NEW MASTER 8-29.GPJ SCDOT_DATATEMPLATE.GDT 10/23/23

Appendix IV – SPT Energy Measurement Plots and Tables

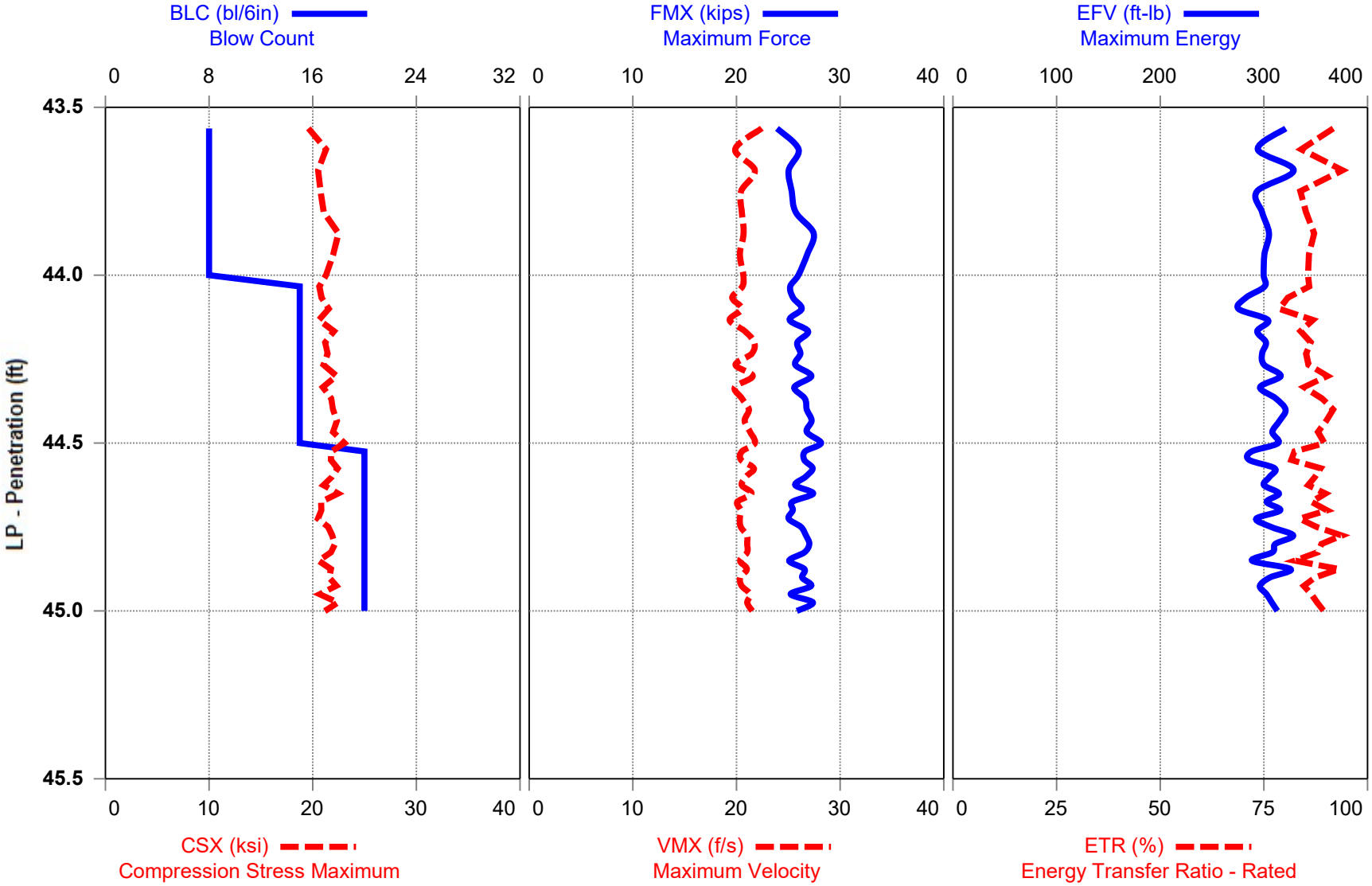
Pile Dynamics, Inc. - PDIPLOT2 Ver 2022.1.62.0 - Case Method & iCAP® Results

Printed: 14-December-2023

Test started: 17-November-2023

CME-550X SN 293193 - 43.5-45.0 FEET

TEST HOLE B



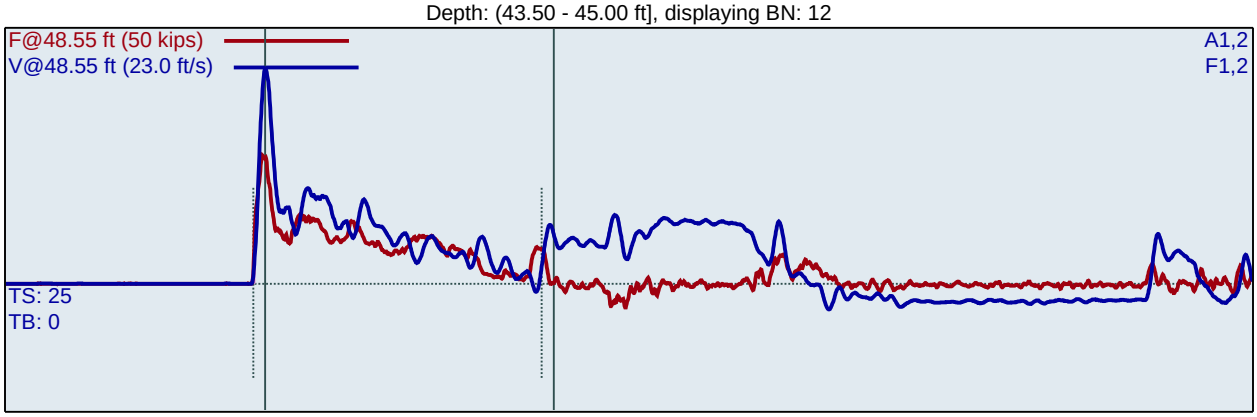
CME-550X SN 293193
JRW
TEST HOLE B

43.5-45.0 FEET
Interval start: 11/17/2023

AR: 1.22 in^2
LE: 48.55 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (43.50 - 45.00 ft], displaying BN: 12



F1 : [203 AWJ-1] 208.46 PDICAL (1) FF1
F2 : [203 AWJ-2] 208.57 PDICAL (1) FF1

A1 (PR): [K4664] 376.6 mv/6.4v/5000g (1) VF1
A2 (PR): [K4665] 375.3 mv/6.4v/5000g (1) VF1

BPM: Blows/Minute
FMX: Maximum Force
VMX: Maximum Velocity
DMX: Maximum Displacement

CSX: Compression Stress Maximum
DFN: Final Displacement
EFV: Maximum Energy
ETR: Energy Transfer Ratio - Rated

BL#	LP	BC	BPM	FMX	VMX	DMX	CSX	DFN	EFV	ETR
	ft	/6"	bpm	kips	ft/s	in	ksi	in	ft-lb	%
1	43.56	8	1.9	24	22.4	0.96	19.6	0.75	321	91.7
2	43.63	8	56.0	26	19.9	0.75	21.3	0.75	294	84.0
3	43.69	8	55.4	25	21.8	0.91	20.5	0.75	329	93.9
4	43.75	8	55.5	25	20.4	0.75	20.8	0.75	293	83.8
5	43.81	8	55.6	26	20.5	0.75	21.1	0.75	298	85.2
6	43.88	8	55.4	27	20.7	0.75	22.5	0.75	305	87.1
7	43.94	8	55.6	27	20.3	0.75	22.0	0.75	300	85.8
8	44.00	8	55.1	26	20.7	0.75	21.3	0.75	300	85.6
9	44.03	15	55.7	25	20.6	0.64	20.6	0.40	301	85.9
10	44.07	15	55.1	25	19.6	0.54	20.9	0.40	283	80.8
11	44.10	15	57.1	26	20.5	0.50	21.6	0.40	275	78.7
12	44.13	15	55.5	25	19.3	0.60	20.6	0.40	304	86.8
13	44.17	15	53.9	27	20.8	0.52	22.1	0.40	293	83.8
14	44.20	15	55.3	26	21.7	0.53	21.2	0.40	302	86.3
15	44.23	15	55.5	26	21.5	0.50	21.4	0.40	298	85.2
16	44.27	15	55.3	26	19.9	0.51	21.1	0.40	300	85.7
17	44.30	15	55.3	27	21.6	0.48	22.3	0.40	316	90.3
18	44.33	15	55.4	26	19.8	0.46	21.0	0.40	296	84.6
19	44.37	15	57.2	27	20.5	0.46	21.8	0.40	311	89.0
20	44.40	15	53.8	27	21.2	0.45	22.0	0.40	321	91.7
21	44.43	15	55.2	27	20.8	0.44	22.3	0.40	315	90.0
22	44.47	15	55.1	27	21.3	0.46	22.0	0.40	308	88.0
23	44.50	15	55.1	28	21.8	0.42	23.1	0.40	314	89.6
24	44.53	20	55.2	27	20.5	0.38	21.8	0.30	288	82.3
25	44.55	20	55.2	27	20.4	0.37	21.8	0.30	286	81.6
26	44.58	20	54.9	27	21.7	0.41	22.4	0.30	310	88.7
27	44.60	20	55.1	27	20.9	0.40	21.9	0.30	306	87.3

28	44.63	20	55.0	26	20.5	0.39	21.0	0.30	300	85.7
29	44.65	20	55.1	27	21.5	0.42	22.4	0.30	314	89.8
30	44.68	20	55.0	25	20.1	0.40	20.8	0.30	303	86.4
31	44.70	20	55.1	25	20.4	0.43	20.8	0.30	316	90.2
32	44.73	20	54.9	25	20.3	0.39	20.5	0.30	293	83.6
33	44.75	20	55.0	26	20.4	0.41	21.5	0.30	307	87.8
34	44.78	20	55.0	27	21.0	0.44	21.9	0.30	328	93.8
35	44.80	20	55.1	27	21.0	0.41	22.1	0.30	311	88.9
36	44.83	20	54.9	27	21.0	0.40	21.8	0.30	308	88.0
37	44.85	20	56.5	25	20.3	0.39	20.6	0.30	289	82.4
38	44.88	20	53.9	27	21.0	0.44	21.8	0.30	326	93.1
39	44.90	20	54.9	26	20.3	0.41	21.6	0.30	306	87.3
40	44.93	20	54.8	27	20.5	0.38	22.3	0.30	296	84.6
41	44.95	20	56.4	25	21.3	0.41	20.7	0.30	302	86.4
42	44.98	20	53.6	27	21.0	0.39	22.4	0.30	307	87.9
43	45.00	20	54.9	26	21.5	0.41	21.2	0.30	313	89.4
		Average	55.2	26	20.8	0.45	21.6	0.34	304	86.9
		Std Dev	0.8	1	0.6	0.06	0.7	0.05	12	3.3
		Maximum	57.2	28	21.8	0.64	23.1	0.40	328	93.8
		Minimum	53.6	25	19.3	0.37	20.5	0.30	275	78.7

N-value: 35

Sample Interval Time: 45.56 seconds.

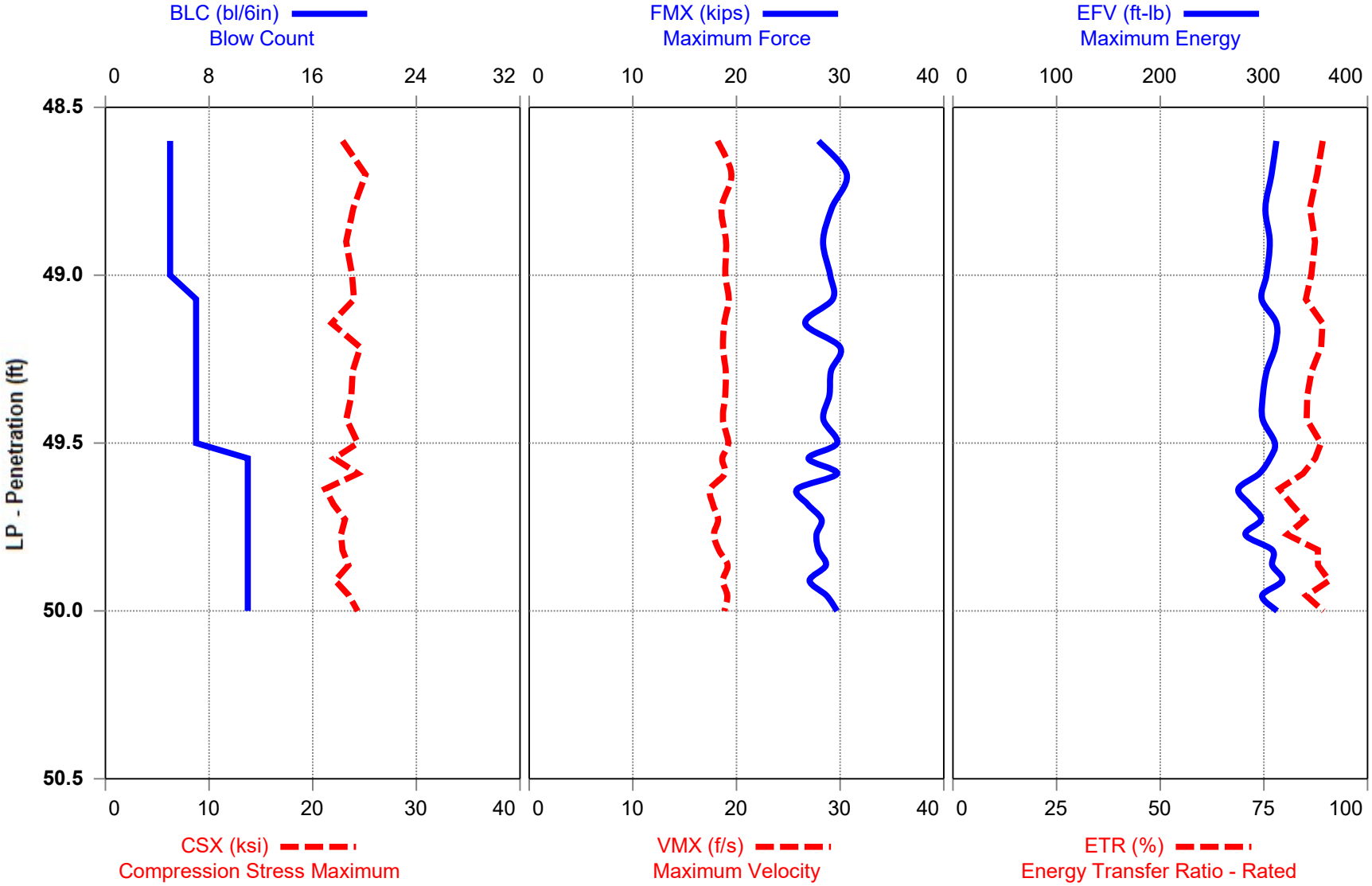
Pile Dynamics, Inc. - PDIPLOT2 Ver 2022.1.62.0 - Case Method & iCAP® Results

Printed: 14-December-2023

Test started: 17-November-2023

CME-550X SN 293193 - 48.5-50.0 FEET

TEST HOLE B



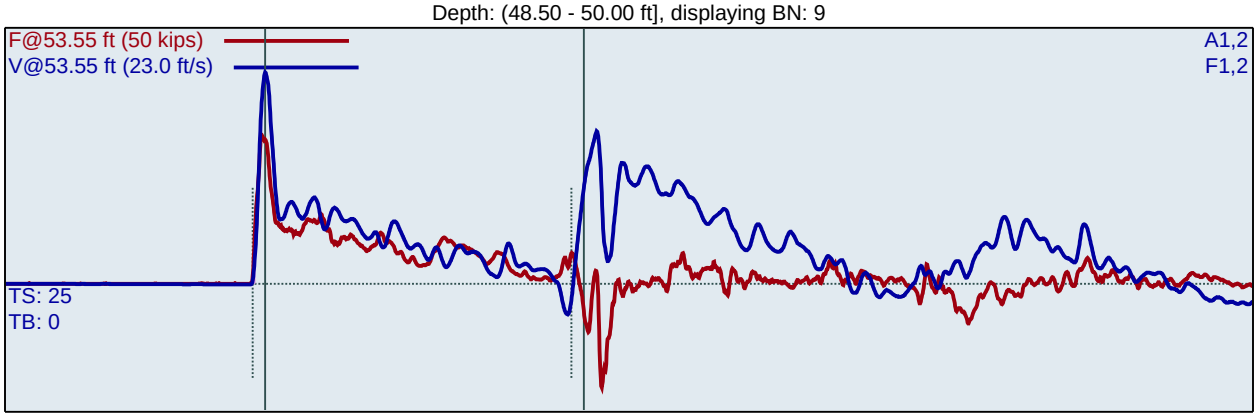
CME-550X SN 293193
JRW
TEST HOLE B

43.5-45.0 FEET
Interval start: 11/17/2023

AR: 1.22 in^2
LE: 53.55 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (48.50 - 50.00 ft], displaying BN: 9



F1 : [203 AWJ-1] 208.46 PDICAL (1) FF1
F2 : [203 AWJ-2] 208.57 PDICAL (1) FF1

A1 (PR): [K4664] 376.6 mv/6.4v/5000g (1) VF1
A2 (PR): [K4665] 375.3 mv/6.4v/5000g (1) VF1

BL#	LP	BC	BPM	FMX	VMX	DMX	CSX	DFN	EFV	ETR
	ft	/6"	bpm	kips	ft/s	in	ksi	in	ft-lb	%
1	48.60	5	1.9	28	18.2	1.65	22.9	1.20	312	89.2
2	48.70	5	56.2	31	19.5	1.20	25.1	1.20	307	87.8
3	48.80	5	55.4	29	18.6	1.20	23.9	1.20	301	86.1
4	48.90	5	55.1	28	19.0	1.20	23.2	1.20	306	87.3
5	49.00	5	55.2	29	18.9	1.20	23.8	1.20	302	86.4
6	49.07	7	55.1	31	19.3	0.94	25.4	0.86	303	86.7
7	49.14	7	55.2	27	18.8	0.99	21.8	0.86	312	89.2
8	49.21	7	55.4	30	18.7	0.94	24.6	0.86	311	88.8
9	49.29	7	55.1	29	19.0	0.86	23.9	0.86	303	86.5
10	49.36	7	55.2	29	18.9	0.86	23.7	0.86	299	85.4
11	49.43	7	55.1	28	18.7	0.86	23.3	0.86	299	85.3
12	49.50	7	55.6	30	19.2	0.86	24.4	0.86	311	88.7
13	49.55	11	55.1	27	18.6	0.84	22.1	0.55	306	87.3
14	49.59	11	55.0	30	18.9	0.66	24.3	0.54	295	84.4
15	49.64	11	56.4	26	17.5	0.56	21.2	0.54	275	78.6
16	49.68	11	55.4	27	17.7	0.55	22.0	0.55	286	81.7
17	49.73	11	53.9	28	18.2	0.55	23.1	0.55	297	84.9
18	49.77	11	56.7	28	17.8	0.55	22.7	0.55	282	80.6
19	49.82	11	54.0	28	18.3	0.56	22.9	0.55	308	88.0
20	49.86	11	55.2	29	19.1	0.55	23.5	0.55	308	88.0
21	49.91	11	55.1	27	18.7	0.57	22.2	0.55	318	90.7
22	49.95	11	56.8	29	19.1	0.55	23.5	0.55	298	85.2
23	50.00	11	53.6	30	18.8	0.57	24.3	0.55	313	89.3
		Average	55.2	28	18.6	0.71	23.3	0.67	301	86.1
		Std Dev	0.8	1	0.5	0.17	1.1	0.15	11	3.1
		Maximum	56.8	31	19.3	0.99	25.4	0.86	318	90.7
		Minimum	53.6	26	17.5	0.55	21.2	0.54	275	78.6

N-value: 18

Sample Interval Time: 23.95 seconds.

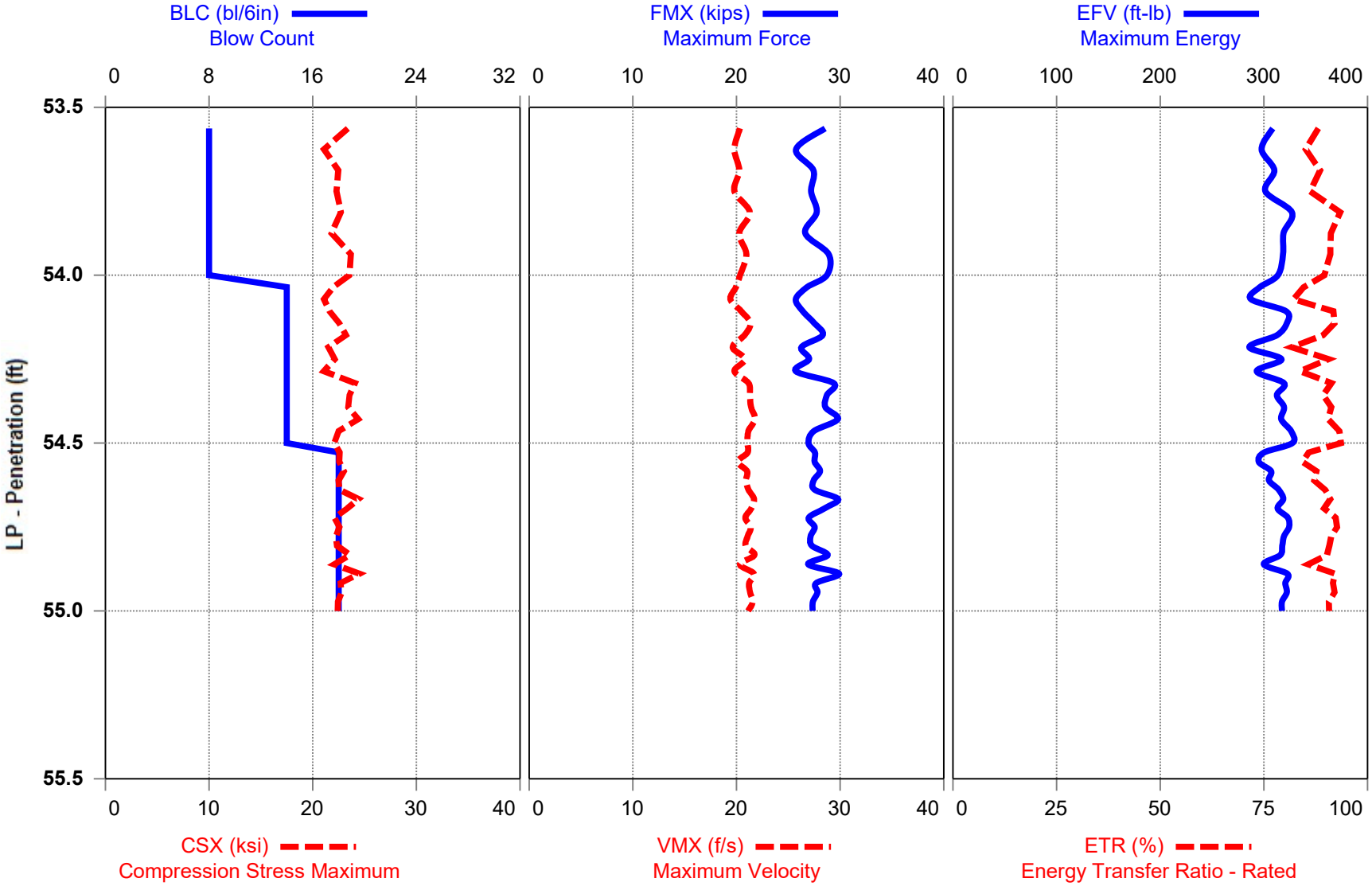
Pile Dynamics, Inc. - PDIPLOT2 Ver 2022.1.62.0 - Case Method & iCAP® Results

Printed: 14-December-2023

Test started: 17-November-2023

CME-550X SN 293193 - 53.5-55.0 FEET

TEST HOLE B



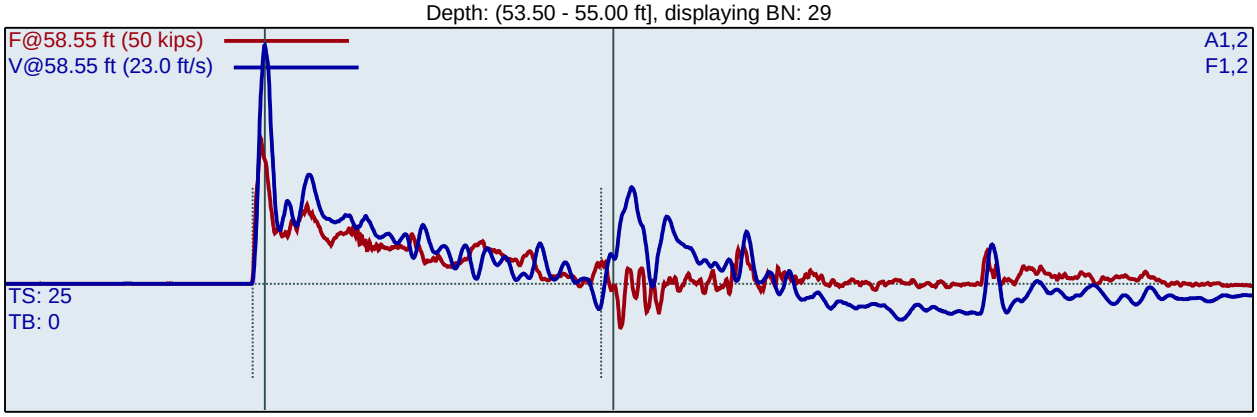
CME-550X SN 293193
JRW
TEST HOLE B

43.5-45.0 FEET
Interval start: 11/17/2023

AR: 1.22 in^2
LE: 58.55 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (53.50 - 55.00 ft], displaying BN: 29



F1 : [203 AWJ-1] 208.46 PDICAL (1) FF1
F2 : [203 AWJ-2] 208.57 PDICAL (1) FF1

A1 (PR): [K4664] 376.6 mv/6.4v/5000g (1) VF1
A2 (PR): [K4665] 375.3 mv/6.4v/5000g (1) VF1

BL#	LP	BC	BPM	FMX	VMX	DMX	CSX	DFN	EFV	ETR
	ft	/6"	bpm	kips	ft/s	in	ksi	in	ft-lb	%
1	53.56	8	1.9	29	20.3	1.10	23.4	0.75	308	88.1
2	53.63	8	56.4	26	19.8	0.89	21.1	0.75	298	85.0
3	53.69	8	55.0	27	20.3	0.83	22.5	0.75	310	88.5
4	53.75	8	55.5	27	19.8	0.77	22.3	0.75	301	86.1
5	53.81	8	55.0	28	21.3	0.75	22.7	0.75	327	93.4
6	53.88	8	55.3	27	20.3	0.75	21.8	0.75	319	91.1
7	53.94	8	55.1	29	21.0	0.75	23.7	0.75	318	91.0
8	54.00	8	55.2	29	20.3	0.76	23.5	0.75	313	89.6
9	54.04	14	55.3	27	19.9	0.56	22.0	0.43	296	84.6
10	54.07	14	56.9	26	19.4	0.55	21.1	0.43	287	82.1
11	54.11	14	53.3	26	20.5	0.58	21.6	0.43	321	91.7
12	54.14	14	55.5	28	21.3	0.55	22.6	0.43	322	92.0
13	54.18	14	55.1	28	20.8	0.53	23.2	0.43	312	89.2
14	54.21	14	56.6	26	19.6	0.51	21.5	0.43	286	81.7
15	54.25	14	53.6	27	20.8	0.53	22.1	0.43	317	90.6
16	54.29	14	56.7	26	19.8	0.50	21.1	0.43	293	83.7
17	54.32	14	53.9	29	21.2	0.51	24.1	0.43	319	91.3
18	54.36	14	54.7	29	21.3	0.47	23.5	0.43	313	89.3
19	54.39	14	55.1	29	21.4	0.49	23.4	0.43	319	91.3
20	54.43	14	55.2	30	21.8	0.47	24.4	0.43	317	90.5
21	54.46	14	54.9	30	21.1	0.47	24.2	0.43	319	91.2
22	54.50	14	55.1	29	21.1	0.48	23.8	0.43	320	91.3
23	54.53	18	56.6	28	21.1	0.45	22.6	0.33	300	85.8
24	54.56	18	53.5	28	20.1	0.45	22.6	0.33	295	84.3
25	54.58	18	55.1	28	21.0	0.46	23.0	0.33	307	87.7
26	54.61	18	55.1	27	20.9	0.44	22.5	0.33	305	87.1
27	54.64	18	55.0	28	21.2	0.46	22.6	0.33	314	89.8
28	54.67	18	55.1	30	21.7	0.47	24.4	0.33	319	91.0
29	54.69	18	55.1	28	21.4	0.46	23.3	0.33	313	89.5
30	54.72	18	54.8	27	20.9	0.48	22.1	0.33	323	92.3
31	54.75	18	55.1	28	21.4	0.48	22.6	0.33	324	92.6

32	54.78	18	55.1	27	21.1	0.46	22.3	0.33	319	91.2
33	54.81	18	54.9	29	20.9	0.45	23.8	0.33	321	91.6
34	54.83	18	55.0	29	21.7	0.46	23.6	0.33	316	90.2
35	54.86	18	55.0	27	20.3	0.42	22.1	0.33	300	85.7
36	54.89	18	54.9	30	21.7	0.44	24.5	0.33	323	92.2
37	54.92	18	55.1	28	21.2	0.44	22.7	0.33	321	91.6
38	54.94	18	54.7	28	21.3	0.42	22.8	0.33	322	92.0
39	54.97	18	54.8	27	21.6	0.41	22.4	0.33	317	90.7
40	55.00	18	54.6	27	21.1	0.42	22.4	0.33	317	90.7
		Average	55.0	28	21.0	0.48	22.8	0.38	312	89.3
		Std Dev	0.8	1	0.6	0.04	0.9	0.05	11	3.1
		Maximum	56.9	30	21.8	0.58	24.5	0.43	324	92.6
		Minimum	53.3	26	19.4	0.41	21.1	0.33	286	81.7

N-value: 32

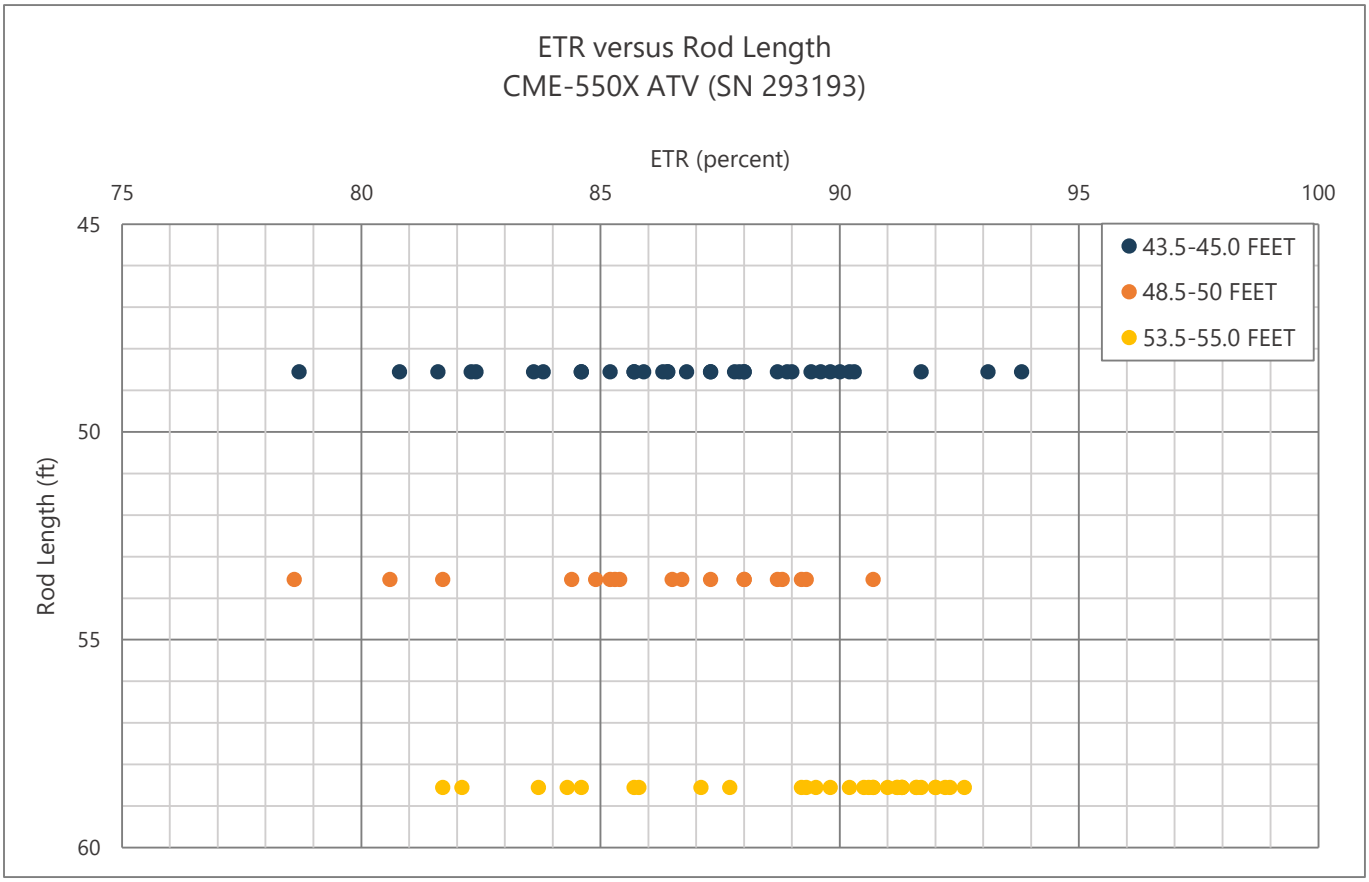
Sample Interval Time: 42.36 seconds.

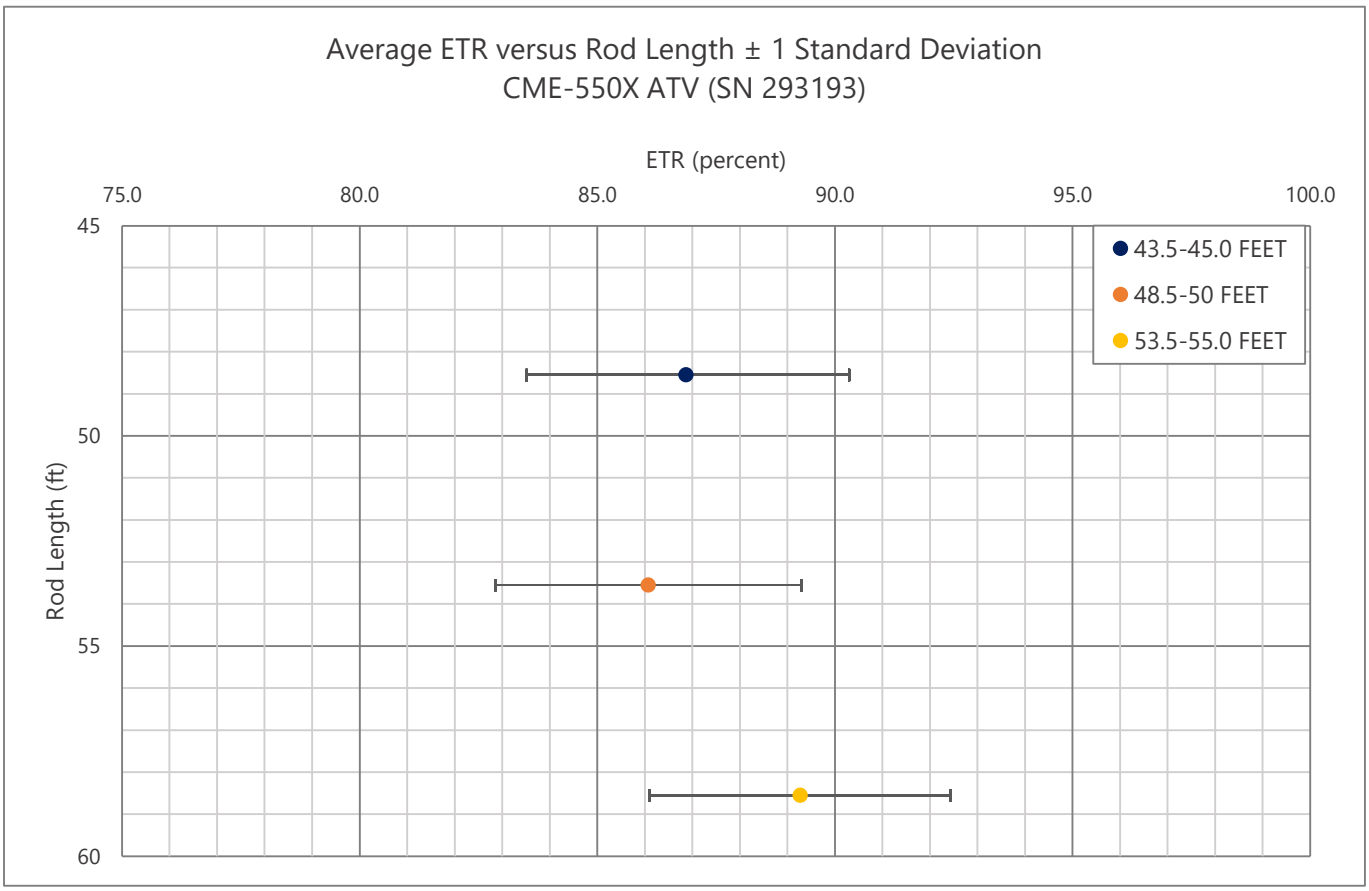
Summary of SPT Test Results

Project: CME-550X SN 293193, Test Date: 11/17/2023

BPM: Blows/Minute
FMX: Maximum Force
VMX: Maximum Velocity
DMX: Maximum Displacement
CSX: Compression Stress Maximum
DFN: Final Displacement
EFV: Maximum Energy
ETR: Energy Transfer Ratio - Rated

Instr. Length ft	Start Depth ft	Final Depth ft	Blows Applied /6"	**N Value**	**N60 Value**	Average BPM bpm	Average FMX kips	Average VMX ft/s	Average DMX in	Average CSX ksi	Average DFN in	Average EFV ft-lb	Average ETR %
48.55	43.50	45.00	**8-15-20**	**35**	**51**	55.2	26	20.8	0.45	21.6	0.34	304	86.9
53.55	48.50	50.00	**5-7-11**	**18**	**26**	55.2	28	18.6	0.71	23.3	0.67	301	86.1
58.55	53.50	55.00	**8-14-18**	**32**	**46**	55.0	28	21.0	0.48	22.8	0.38	312	89.3
					Overall Average Values:	55.1	27	20.4	0.51	22.4	0.42	307	87.6
					Standard Deviation:	0.8	1	1.1	0.14	1.1	0.15	12	3.5
					Overall Maximum Value:	57.2	31	21.8	0.99	25.4	0.86	328	93.8
					Overall Minimum Value:	53.3	25	17.5	0.37	20.5	0.30	275	78.6


ETR versus Rod Length
CME-550X ATV (SN 293193)
ETR (percent)
75
80
85
90
95
100
Rod Length (ft)
45
50
55
60
43.5-45.0 FEET
48.5-50 FEET
53.5-55.0 FEET


Average ETR versus Rod Length ± 1 Standard Deviation
CME-550X ATV (SN 293193)
ETR (percent)
75.0
80.0
85.0
90.0
95.0
100.0
Rod Length (ft)
45
50
55
60
43.5-45.0 FEET
48.5-50 FEET
53.5-55.0 FEET

Memorandum

To: File – S&ME Project No.: 22350835A – TVA CRN Geotechnical Investigation, Oak Ridge, TN

From: Joseph R. Williamson, P.E. (NC & SC) and Jason S. Reeves, P.E. 6/14/23

Cc: Julie P. Robertson, P.G. 6/14/23

Date: June 14, 2023

Subject: Summary of SPT Energy Measurements – S&ME Diedrich D-50 Track (Serial No. 316) – Tested 6/8/23

♦ Purpose

In accordance with the project specifications, we have completed the Standard Penetration Test (SPT) energy measurements on the automatic hammer used with our Diedrich D-50 track-mounted drill rig (Serial No. 316). This testing was performed prior to the beginning of our field exploration services for this project. This service was performed by Mr. Joseph Williamson, P.E. (NC and SC) of S&ME on June 8, 2023, in general accordance with ASTM D4633. Review of the data quality and analyses was performed by Mr. Williamson. A copy of the Certificate of Proficiency issued by Pile Dynamics based on the Dynamic Measurement and Analysis Proficiency Test for Mr. Williamson is included in the attachments. The testing procedures, equipment used during testing, and detailed results are presented in this memorandum.

♦ Dynamic Testing Methodology

Testing was performed using a model PAX (Serial No. 3733L) Pile Driving Analyzer™ (PDA) manufactured by Pile Dynamics, Inc. The PDA was used to record and interpret data from two piezoresistive accelerometers (Serial Nos. K4664 and K4665) bolted to a 2.0-foot long AWJ drill rod (Serial No. 203) internally instrumented with two strain transducers. Calibration sheets for the accelerometers and the instrumented rod are included in the attachments. The instrumented AWJ drill rod has a cross-sectional area of 1.21 square inches (verified during equipment calibration) and an outside diameter of approximately 1-⅞ inches. Therefore, we calculate the inside diameter to be approximately 1.23 inches at the gauge location. The accelerometers and strain gauges, which are diametrically opposed near the middle of the instrumented rod, monitor acceleration and strain for each hammer blow. The analyzer converts the data to velocities and forces and computes the maximum transferred hammer energies with the "EFV" method described in ASTM D4633. Preliminary results are recorded and displayed in real time for each blow.

♦ Testing and Observations

S&ME personnel were on site June 8, 2023, to observe and perform high-strain dynamic testing during SPT sampling on the Diedrich D-50 track-mounted drill rig operated by Frank Crane of S&ME. The measurements were taken during drilling and sampling of a test hole (Test Hole 2) at our office in Louisville, Tennessee. SPT energy measurements were recorded during four sample intervals that met the N-value requirements of ASTM D4633. The information presented in the tables below summarizes the equipment and tooling used during the SPT energy measurements. The SPT Energy Evaluation Form is included in the attachments.

Table 1: Drill Rig Information

Manufacturer	Diedrich
Model	D-50
Serial Number	316
Operator	F. Crane
Carrier	Track

Table 2: Hammer Information

Type / Model	Auto / Diedrich
Drop Height from Calibration Record (inches)	30.0
Calibration Hammer Weight (pounds)	139.66

Table 3: Drilling and Instrumented Rod Information

Drill Rod Type	AWJ
OD (inches)[1]	1.75
ID (inches)[1]	1.25
Cross-Sectional Area (in^2)[2]	1.18
Typical Lengths (feet)	5
Instrumented Rod Type	AWJ (Serial No. 203)
OD (inches)[3]	1-⅞
ID (inches)[4]	1.23
Cross-Sectional Area (in^2)[5]	1.21
Total Instrumented Rod Length (feet)[3]	2.0
Length Below Gages (feet)[3]	0.75
Split-Spoon Length (feet)[3]	2.84

[1] Per manufacturer's specifications.
[2] Calculated using OD and ID from manufacturer's specifications.
[3] Measured with engineer's tape measure at top of instrumented rod.
[4] Calculated using typical drill rod OD and Area from instrument rod calibration record.
[5] From instrument rod calibration record.

♦ Dynamic Testing Results

The total rod length from the instrumentation to the tip of the split-spoon sampler was determined by adding 3.59 ft to the drill rod length at each sample depth. The SPT Energy Measurement Data Summary tables in the attachments present the test data from every hammer blow at each sampling interval, along with representative force and velocity traces for each test interval. Per ASTM D4633, only the blows from the final foot of each sample interval (i.e. the blows that determine the N-value) are considered when computing the average measurement values of each test interval.

The reported blow counts obtained by the drill rig personnel, a summary of the test data, and average computed hammer energy and transfer ratio values are provided in Table 4. Based on the test data, the automatic hammer on the Diedrich D-50 operated at an average rate of about 51 blows per minute (bpm) during dynamic testing. The measured average transferred hammer energy (EFV) of the four sample intervals tested ranged from 335 to 344 ft-lbs, which corresponds to Energy Transfer Ratio (ETR) values of 95.7 to 98.2%, respectively, based on a typical theoretical maximum energy of 350 ft-lbs. Plots and tables of the following are also included in the Appendix and present the test data with depth for each test interval:

- Penetration vs. BLC[6]
- Penetration vs. FMX[7]
- Penetration vs. EFV[8]
- Penetration vs. CSX[9]
- Penetration vs. VMX[10]
- Penetration vs. ETR[11]
- ETR vs. Rod Length
- Average ETR vs. Rod Length

Table 4: Summary of Dynamic Testing Results

Data Set ID	Sample Depth (ft)	Drill Rod Length (ft)	Instrumentation to Sampler Tip Length (ft)	Blows per 6" Increment / N-value	Soil Sample Description (Residual)	Avg. BPM	Avg. EFV (ft-lbs)	Avg. ETR (%)
1	31.0 – 32.5	32.0	35.59	5-14-19 / **33**	Lean Clay	50.2	340	97.2
2	33.5 – 35.0	34.0	37.59	4-11-16 / **27**	Lean Clay	50.4	336	96.1
3	36.0 – 37.5	36.0	39.59	7-12-19 / **31**	Lean Clay	50.7	344	98.2
4	38.5 – 40.0	39.0	42.59	5-11-17 / **28**	Lean Clay	50.7	335	95.7
					Overall Average	**50.5**	**339**	**96.8**

The overall average transferred hammer energy for the automatic hammer on the Diedrich D-50 track-mounted drill rig was 339 foot-pounds, with an average ETR of 96.8%.

[6] BLC - Blow Count per 6-in. increment
[7] FMX - Maximum Compressive Force
[8] EFV – Maximum Transferred Energy
[9] CSX – Maximum Compressive Stress
[10] VMX – Maximum Velocity
[11] ETR – Energy Transfer Ratio – Ratio of Calculated Energy to Theoretical Energy of 140 lb hammer falling 30 inches

Attachments

Certificate of Proficiency

Instrumented Rod and Accelerometer Calibration Sheets

SPT Energy Evaluation Form

Diedrich D-50 Track (SN 316) SPT Energy Measurements Summary Plots and Tables

PDCA
PILE DRIVING CONTRACTORS ASSOCIATION

Pile Dynamics, Inc.

This documents that

Joseph Williamson
S&ME, Inc.

has on March 16, 2022 achieved the rank of

MASTER

on the **Dynamic Measurement and Analysis Proficiency Test**.

The individual identified on this document demonstrated to the degree granted above an understanding of theory, data quality evaluation, interpretation and signal matching for high strain dynamic testing of deep foundations. ***It is recommended* that individuals at the Master level seek to attain Expert level through additional study within eight years of the date of this document**

The ability of the individual named to provide appropriate knowledge and advice on a specific project is not implied or warranted by the Pile Driving Contractors Association or Pile Dynamics, Inc. The Pile Driving Contractors Association or Pile Dynamics, Inc. assumes no liability for foundation testing and analysis work performed by the bearer of this certificate. This certificate can be verified at www.PDAproficiencytest.com.

Frank T. Peters, Executive Director
Pile Driving Contractors Association

PILE DYNAMICS, INC. CORPORATE SEAL 1972 OHIO

Garland Likins, Senior Partner
Pile Dynamics, Inc.

No. 3251

Certificate of Calibration

Pile Dynamics, Inc. certifies that the

Pile Driving Analyzer®, Model PAX

Serial Number: 3733L

was calibrated on 22 MAY 2023

using a PDA Calibration Box whose output was calibrated with test equipment traceable to NIST.

This certificate is valid for 2 years from above date.

PILE DYNAMICS, INC. CORPORATE SEAL 1972 OHIO

Tested by: [illegible]

Pile Dynamics, Inc.
30725 Aurora Road
Cleveland, Ohio 44139 USA

Pile Dynamics, Inc.

Quality Assurance for Deep Foundations

Reviewed 6/5/2023

PDI Certificate of Calibration

PDI PDA Model PAX Serial # 3733L

Cal Date: May 19, 2023

Cal Due: May 18, 2025

Temperature: 74 deg. F

Humidity: 43%

Calibrated at:
Pile Dynamics, Inc.
30725 Aurora Road
Cleveland, OH 44139

Manufactured by Pile Dynamics, Inc.

Procedure used: PDA Calibration Procedure 2016-2, Revision 20160422
Actual Measurements: Attach PDA Calibration Data Sheet

Equipment was found to be:

X in tolerance As Received _____ out of tolerance As Received

X in tolerance As Returned _____ out of tolerance As Returned

Calibration Standards Utilized

PDA Cal Box serial 000002, verified on 21June2022.

Calibration performed by:

Marcus Johnson, Technician

Reviewed by:

Bob Sprenger, Product Support Manager

PDA CC-9 Issued 20160422

30725 Aurora Road • Cleveland, Ohio 44139 USA • +1-216-831-6131 • Fax +1-216-831-0916
E-mail: info@pile.com • www.pile.com

Pile Dynamics, Inc.

Quality Assurance for Deep Foundations

PDA Calibration Data Sheet Revision number 20160422
Use Calibration Procedure Number 2016-2, Revision 20160422

Reviewed 6/5/2023 AMP

PDI PDA Model PAX Serial # 3733L Cal Date: May 19, 2023

Reference Notes: Connect PDA Cal box to PDA sensor inputs. Set F3 & F4 to 147.5 and A3 & A4 to 1000. PDA to display the quantities FMX, VMX, and EMX. Select metric units. Set ARea = 244 cm^2 . Set EM = 2100 tonnes/cm^2 . Set FRequency to 50000HZ. Record actual value displayed:

Channel 3 (F3 & V3)

Calculation	Expected	Acceptable Range	Measured	Acceptable	Not Acceptable
FMX	378 tonnes	370 to 386	376	X	_____
VMX (PR)	4.21 m/sec.	4.13 to 4.29	4.15	X	_____
EMX (PR)	7.94 tonnes m	7.62 to 8.26	7.83	X	_____

Channel 4 (F4 & V4)

Calculation	Expected	Acceptable Range	Measured	Acceptable	Not Acceptable
FMX	378 tonnes	370 to 386	374	X	_____
VMX (PR)	4.21 m/sec.	4.13 to 4.29	4.13	X	_____
EMX (PR)	7.94 tonnes m	7.62 to 8.26	7.75	X	_____

Calibration performed by:

MGJ

Marcus Johnson, Technician

Reviewed by:

Bob Sprenger

Bob Sprenger, Product Support Manger

PDA DS-10 Issued 20160422

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E-mail: info@pile.com • www.pile.com

Pile Dynamics, Inc.

Quality Assurance for Deep Foundations

Reviewed TND 6/5/2023

PDI Certificate of Calibration

PDI SPT Drill Rod Serial # 203AWJ

Cal Date: May 23, 2023 Cal Due: May 22, 2025

Temperature: 74 deg. F Humidity 42%

Manufactured by Pile Dynamics, Inc.
Calibrated at: Pile Dynamics, Inc., 30725 Aurora Road, Cleveland, OH 44139
Procedure used: SPT Drill Rod Calibration Procedure 2016-4, Revision 20160422
Calibration Data: Attach SPT Rod Data Sheet DS-17

Equipment was found to be

X in tolerance As Received _____ out of tolerance As Received

X in tolerance As Returned _____ out of tolerance As Returned

Calibration Standards Utilized

1. PDI SPT Calibration Signal Conditioning Unit #000001, verified on 20220909
2. PDI Load Cell #75, Certificate # 22005433-181-00675
3. Capacitec Displacement Sensor #2034, Certificate # 22005433-177-00618
4. Capacitec Displacement Sensor #2040, Certificate # 22005433-177-00618
5. Capacitec Displacement Mainframe #4004-671, Certificate # 22005433-177-00618
7. National Instruments USB-6210 DAQ serial number 159AFDE, Certificate # 22005433-177-00617

Calibration performed by:

Sean Bonner

Sean Bonner, Technician

Reviewed by:

Robert Sprenger, Product Support Manager

SPT CC-16 Issued 20160425

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E-mail: info@pile.com • www.pile.com

Pile Dynamics, Inc.

Quality Assurance for Deep Foundations

SPT Calibration Data Sheet Revision number 20160426
Use Calibration Procedure Number 2016-6, Revision 20160422

SPT Drill Rod Data

Serial Number: 203AWJ Calibration Date: May 23, 2023

Temperature: 74 Deg F Humidity: 42%

Calibration performed in accordance with PDI SPT Calibration Procedure 2016-4, Revision 20160422

As Received (circle one): Operational - Malfunctioning - Damaged

Calibration data
Pre-Load: 1. 7226 lbs. 2. 7257 lbs. 3. 7245 lbs.
Total Load: 1. 18750 lbs. 2. 18900 lbs. 3. 18400 lbs.

Common typical theoretical EA values based on SPT Rod Type:
AW: 35400 NW: 43100 or 68100 N3: 70800 BW:52344

EA Theoretical 35400 EA Measured 35236.75 Error 0.46%
Within 4% Tolerance: **Y** / N

Alternative EA verification: Measure wall thickness, calculate area and multiply by 30000. (Use spreadsheet for calculation)

Calibration values

Channel 1:	As Found: (last cal): 213.1	As Left: 210.82	Within 5% Tolerance: **Y** / N
Channel 2:	As Found: (last cal): 212.91	As Left: 210.55	Within 5% Tolerance: **Y** / N
EA:	As Found: (last cal): 35691.1	As Left: 36210.02	Difference: 1.45%

Calibration performed by:

Sean Bonner

Sean Bonner, Technician

Reviewed by:

Robert Sprenger, Product Support Manager

SPT DS-17 Issued 20160426

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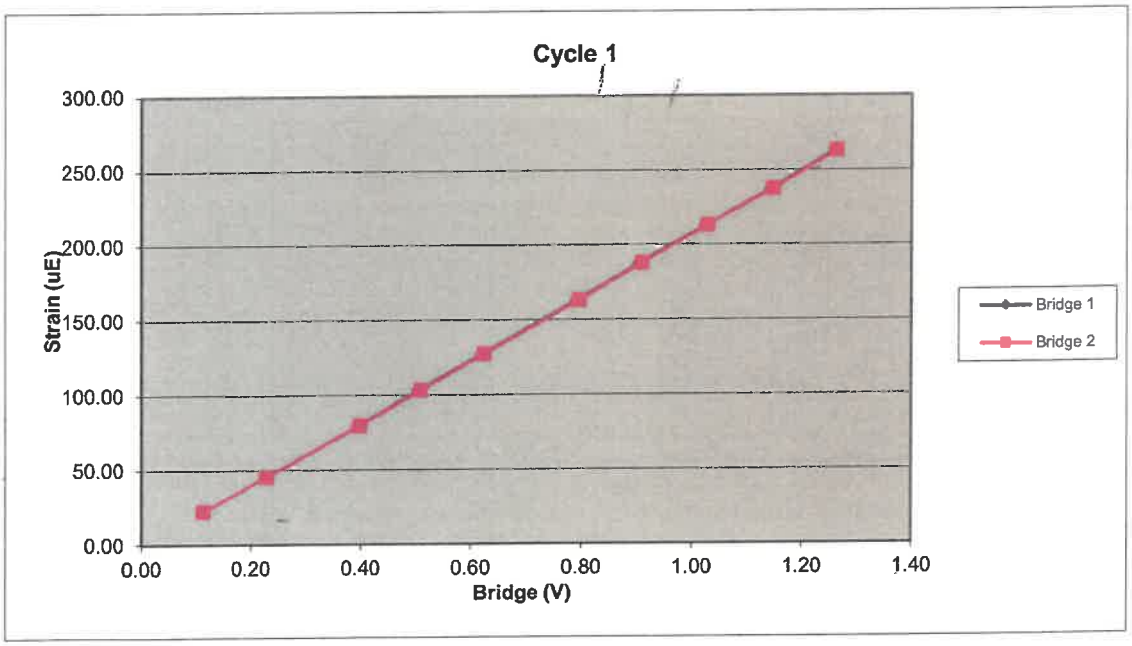
E-mail: info@pile.com • www.pile.com

203AWJ		Cycle 1		
Sample	**Force (lb)**	**Strain (μE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	865.79	21.69	0.11	0.11
3	1747.56	44.88	0.23	0.23
4	3032.21	79.18	0.40	0.40
5	3859.50	102.90	0.51	0.51
6	4747.02	127.03	0.62	0.62
7	6064.42	163.03	0.79	0.80
8	6930.50	187.70	0.91	0.91
9	7843.76	212.75	1.03	1.03
10	8759.06	237.12	1.15	1.15
11	9650.58	262.68	1.26	1.26

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**7640.67**	**Force Calibration (lb/V)**	**7626.60**
Offset	3.38	Offset	-0.21
Correlation	0.999999	Correlation	0.999997
Strain Calibration (μE/V)	**209.98**	**Strain Calibration (μE/V)**	**209.60**
Offset	-3.04	Offset	-3.14
Correlation	0.999976	Correlation	0.999971

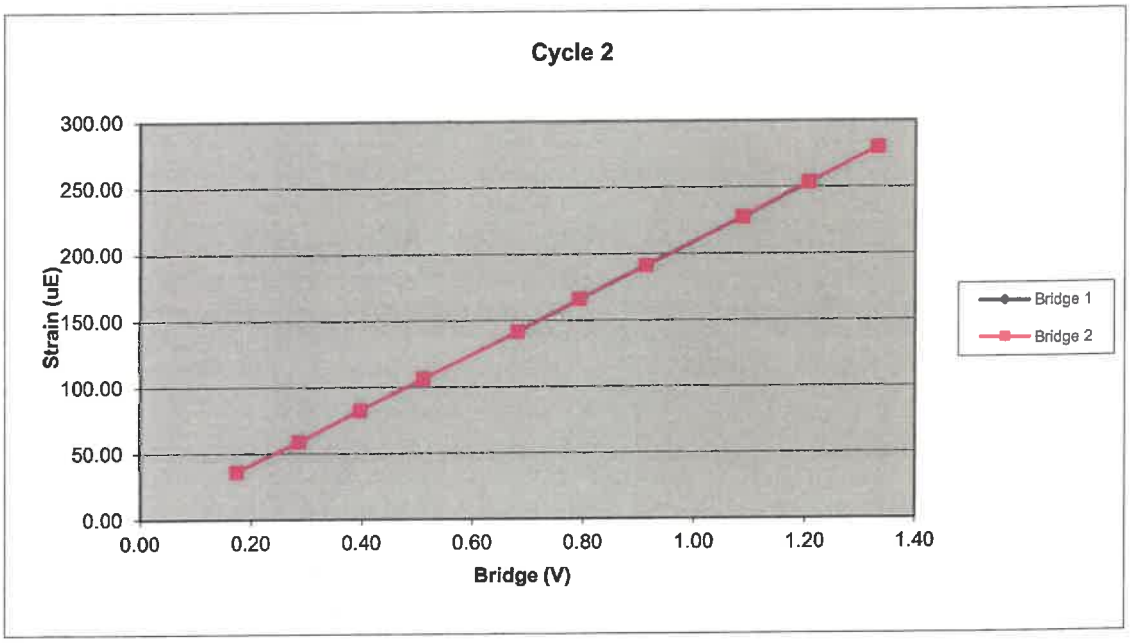
Force Strain Calibration	
EA (Kips)	**36385.07**
Offset	114.40
Correlation	0.999973



203AWJ		Cycle 2		
Sample	**Force (lb)**	**Strain (μE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	1314.77	35.40	0.17	0.17
3	2166.52	58.06	0.28	0.28
4	3009.50	81.68	0.40	0.39
5	3885.33	105.73	0.51	0.51
6	5194.73	140.93	0.68	0.68
7	6053.99	165.43	0.79	0.79
8	6954.28	190.27	0.91	0.91
9	8292.35	226.71	1.09	1.09
10	9204.43	252.85	1.21	1.21
11	10152.30	279.20	1.33	1.33

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**7627.71**	**Force Calibration (lb/V)**	**7632.02**
Offset	**-7.28**	Offset	**-3.86**
Correlation	**0.999999**	Correlation	**0.999999**
Strain Calibration (μE/V)	**210.48**	**Strain Calibration (μE/V)**	**210.60**
Offset	**-1.73**	Offset	**-1.64**
Correlation	**0.999979**	Correlation	**0.999984**

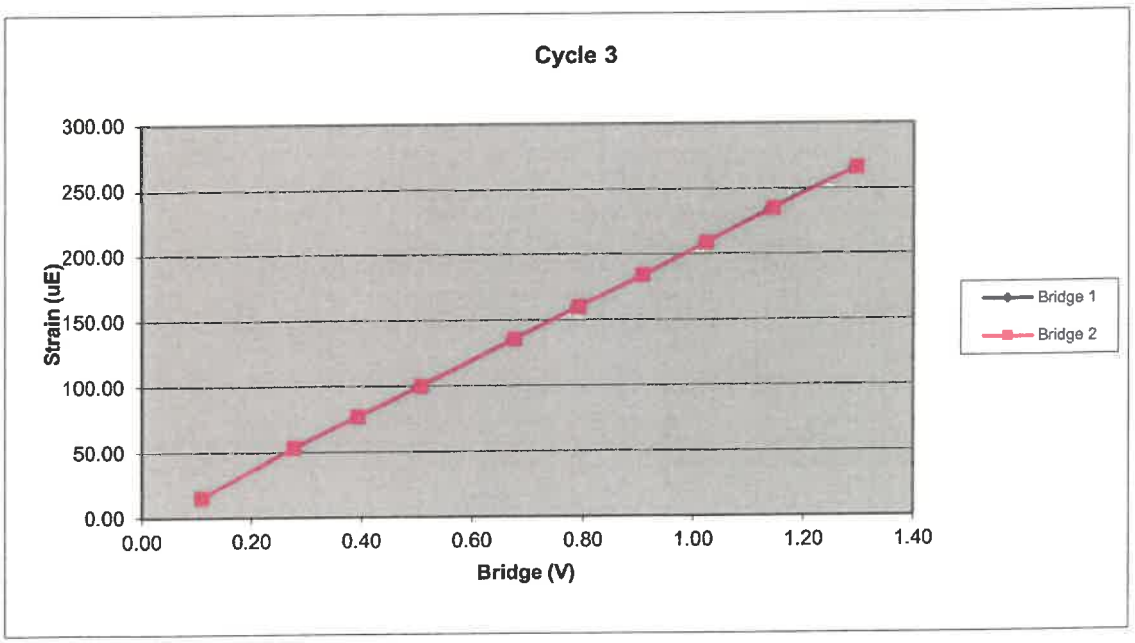
Force Strain Calibration	
EA (Kips)	**36237.46**
Offset	**55.75**
Correlation	**0.999983**



203AWJ		Cycle 3		
Sample	**Force (lb)**	**Strain (µE)**	**Bridge 1 (V)**	**Bridge 2 (V)**
1	0.00	0.00	0.00	0.00
2	816.08	14.67	0.11	0.11
3	2104.72	52.88	0.28	0.28
4	2987.66	76.61	0.39	0.39
5	3851.02	99.83	0.50	0.51
6	5140.54	135.37	0.67	0.67
7	6035.47	159.90	0.79	0.79
8	6921.92	183.83	0.91	0.91
9	7791.12	208.45	1.02	1.02
10	8726.70	234.43	1.14	1.14
11	9881.90	265.78	1.30	1.30

Bridge 1		**Bridge 2**	
Force Calibration (lb/V)	**7634.36**	**Force Calibration (lb/V)**	**7626.44**
Offset	**-0.70**	Offset	**-7.63**
Correlation	**0.999997**	Correlation	**0.999999**
Strain Calibration (µE/V)	**210.43**	**Strain Calibration (µE/V)**	**210.21**
Offset	**-6.40**	Offset	**-6.59**
Correlation	**0.999951**	Correlation	**0.999954**

Force Strain Calibration	
EA (Kips)	**36276.49**
Offset	**231.85**
Correlation	**0.999963**



Bridge Excitation (V) 5
Shunt Resitor (ohm) 60.4k

Calibration Factors	203AWJ		
Bridge 1 (µE/V)	210.30	Bridge 2 (µE/V)	210.14
EA Factor (Kips)	36299.67	Area (in^2)	1.21

Calibrated by: Sean Banner
Calibrated Date: 5/23/2023

Pile Dynamics Inc
30725 Aurora Rd
Solon, OH 44139

Traceable to N.I.S.T.

Quality Assurance for Deep Foundations

Pile Dynamics, Inc.

PDI Certificate of Calibration

Reviewed 6/5/2021

PDI Accelerometer Calibration

Model Kicher Serial # K4664

Cal Date: 24May2023 Cal Due: 23May2025

Temperature: 73.4 deg. F Humidity 41%

Calibrated at
Pile Dynamics, Inc.
30725 Aurora Road
Cleveland, OH 44139

Manufactured by Pile Dynamics, Inc.

Procedure used: MAC Accelerometer Calibration Procedure 8G-4 Revision # 20210801

Equipment was found to be:

X in tolerance As Received _____ out of tolerance As Received

X in tolerance As Returned _____ out of tolerance As Returned

PDI Calibration: 371.8 mv/5000g

Calibration Standards Utilized

MAC PDA 8G, serial number 5161 LE, verified on 22 December 2022

Calibration performed by:

William Johnson, Technician

Reviewed by:

Bob Sprenger, Product Support Manager

30725 Aurora Road • Cleveland, Ohio 44139 USA • +1-216-831-6131 • Fax +1-216-831-0916
E-mail: info@pile.com • www.pile.com

Accelerometer Calibration Certificate
Pile Dynamics, Inc.

Calibrated by Pile Dynamics, Inc.
Calibration performed on 24May2023

Serial No:	K4664	**Temperature:**	73.4 °C
Model:	PR	**Humidity:**	41%
Calibrated on:	Channel 3 on 8G 5161 LE		
Ref Acc 1:	72517! 1049 g's/volt	**Cal on:**	24Mar2022
Ref Acc 2:	72505! 1035 g's/volt	**Cal on:**	24Mar2022

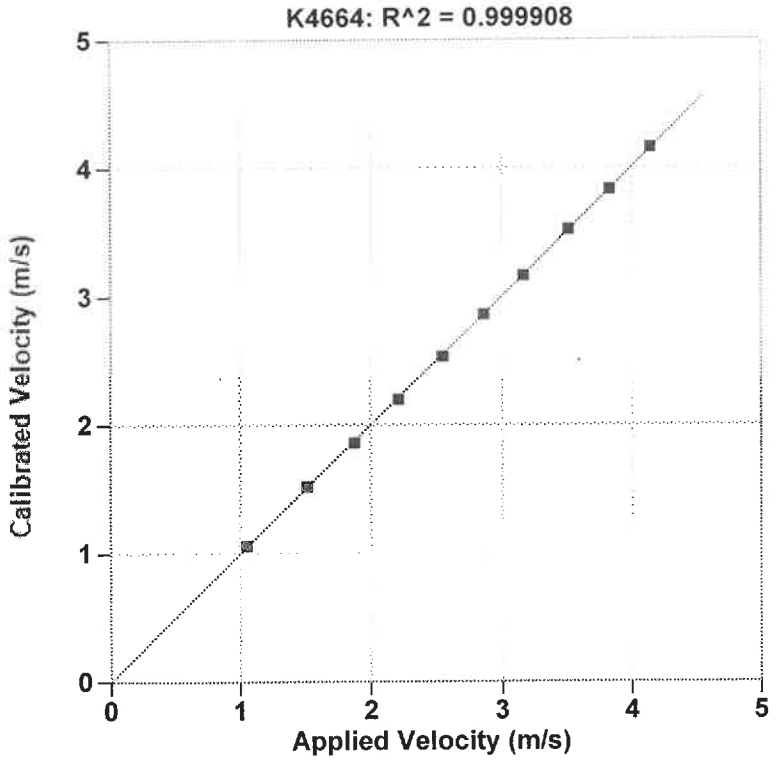
PDA CALIBRATION FACTOR

371.8 mv/5000g
(74.4 µv/g)
R^2: 0.999908 [Chip programmed]

Operator: William Johnson

Signed

Reference accelerometer calibrations are traceable to the United States National Institute of Standards and Technology (NIST).



Reference Velocity m/s	S/N K4664 Velocity m/s
1.050	1.058
1.517	1.521
1.873	1.860
2.209	2.198
2.548	2.532
2.860	2.859
3.163	3.161
3.512	3.521
3.832	3.832
4.145	4.157

Maximum Acceleration: 913 g's

Date printed: 24May2023, version: 2020.30.170 -0.06

Pile Dynamics, Inc.

Quality Assurance for Deep Foundations

PDI Certificate of Calibration

Reviewed 6/5/2023

PDI Accelerometer Calibration

Model Kicher Serial # K4665

Cal Date: 24May2023 Cal Due: 23May2025

Temperature: 73.4 deg. F Humidity 41%

Calibrated at
Pile Dynamics, Inc.
30725 Aurora Road
Cleveland, OH 44139

Manufactured by Pile Dynamics, Inc.

Procedure used: MAC Accelerometer Calibration Procedure 8G-4 Revision # 20210801

Equipment was found to be:

X in tolerance As Received _____ out of tolerance As Received

X in tolerance As Returned _____ out of tolerance As Returned

PDI Calibration: 371.2 mv/5000g

Calibration Standards Utilized

MAC PDA 8G, serial number 5161 LE, verified on 22 December 2022

Calibration performed by:

William Johnson, Technician

Reviewed by:

Bob Sprenger, Product Support Manager

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E-mail: info@pile.com • www.pile.com

Accelerometer Calibration Certificate
Pile Dynamics, Inc.

Calibrated by Pile Dynamics, Inc.
Calibration performed on 24May2023

Serial No:	K4665	**Temperature:**	73.4 °C
Model:	PR	**Humidity:**	41%
Calibrated on:	Channel 3 on 8G 5161 LE		

Ref Acc 1:	72517! 1049 g's/volt	**Cal on:**	24Mar2022
Ref Acc 2:	72505! 1035 g's/volt	**Cal on:**	24Mar2022

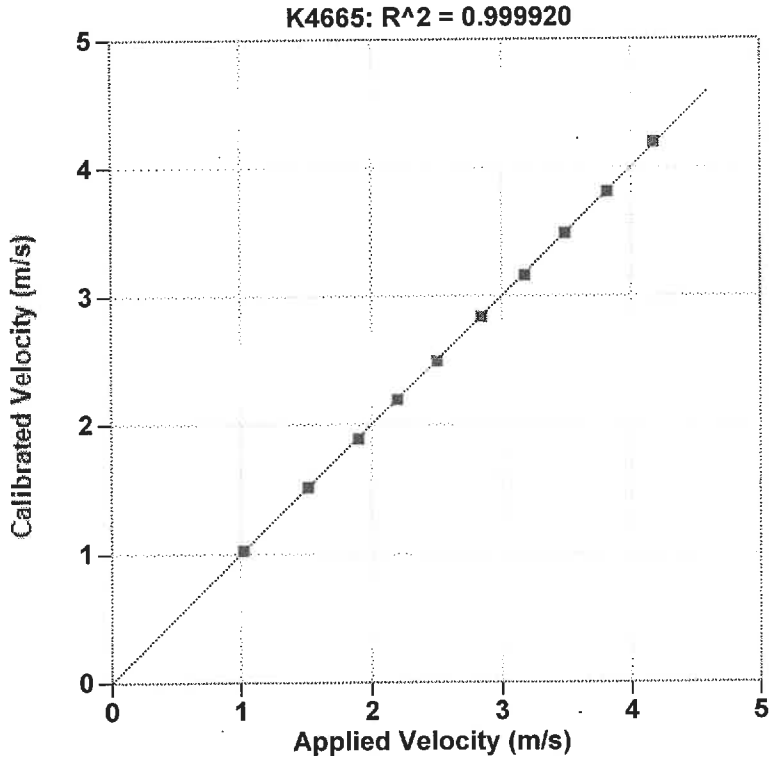
Reference accelerometer calibrations are traceable to the United States National Institute of Standards and Technology (NIST).

PDA CALIBRATION FACTOR

371.2 mv/5000g
(74.2 µv/g)
R^2: 0.999920 [Chip programmed]

Operator: William Johnson

Signed



Reference Velocity m/s	S/N K4665 Velocity m/s
1.019	1.030
1.514	1.517
1.897	1.888
2.196	2.194
2.500	2.495
2.845	2.840
3.176	3.164
3.488	3.490
3.815	3.813
4.176	4.195

Maximum Acceleration: 918 g's

Date printed: 24May2023, version: 2020.30.170 -0.11

Form No. QA-SPTEEVAL-CRN-01
Revision No. : 0
Revision Date:6/8/2023

SPT Energy Evaluation Form

Document Control Number: CRN-23-0040-00

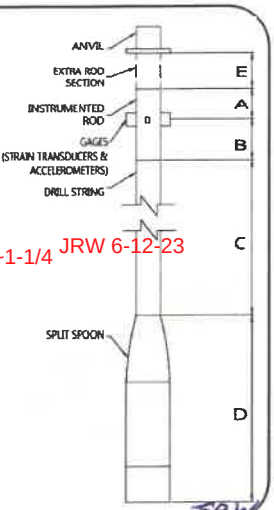
Project: TVA CRN GEOTECHNICAL INV. OAK RIDGE, TN **Date (s):** 6/8/23
Project No.: 22350835A **Weather:** CLEAR 70's
Boring No.: TEST HOLE 2 **Drill Rod Type:** 5' LONG AWJ

On-site Personnel 6/8/23

Drilling Company: ~~FTC~~ JRW SEME
Rig Oper./Helper: F. CRANE / A. BLANKENSHIP
Engr/Geologist: J. BAINES
PDA Operator: J. WILLIAMSON

Rod Info

(E) Rod Length Above Instr. Rod (if applicable): 0.40 ft
(A) + (B) Instr. Rod Length: 2.0 ft
(A + E) Impact to Gages: ~~1.0~~ 1.65 ft 6/8/23 JRW
(B) Instr. Rod Below Gages: 0.75 ft
(D) Spoon Length: 2.84 ft
Instr. Rod Inside Dia.: ~~1-1/2~~ in. ~1-1/4 JRW 6-12-23
Instr. Rod Outside Dia.: 1-7/8 in.
Instr. Rod Area: 1.21 in²
Instr. Rod S/N: 203 AWJ
PDA Make/Model: PDI/PAX
PDA Serial No.: 37332
6/8/23 Calib. Pulse Test (y/n): Y



JRW 6/8/23

Rig/Hammer Info

Drill Rig Make/Model: DIEDRICH D-50
Carrier Type: TRACK
Rig Serial No.: 316
Hammer Type/Model: AUTO / DIEDRICH
Hammer Serial No.: ~~316~~ 316 JRW 6/8/23
Hammer Drop System: CHAIN LIFT W/ FREE FALL
Lubrication Condition: GREASED PER MAN. RECS.
Manufacturer Recommended Operation Rate (bpm): 50-55
Drop Height from calibration record (in.): 30.0 JRW 6/12/23
Calibration hammer weight ~~(kips)~~: (lbs) 139.66 JRW 6/12/23
Anvil Dimension ~~(in.)~~: (ft) 2.4 JRW 6/12/23
Drilling Method: 3-1/4" HSA

Gage Information

Gage		Serial No.	Calibration ~~Date~~ FACTOR
Accel.	A3	K4664	371.8
	A4	K4665	371.2
Strain	F3	203 AWJ-1	210.30
	F4	203 AWJ-2	210.14

Date of Test	Test Depth Increment (ft)	Test Time Start / Stop (Military)	Length of Drill String (ft) (C)	(LE) Length Below Gages (ft) (B)+(C)+(D)	Avg. Meas. Rate (BPM)	SPT Blow Counts 6 in.	12 in.	18 in.	extra	N-value	Drop Height in Tolerance (y/n)
6/8/23	~~28.5-30.0~~	~~11:57~~	~~30~~	~~33.59~~	~~~50~~	~~11~~	~~17~~	~~21~~	~~1~~	~~38~~	~~y~~
	31.0-32.50	12:09	32 JRW	35.59	~50	5	14	19	0	33	y
	~~33.50-35.00~~	JRW 6/8/23	~~35~~ 34	~~38.59~~							
	33.50-35.00	13:12		37.59	~50	4	11	16	0	27	y
	36.00-37.50	13:22	36 JRW	39.59	~50	7	12	19	0	31	y
	38.5-40.0	13:37	~~38~~ 39	42.59	~51	5	11	17	0	28	y

JRW 6/9/23 See note below.

Comments: (1) **If there are any nonconformances or deficiencies identified during the testing, immediately pause the drilling and testing activities and notify the Site Manager** and describe them in the space below; (2) Note any unusual hammer operating conditions that affect the hammer performance, or changes in operating conditions (e.g. verticality, weather, or lubrication between trials); (3) Note any changes in rod diameter along drill string and record locations of short rod sections; (4) Prepare a sketch or take a picture of the instrumented drill rod assembly and indicate the relative location and orientation of the strain gauges, accelerometers, and LE Datum; (5) Note: Identify all attached pages, including photographs, with the Project No., Boring No., and date.

28.5-30.0 FT SAMPLE - FIRST SEVERAL BLOWS HAD LOW ENERGY (50-60%) REMAINING BLOWS OF ALL OTHER DATA HAD ~~ENERGY~~ ENERGY JRW 6/8/23 VALUES RANGING FROM APPROX. 85-95% DRILLER STATED THIS IS LIKELY DUE TO HYDRAULIC FLUID IN HAMMER WARMING UP. RIG ~~ALSO~~ ALSO JRW 6/8/23 HAD RECENT MAINTENANCE, SYSTEM COULD HAVE HAD AIR ~~BUBBLES~~ JRW 6/8/23 BUBBLES THAT WORKED ITSELF OUT. EACH SAMPLE CLASSIFIED AS A LEAN CLAY (CL).

Note: Measurements shall be made to nearest 0.01 ft or 1/8 in. as applicable.

Joseph Williams — Prepared By (print/signature), SPT Energy Lead — 6/13/23 Date

Reviewed By (print/signature), Site Manager — 06/14/2023 Date

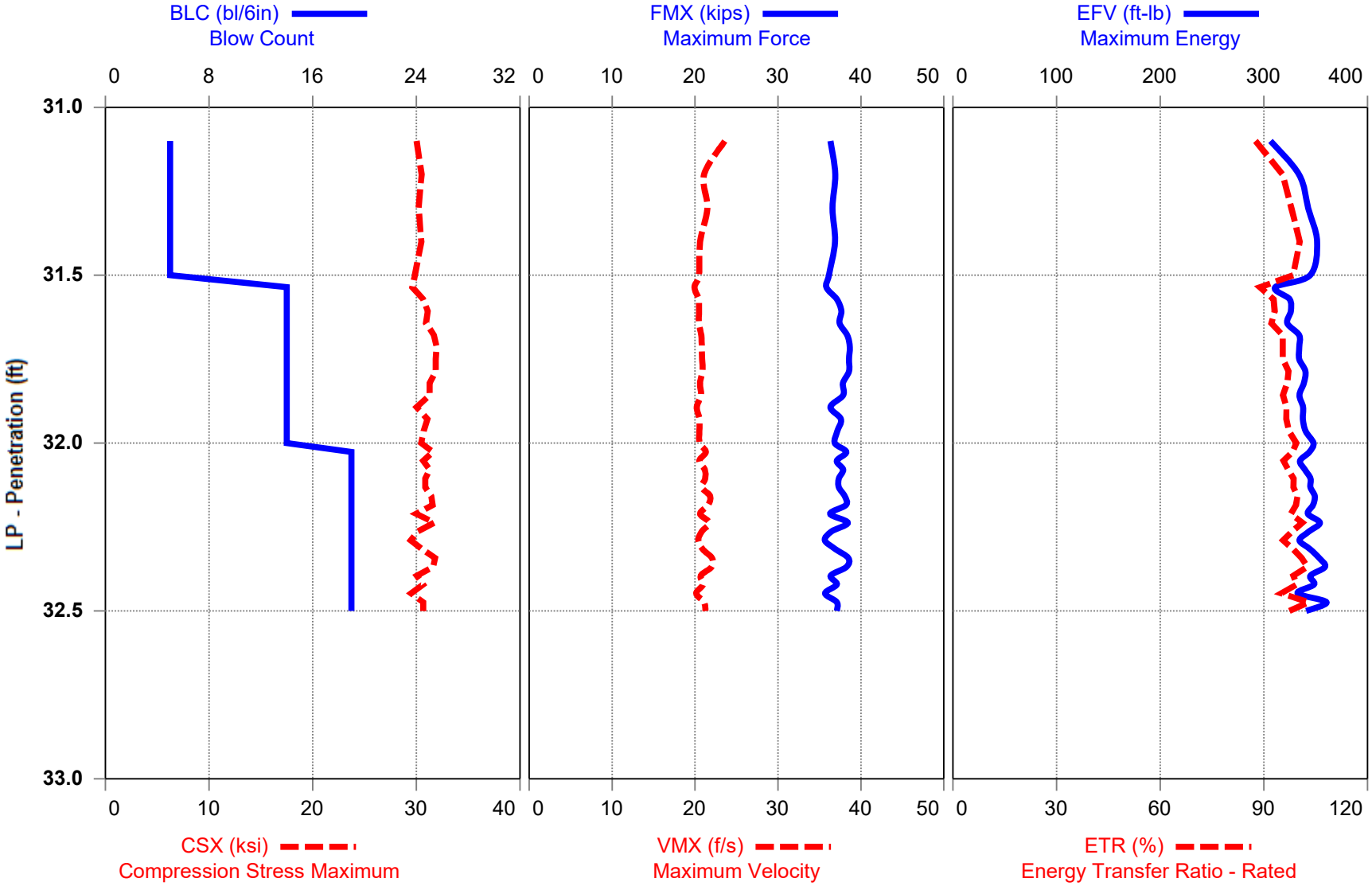
S&ME, Inc. - PDIPLOT2 Ver 2022.1.62.0 - Case Method & iCAP® Results

Printed: 13-June-2023

Test started: 08-June-2023

DIEDRICH D-50 (SN 316) - 31.0-32.5 FEET

TEST HOLE 2



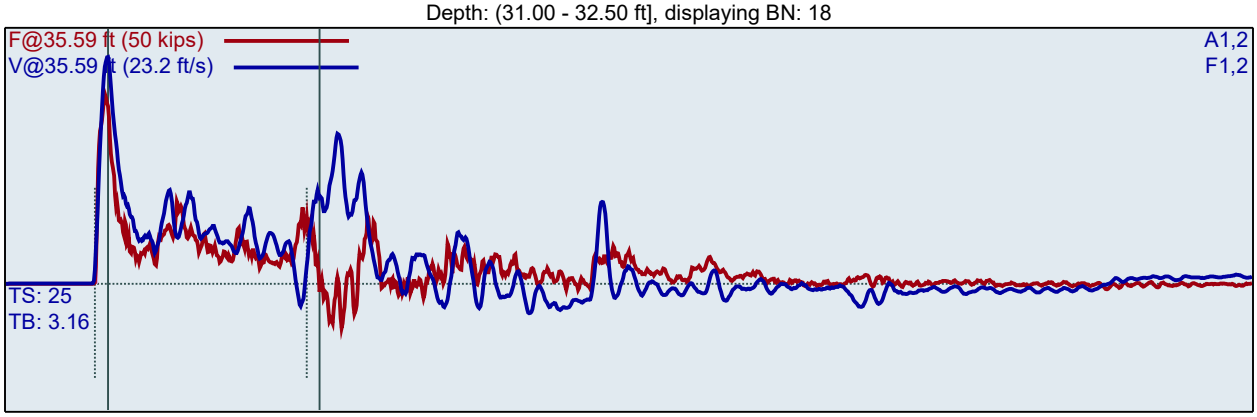
DIEDRICH D-50 (SN 316)
JRW
TEST HOLE 2

SN 316 SPT Energy Measurements
Interval start: 6/8/2023

AR: 1.21 in^2
LE: 35.59 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (31.00 - 32.50 ft], displaying BN: 18



F1 : [203 AWJ-1] 210.3 PDICAL (1) FF1
F2 : [203 AWJ-2] 210.14 PDICAL (1) FF1

A1 (PR): [K4664] 371.8 mv/6.4v/5000g (1) VF1
A2 (PR): [K4665] 371.2 mv/6.4v/5000g (1) VF1

BPM: Blows/Minute
FMX: Maximum Force
VMX: Maximum Velocity
DMX: Maximum Displacement

CSX: Compression Stress Maximum
DFN: Final Displacement
EFV: Maximum Energy
ETR: Energy Transfer Ratio - Rated

BL#	BC /6"	LP ft	BPM bpm	FMX kips	VMX ft/s	DMX in	CSX ksi	DFN in	EFV ft-lb	ETR %
1	5	31.10	1.9	36	23.6	1.88	30.0	1.22	306	87.5
2	5	31.20	49.3	37	21.1	1.24	30.5	1.20	334	95.4
3	5	31.30	49.9	37	21.5	1.22	30.2	1.20	343	97.9
4	5	31.40	50.8	37	20.6	1.20	30.5	1.19	351	100.4
5	5	31.50	51.0	36	20.5	1.20	29.9	1.20	345	98.4
6	14	31.54	50.2	36	19.9	0.63	29.6	0.42	311	88.8
7	14	31.57	50.4	37	20.5	0.57	30.7	0.43	325	92.8
8	14	31.61	50.5	38	20.5	0.53	31.1	0.43	326	93.1
9	14	31.64	50.3	37	20.5	0.50	30.9	0.43	323	92.2
10	14	31.68	50.0	38	20.7	0.51	31.7	0.43	334	95.4
11	14	31.71	50.4	39	20.8	0.47	32.0	0.41	334	95.4
12	14	31.75	50.3	39	20.9	0.44	31.9	0.43	334	95.4
13	14	31.79	50.1	39	20.9	0.46	31.9	0.43	340	97.1
14	14	31.82	50.0	38	20.6	0.46	31.3	0.39	339	96.7
15	14	31.86	50.8	38	20.7	0.45	31.3	0.44	334	95.5
16	14	31.89	50.3	36	20.2	0.46	30.0	0.39	338	96.5
17	14	31.93	51.0	38	20.5	0.44	31.1	0.43	338	96.4
18	14	31.96	49.6	37	20.5	0.44	30.7	0.42	340	97.2
19	14	32.00	50.5	37	20.6	0.46	30.5	0.43	348	99.3
20	19	32.03	50.1	38	21.3	0.41	31.6	0.32	344	98.2
21	19	32.05	50.8	37	20.5	0.41	30.7	0.32	335	95.6
22	19	32.08	49.8	38	21.2	0.42	31.3	0.31	339	97.0
23	19	32.11	50.9	37	21.2	0.42	30.9	0.32	345	98.6
24	19	32.13	49.2	37	20.8	0.44	30.9	0.31	345	98.5
25	19	32.16	50.2	38	21.8	0.40	31.4	0.32	349	99.7
26	19	32.18	50.2	38	21.6	0.40	31.6	0.32	347	99.3
27	19	32.21	50.3	36	20.6	0.41	30.0	0.31	342	97.8

28	19	32.24	49.5	38	21.7	0.40	31.7	0.32	354	101.1
29	19	32.26	50.3	36	20.8	0.41	30.1	0.31	344	98.1
30	19	32.29	50.5	36	20.4	0.39	29.5	0.31	334	95.5
31	19	32.32	49.6	37	20.9	0.40	30.5	0.32	345	98.5
32	19	32.34	50.7	38	22.0	0.40	31.8	0.32	353	100.9
33	19	32.37	49.9	38	22.0	0.40	31.6	0.32	359	102.5
34	19	32.39	50.3	36	20.7	0.39	30.0	0.31	345	98.5
35	19	32.42	50.0	37	21.0	0.38	30.7	0.32	348	99.5
36	19	32.45	50.6	36	20.1	0.37	29.5	0.32	333	95.0
37	19	32.47	49.8	37	21.1	0.40	30.7	0.32	360	102.9
38	19	32.50	49.8	37	21.3	0.36	30.7	0.32	341	97.3
		Average	50.2	37	20.9	0.44	30.9	0.36	340	97.2
		Std Dev	0.4	1	0.5	0.06	0.7	0.05	10	2.9
		Maximum	51.0	39	22.0	0.63	32.0	0.44	360	102.9
		Minimum	49.2	36	19.9	0.36	29.5	0.31	311	88.8

N-value: 33

Sample Interval Time: 44.14 seconds.

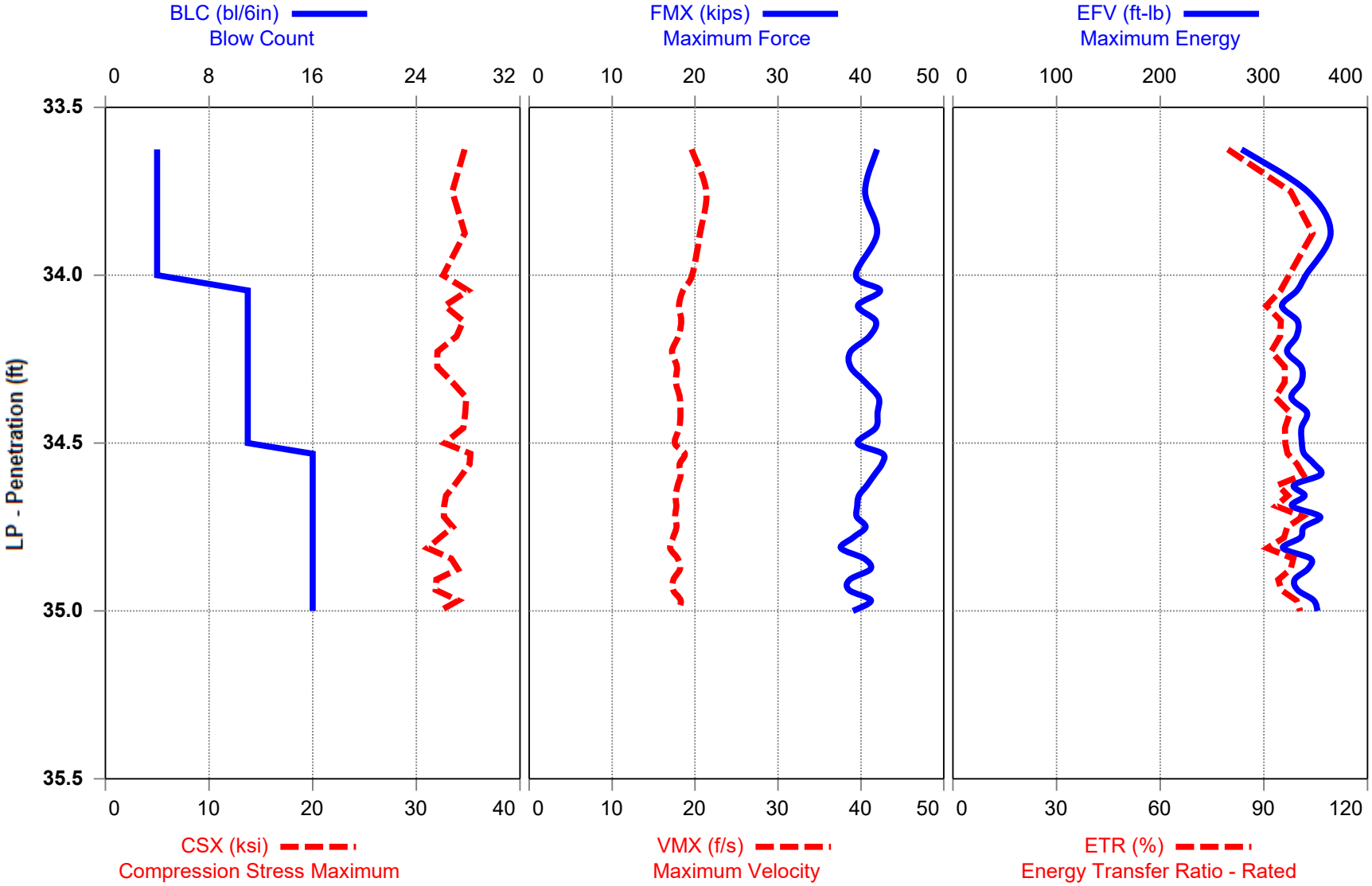
S&ME, Inc. - PDIPLOT2 Ver 2022.1.62.0 - Case Method & iCAP® Results

Printed: 13-June-2023

Test started: 08-June-2023

DIEDRICH D-50 (SN 316) - 33.5-35.0 FEET

TEST HOLE 2



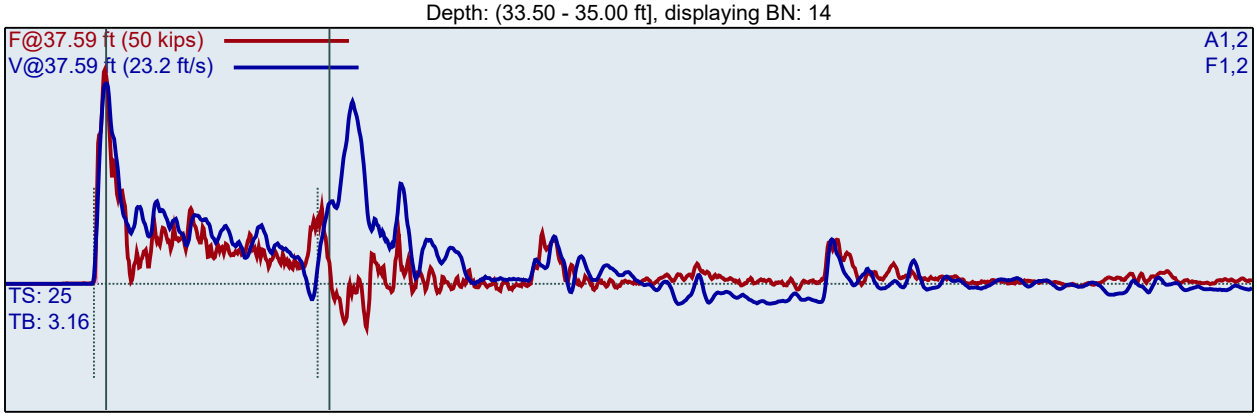
DIEDRICH D-50 (SN 316)
JRW
TEST HOLE 2

SN 316 SPT Energy Measurements
Interval start: 6/8/2023

AR: 1.21 in^2
LE: 37.59 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (33.50 - 35.00 ft], displaying BN: 14



F1 : [203 AWJ-1] 210.3 PDICAL (1) FF1
F2 : [203 AWJ-2] 210.14 PDICAL (1) FF1

A1 (PR): [K4664] 371.8 mv/6.4v/5000g (1) VF1
A2 (PR): [K4665] 371.2 mv/6.4v/5000g (1) VF1

BL#	BC /6"	LP ft	BPM bpm	FMX kips	VMX ft/s	DMX in	CSX ksi	DFN in	EFV ft-lb	ETR %
1	4	33.63	1.9	42	19.6	1.65	34.7	1.48	278	79.5
2	4	33.75	50.3	40	21.4	1.50	33.5	1.50	342	97.7
3	4	33.88	51.2	42	20.6	1.50	34.7	1.50	364	104.1
4	4	34.00	50.7	39	19.7	1.50	32.6	1.50	340	97.2
5	11	34.05	50.4	42	18.5	0.64	35.0	0.55	332	94.8
6	11	34.09	50.7	40	18.1	0.64	32.8	0.55	317	90.7
7	11	34.14	50.4	42	18.3	0.63	34.5	0.54	332	94.9
8	11	34.18	50.4	41	18.0	0.63	33.9	0.54	331	94.7
9	11	34.23	51.3	39	17.2	0.64	32.0	0.55	322	92.1
10	11	34.27	49.7	39	17.8	0.61	32.0	0.55	336	96.0
11	11	34.32	50.8	41	17.7	0.58	33.5	0.54	336	96.0
12	11	34.36	50.9	42	18.2	0.56	34.8	0.54	326	93.2
13	11	34.41	50.0	42	18.2	0.57	34.7	0.54	341	97.6
14	11	34.45	50.6	42	18.1	0.55	34.5	0.54	336	96.1
15	11	34.50	51.2	40	17.6	0.62	32.7	0.55	337	96.2
16	16	34.53	49.6	43	18.8	0.52	35.2	0.37	339	96.8
17	16	34.56	50.4	43	18.1	0.54	35.1	0.37	349	99.6
18	16	34.59	50.3	42	18.3	0.53	34.4	0.37	355	101.4
19	16	34.63	50.7	41	17.9	0.45	33.7	0.38	329	94.0
20	16	34.66	50.7	40	17.7	0.49	32.9	0.37	339	96.9
21	16	34.69	50.0	40	17.7	0.45	32.7	0.37	327	93.5
22	16	34.72	50.3	40	17.6	0.49	32.7	0.38	354	101.2
23	16	34.75	50.4	41	17.8	0.48	33.5	0.37	339	96.7
24	16	34.78	50.6	39	17.4	0.48	32.3	0.37	335	95.8
25	16	34.81	51.1	38	17.0	0.46	31.1	0.37	318	91.0
26	16	34.84	50.0	40	17.9	0.49	33.4	0.37	345	98.5
27	16	34.88	50.8	41	18.2	0.47	34.0	0.37	342	97.7
28	16	34.91	50.3	39	17.4	0.43	31.9	0.37	330	94.2
29	16	34.94	49.7	39	17.4	0.42	31.9	0.37	333	95.0
30	16	34.97	50.7	41	18.3	0.44	34.1	0.37	348	99.5
31	16	35.00	50.1	39	18.0	0.44	32.3	0.37	352	100.5

Average	50.4	40	17.9	0.53	33.4	0.44	336	96.1
Std Dev	0.4	1	0.4	0.07	1.2	0.08	10	2.8
Maximum	51.3	43	18.8	0.64	35.2	0.55	355	101.4
Minimum	49.6	38	17.0	0.42	31.1	0.37	317	90.7

N-value: 27

Sample Interval Time: 35.60 seconds.

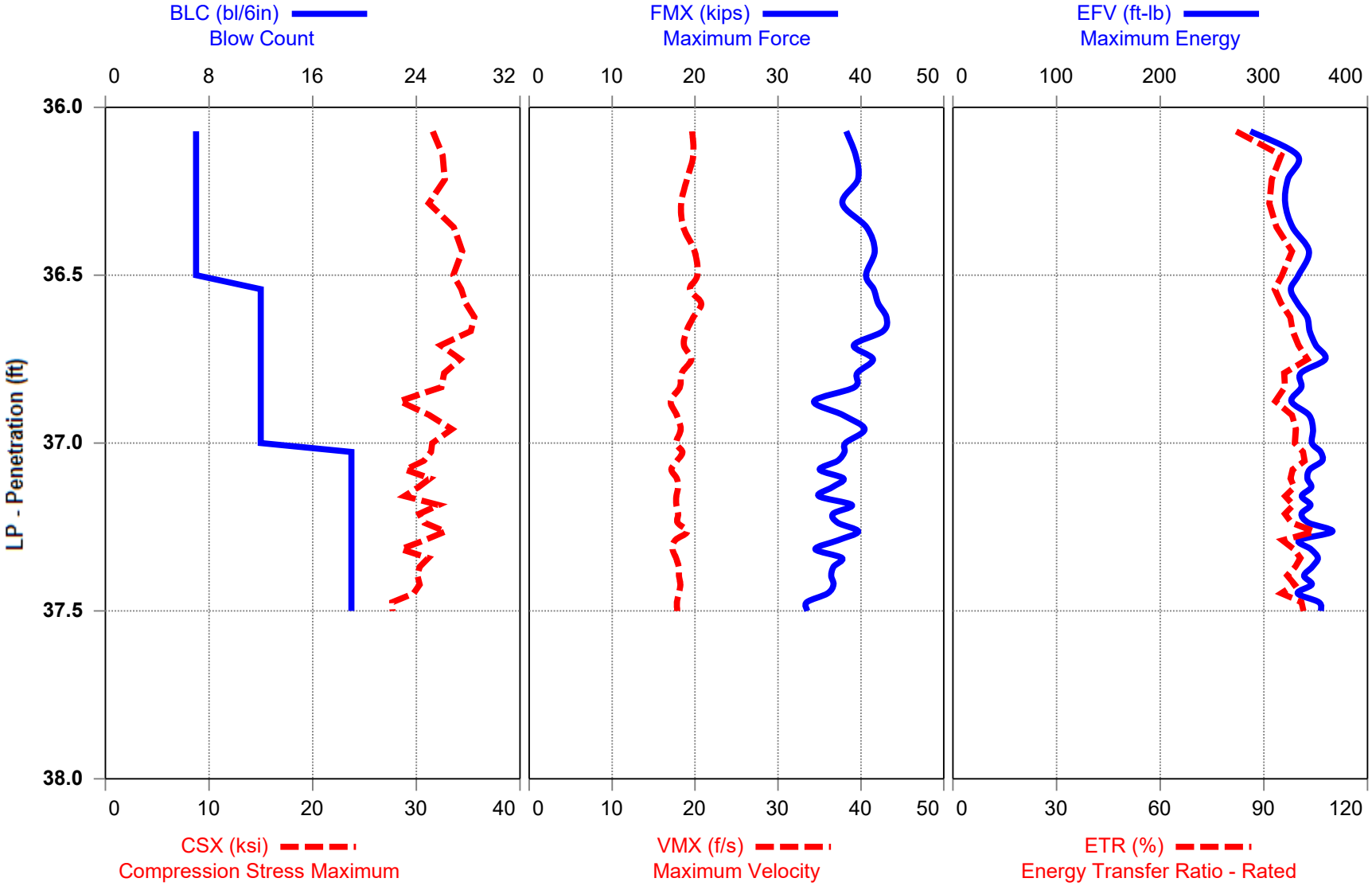
S&ME, Inc. - PDIPLOT2 Ver 2022.1.62.0 - Case Method & iCAP® Results

Printed: 13-June-2023

Test started: 08-June-2023

DIEDRICH D-50 (SN 316) - 36.0-37.5 FEET

TEST HOLE 2



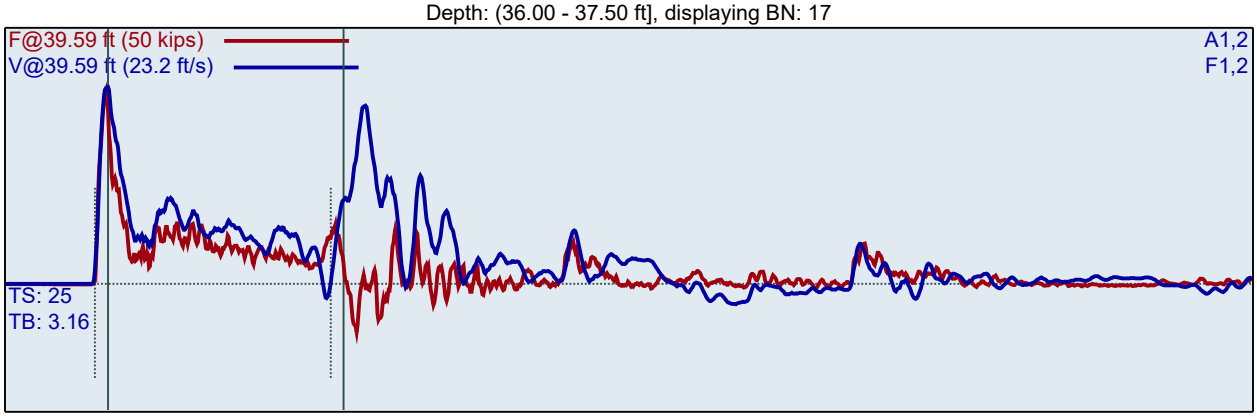
DIEDRICH D-50 (SN 316)
JRW
TEST HOLE 2

SN 316 SPT Energy Measurements
Interval start: 6/8/2023

AR: 1.21 in^2
LE: 39.59 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (36.00 - 37.50 ft], displaying BN: 17



F1 : [203 AWJ-1] 210.3 PDICAL (1) FF1
F2 : [203 AWJ-2] 210.14 PDICAL (1) FF1

A1 (PR): [K4664] 371.8 mv/6.4v/5000g (1) VF1
A2 (PR): [K4665] 371.2 mv/6.4v/5000g (1) VF1

BL#	BC /6"	LP ft	BPM bpm	FMX kips	VMX ft/s	DMX in	CSX ksi	DFN in	EFV ft-lb	ETR %
1	7	36.07	1.9	38	19.7	1.10	31.6	0.86	287	82.0
2	7	36.14	50.6	39	19.8	0.97	32.5	0.86	332	95.0
3	7	36.21	51.8	40	19.0	0.88	32.8	0.86	323	92.3
4	7	36.29	49.9	38	18.3	0.87	31.2	0.86	320	91.6
5	7	36.36	50.7	41	18.6	0.86	33.6	0.86	328	93.6
6	7	36.43	50.5	42	20.0	0.86	34.4	0.86	343	98.1
7	7	36.50	50.9	41	20.3	0.86	33.6	0.86	333	95.2
8	12	36.54	50.9	42	19.4	0.63	34.3	0.50	326	93.1
9	12	36.58	50.3	42	20.7	0.71	34.8	0.50	332	94.9
10	12	36.63	50.6	43	19.8	0.74	35.6	0.50	342	97.6
11	12	36.67	50.8	43	19.0	0.72	35.3	0.50	344	98.3
12	12	36.71	50.8	39	18.7	0.70	32.4	0.50	350	100.0
13	12	36.75	49.7	41	19.5	0.68	34.3	0.50	359	102.6
14	12	36.79	51.4	40	18.4	0.65	32.7	0.50	335	95.8
15	12	36.83	51.1	39	18.2	0.68	32.4	0.50	336	96.0
16	12	36.88	50.2	34	17.1	0.58	28.4	0.50	326	93.3
17	12	36.92	50.5	38	17.8	0.64	31.3	0.50	343	98.1
18	12	36.96	50.7	40	18.3	0.57	33.4	0.50	347	99.2
19	12	37.00	51.0	38	17.7	0.62	31.5	0.50	346	98.9
20	19	37.03	50.1	38	18.5	0.55	31.4	0.32	355	101.3
21	19	37.05	51.0	37	17.8	0.54	30.7	0.32	356	101.8
22	19	37.08	51.6	35	17.1	0.58	28.9	0.32	344	98.3
23	19	37.11	50.1	38	17.8	0.51	31.3	0.32	342	97.7
24	19	37.13	50.6	37	18.0	0.53	30.2	0.32	346	98.7
25	19	37.16	50.7	35	17.7	0.49	28.9	0.32	336	96.1
26	19	37.18	50.7	39	17.7	0.48	32.2	0.32	345	98.5
27	19	37.21	51.1	37	18.0	0.45	30.3	0.32	336	96.0
28	19	37.24	50.5	37	17.9	0.46	30.8	0.32	343	98.0
29	19	37.26	49.9	40	19.1	0.50	32.8	0.32	366	104.6
30	19	37.29	51.7	37	17.6	0.44	30.8	0.32	334	95.4
31	19	37.32	50.2	35	17.3	0.46	28.5	0.32	345	98.7

32	19	37.34	50.1	38	17.7	0.47	31.2	0.32	352	100.5
33	19	37.37	51.1	37	18.0	0.44	30.3	0.32	347	99.0
34	19	37.39	50.1	36	18.1	0.38	30.1	0.31	339	96.7
35	19	37.42	51.0	37	18.2	0.45	30.3	0.32	346	98.9
36	19	37.45	50.3	36	18.1	0.38	29.7	0.31	333	95.0
37	19	37.47	50.8	33	17.8	0.54	27.7	0.32	353	100.9
38	19	37.50	51.2	34	17.9	0.53	27.7	0.32	355	101.4
		Average	50.7	38	18.2	0.55	31.3	0.39	344	98.2
		Std Dev	0.5	3	0.8	0.10	2.1	0.09	9	2.6
		Maximum	51.7	43	20.7	0.74	35.6	0.50	366	104.6
		Minimum	49.7	33	17.1	0.38	27.7	0.31	326	93.1

N-value: 31

Sample Interval Time: 43.73 seconds.

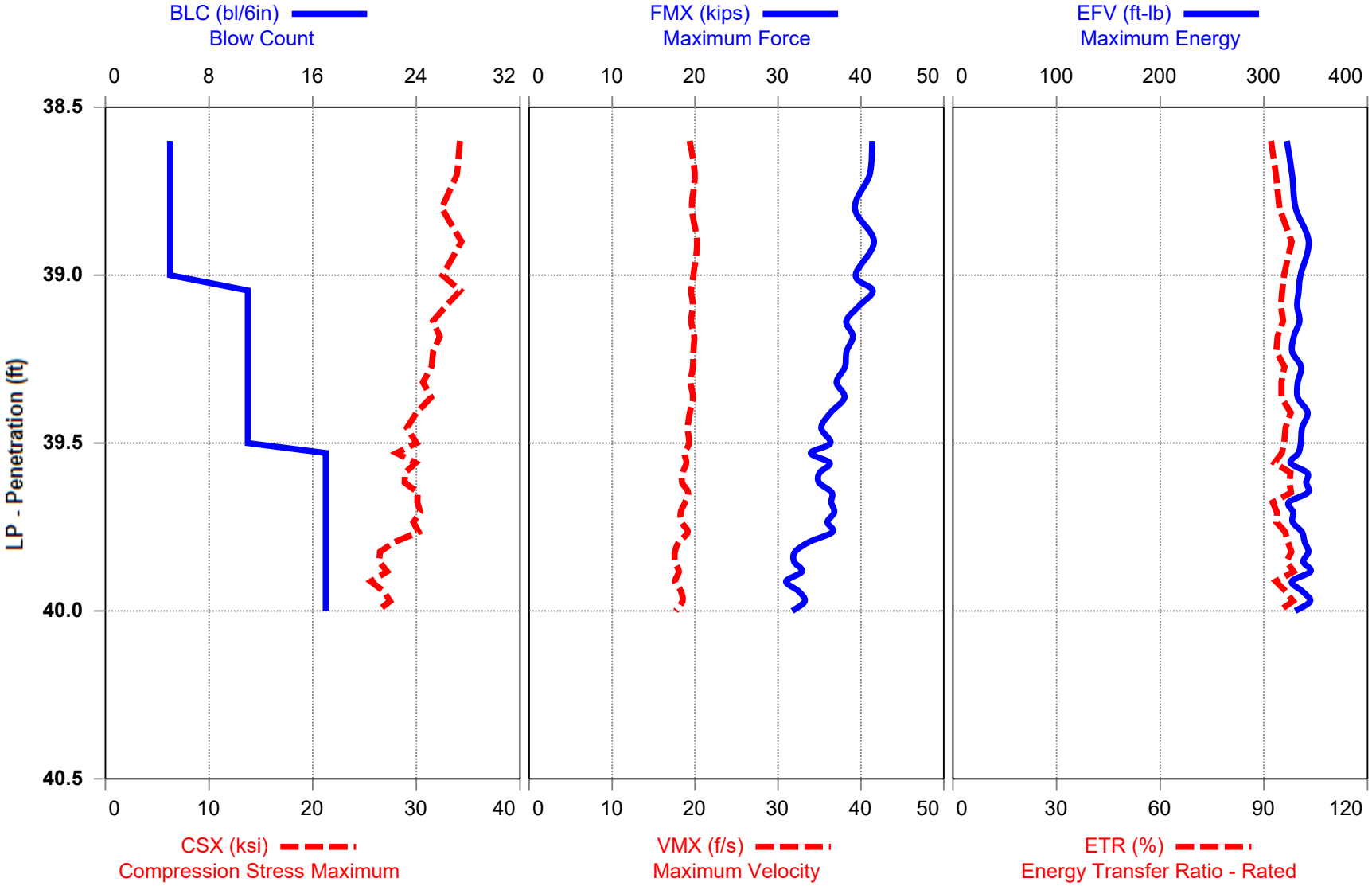
S&ME, Inc. - PDIPLOT2 Ver 2022.1.62.0 - Case Method & iCAP® Results

Printed: 13-June-2023

Test started: 08-June-2023

DIEDRICH D-50 (SN316) - 38.5-40.0 FEET

TEST HOLE 2



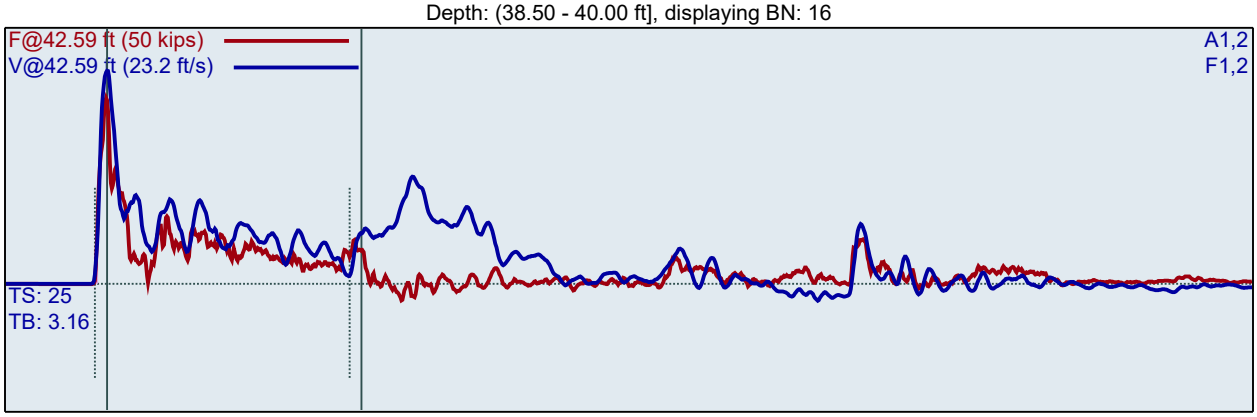
DIEDRICH D-50 (SN 316)
JRW
TEST HOLE 2

SN 316 SPT Energy Measurements
Interval start: 6/8/2023

AR: 1.21 in^2
LE: 42.59 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (38.50 - 40.00 ft], displaying BN: 16



F1 : [203 AWJ-1] 210.3 PDICAL (1) FF1
F2 : [203 AWJ-2] 210.14 PDICAL (1) FF1

A1 (PR): [K4664] 371.8 mv/6.4v/5000g (1) VF1
A2 (PR): [K4665] 371.2 mv/6.4v/5000g (1) VF1

BL#	BC /6"	LP ft	BPM bpm	FMX kips	VMX ft/s	DMX in	CSX ksi	DFN in	EFV ft-lb	ETR %
1	5	38.60	1.9	41	19.4	1.43	34.2	1.20	322	92.0
2	5	38.70	50.6	41	20.0	1.50	33.9	1.20	327	93.5
3	5	38.80	50.4	39	19.6	1.36	32.5	1.20	331	94.5
4	5	38.90	50.4	42	20.2	1.20	34.4	1.20	343	98.0
5	5	39.00	51.7	39	19.8	1.20	32.5	1.20	335	95.8
6	11	39.05	49.9	41	19.5	0.72	34.2	0.53	334	95.3
7	11	39.09	50.6	40	19.8	0.67	32.9	0.54	332	94.9
8	11	39.14	51.3	38	19.5	0.67	31.6	0.55	334	95.5
9	11	39.18	50.8	39	19.9	0.65	32.3	0.55	329	93.9
10	11	39.23	50.6	38	19.8	0.62	31.6	0.54	327	93.5
11	11	39.27	50.7	38	19.7	0.64	31.5	0.55	336	95.9
12	11	39.32	51.4	37	19.5	0.63	30.6	0.54	333	95.0
13	11	39.36	50.5	38	19.7	0.65	31.4	0.54	333	95.0
14	11	39.41	50.5	36	19.4	0.64	30.0	0.55	342	97.7
15	11	39.45	51.0	35	19.1	0.60	29.1	0.53	337	96.2
16	11	39.50	51.0	36	19.3	0.61	30.0	0.55	335	95.8
17	17	39.53	50.7	34	18.7	0.61	28.1	0.36	333	95.2
18	17	39.56	50.8	36	19.0	0.55	29.9	0.35	326	93.0
19	17	39.59	50.8	35	18.5	0.58	28.9	0.38	342	97.6
20	17	39.62	50.3	35	18.5	0.57	28.9	0.34	341	97.4
21	17	39.65	50.7	36	19.2	0.54	30.1	0.36	342	97.8
22	17	39.68	50.8	36	18.8	0.48	30.1	0.36	324	92.5
23	17	39.71	50.6	37	18.3	0.50	30.4	0.35	328	93.8
24	17	39.74	50.4	36	18.4	0.49	29.7	0.36	328	93.6
25	17	39.76	50.0	37	19.1	0.50	30.2	0.35	337	96.2
26	17	39.79	50.8	34	18.1	0.51	27.9	0.36	339	96.9
27	17	39.82	50.8	32	17.6	0.55	26.5	0.35	343	98.0
28	17	39.85	50.5	32	17.6	0.52	26.4	0.35	338	96.5
29	17	39.88	49.8	33	18.0	0.53	27.2	0.35	345	98.6
30	17	39.91	51.1	31	17.6	0.49	25.6	0.35	327	93.4
31	17	39.94	50.5	33	18.3	0.50	26.9	0.36	337	96.3

32	17	39.97	50.3	33	18.5	0.51	27.5	0.35	345	98.4
33	17	40.00	51.3	32	17.7	0.52	26.2	0.35	330	94.3
		Average	50.7	36	18.8	0.57	29.5	0.43	335	95.7
		Std Dev	0.4	3	0.7	0.07	2.1	0.09	6	1.7
		Maximum	51.4	41	19.9	0.72	34.2	0.55	345	98.6
		Minimum	49.8	31	17.6	0.48	25.6	0.34	324	92.5

N-value: 28

Sample Interval Time: 37.81 seconds.

Summary of SPT Test Results

Project: DIEDRICH D-50 (SN 316), Test Date: 6/8/2023

BPM: Blows/Minute
FMX: Maximum Force
VMX: Maximum Velocity
DMX: Maximum Displacement
CSX: Compression Stress Maximum
DFN: Final Displacement
EFV: Maximum Energy
ETR: Energy Transfer Ratio - Rated

Instr. Length ft	Blows Applied /6"	Start Depth ft	Final Depth ft	**N Value**	**N60 Value**	Average BPM bpm	Average FMX kips	Average VMX ft/s	Average DMX in	Average CSX ksi	Average DFN in	Average EFV ft-lb	Average ETR %
35.59	**5-14-19**	31.00	32.50	**33**	**53**	50.2	37	20.9	0.44	30.9	0.36	340	97.2
37.59	**4-11-16**	33.50	35.00	**27**	**43**	50.4	40	17.9	0.53	33.4	0.44	336	96.1
39.59	**7-12-19**	36.00	37.50	**31**	**50**	50.7	38	18.2	0.55	31.3	0.39	344	98.2
42.59	**5-11-17**	38.50	40.00	**28**	**45**	50.7	36	18.8	0.57	29.5	0.43	335	95.7
					Overall Average Values:	50.5	38	19.0	0.52	31.2	0.40	339	96.8
					Standard Deviation:	0.5	3	1.3	0.09	2.1	0.09	10	2.7
					Overall Maximum Value:	51.7	43	22.0	0.74	35.6	0.55	366	104.6
					Overall Minimum Value:	49.2	31	17.0	0.36	25.6	0.31	311	88.8

S&ME, Inc.
SPT Analyzer Results

PDA-S Ver. 2022.35.2 - Printed: 12/18/2023

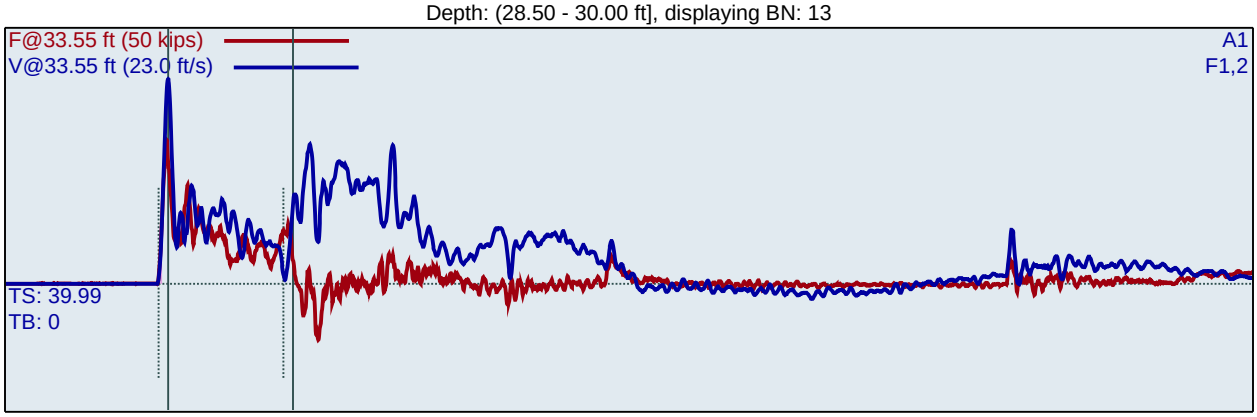
CME-45B SN 311524
JRW
TEST HOLE

28.5-30.0 FEET
Interval start: 12/14/2023

AR: 1.22 in^2
LE: 33.55 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (28.50 - 30.00 ft], displaying BN: 13



F1 : [203 AWJ-1] 208.46 PDICAL (1) FF1
F2 : [203 AWJ-2] 208.57 PDICAL (1) FF1

A1 (PR): [K4664] 376.6 mv/6.4v/5000g (1) VF1

BPM: Blows/Minute
FMX: Maximum Force
VMX: Maximum Velocity
DMX: Maximum Displacement

CSX: Compression Stress Maximum
DFN: Final Displacement
EFV: Maximum Energy
ETR: Energy Transfer Ratio - Rated

BL#	LP	BC	BPM	FMX	VMX	DMX	CSX	DFN	EFV	ETR
	ft	/6"	bpm	kips	ft/s	in	ksi	in	ft-lb	%
1	28.63	4	1.9	30	19.1	1.61	24.3	1.50	280	80.1
2	28.75	4	52.2	31	19.6	1.56	25.4	1.50	284	81.2
3	28.88	4	52.1	29	19.3	1.50	24.1	1.50	284	81.1
4	29.00	4	52.4	31	20.1	1.50	25.1	1.50	284	81.0
5	29.10	5	52.2	32	20.2	1.24	25.9	1.20	286	81.8
6	29.20	5	52.3	32	20.1	1.24	26.0	1.20	294	84.0
7	29.30	5	52.3	29	19.3	1.20	23.7	1.20	282	80.5
8	29.40	5	52.3	30	19.7	1.20	24.3	1.20	298	85.0
9	29.50	5	52.2	30	19.4	1.20	24.2	1.20	279	79.8
10	29.58	6	52.2	29	19.5	1.02	24.0	1.00	294	84.1
11	29.67	6	52.2	29	18.9	1.07	23.6	1.00	285	81.3
12	29.75	6	52.2	29	18.7	1.10	23.5	1.00	288	82.3
13	29.83	6	52.2	28	18.4	1.04	23.1	1.00	288	82.3
14	29.92	6	52.1	28	18.7	1.02	23.3	1.00	282	80.6
15	30.00	6	52.2	28	18.6	1.04	22.6	1.00	280	80.1
		Average	52.2	29	19.2	1.12	24.0	1.09	287	82.0
		Std Dev	0.1	1	0.6	0.09	1.0	0.10	6	1.7
		Maximum	52.3	32	20.2	1.24	26.0	1.20	298	85.0
		Minimum	52.1	28	18.4	1.02	22.6	1.00	279	79.8

N-value: 11

Sample Interval Time: 16.06 seconds.

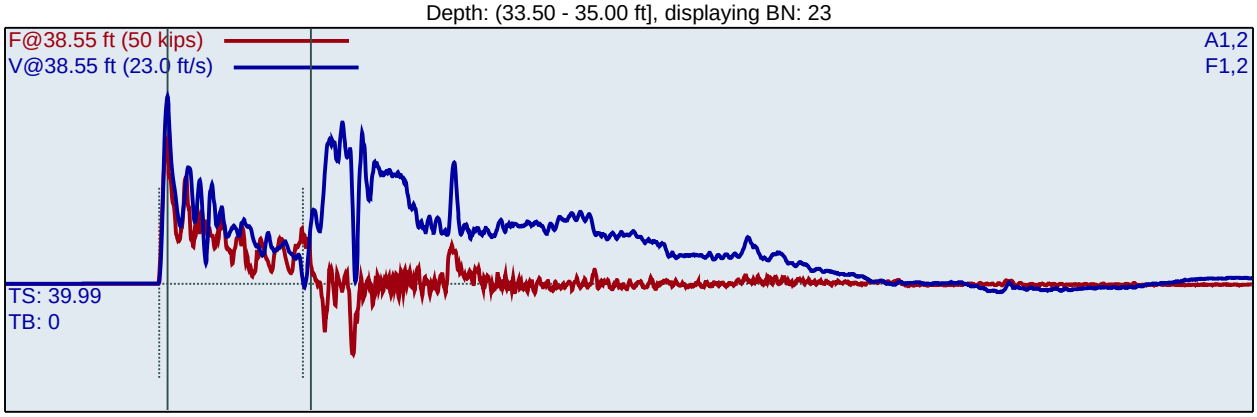
CME-45B SN 311524
JRW
TEST HOLE

28.5-30.0 FEET
Interval start: 12/14/2023

AR: 1.22 in^2
LE: 38.55 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (33.50 - 35.00 ft], displaying BN: 23



F1 : [203 AWJ-1] 208.46 PDICAL (1) FF1
F2 : [203 AWJ-2] 208.57 PDICAL (1) FF1

A1 (PR): [K4664] 376.6 mv/6.4v/5000g (1) VF1
A2 (PR): [K10182] 380.7 mv/6.4v/5000g (1) VF1

BL#	LP	BC	BPM	FMX	VMX	DMX	CSX	DFN	EFV	ETR
	ft	/6"	bpm	kips	ft/s	in	ksi	in	ft-lb	%
16	33.75	2	1.9	27	16.9	3.07	21.7	3.00	287	82.1
17	34.00	2	52.9	29	17.7	3.00	23.7	3.00	297	84.9
18	34.13	4	52.2	27	16.0	1.78	22.0	1.50	282	80.5
19	34.25	4	52.8	28	16.8	1.74	22.6	1.50	293	83.7
20	34.38	4	52.6	27	16.9	1.61	22.3	1.50	293	83.7
21	34.50	4	52.7	28	16.7	1.50	23.0	1.50	285	81.4
22	34.63	4	52.3	30	17.7	1.52	24.3	1.50	304	86.9
23	34.75	4	52.5	28	16.8	1.51	23.0	1.50	305	87.2
24	34.88	4	52.4	30	17.1	1.50	24.8	1.50	304	86.8
25	35.00	4	52.5	29	17.4	1.50	23.9	1.50	307	87.9
		Average	52.5	28	16.9	1.58	23.2	1.50	297	84.8
		Std Dev	0.2	1	0.5	0.11	0.9	0.00	9	2.7
		Maximum	52.8	30	17.7	1.78	24.8	1.50	307	87.9
		Minimum	52.2	27	16.0	1.50	22.0	1.50	282	80.5

N-value: 8

Sample Interval Time: 10.24 seconds.

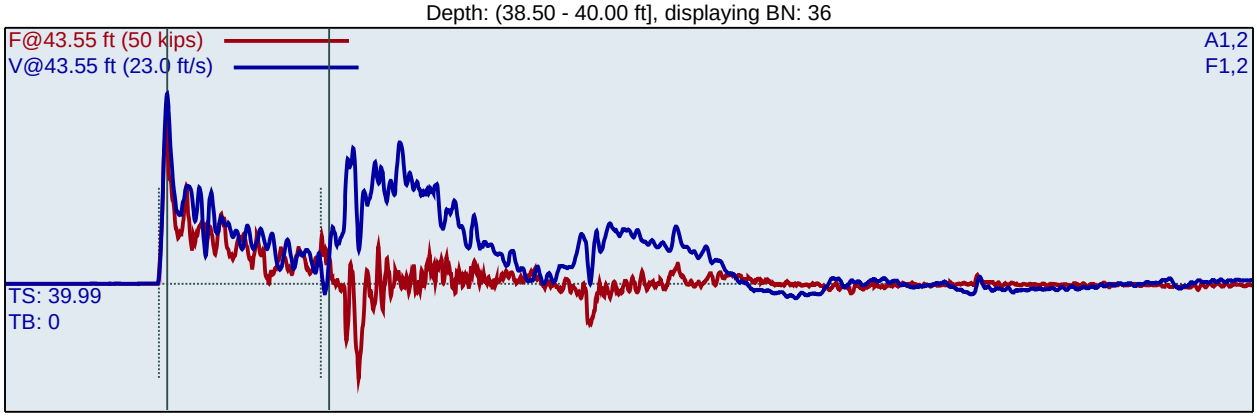
CME-45B SN 311524
JRW
TEST HOLE

28.5-30.0 FEET
Interval start: 12/14/2023

AR: 1.22 in^2
LE: 43.55 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (38.50 - 40.00 ft], displaying BN: 36



F1 : [203 AWJ-1] 208.46 PDICAL (1) FF1
F2 : [203 AWJ-2] 208.57 PDICAL (1) FF1

A1 (PR): [K4664] 376.6 mv/6.4v/5000g (1) VF1
A2 (PR): [K10182] 380.7 mv/6.4v/5000g (1) VF1

BL#	LP	BC	BPM	FMX	VMX	DMX	CSX	DFN	EFV	ETR
	ft	/6"	bpm	kips	ft/s	in	ksi	in	ft-lb	%
26	38.75	2	1.9	30	18.2	3.01	24.3	3.00	308	88.0
27	39.00	2	53.1	30	16.8	3.00	24.8	3.00	303	86.7
28	39.10	5	52.8	31	18.1	1.67	25.6	1.20	297	84.9
29	39.20	5	52.3	31	18.1	1.32	25.7	1.20	297	84.9
30	39.30	5	52.5	31	17.7	1.20	25.2	1.20	297	84.7
31	39.40	5	52.5	31	16.7	1.25	25.7	1.20	298	85.2
32	39.50	5	52.3	30	17.6	1.20	24.9	1.20	297	84.7
33	39.58	6	52.4	30	17.5	1.11	25.0	1.00	296	84.5
34	39.67	6	52.5	31	17.5	1.17	25.1	1.00	298	85.0
35	39.75	6	52.3	31	17.2	1.22	25.1	1.00	295	84.3
36	39.83	6	52.4	31	17.0	1.09	25.5	1.00	289	82.7
37	39.92	6	52.3	30	15.7	1.05	24.5	1.00	289	82.5
38	40.00	6	52.3	30	16.7	1.07	24.7	1.00	291	83.3
		Average	52.4	31	17.3	1.21	25.2	1.09	295	84.2
		Std Dev	0.1	0	0.7	0.16	0.4	0.10	3	0.9
		Maximum	52.8	31	18.1	1.67	25.7	1.20	298	85.2
		Minimum	52.3	30	15.7	1.05	24.5	1.00	289	82.5

N-value: 11

Sample Interval Time: 13.69 seconds.

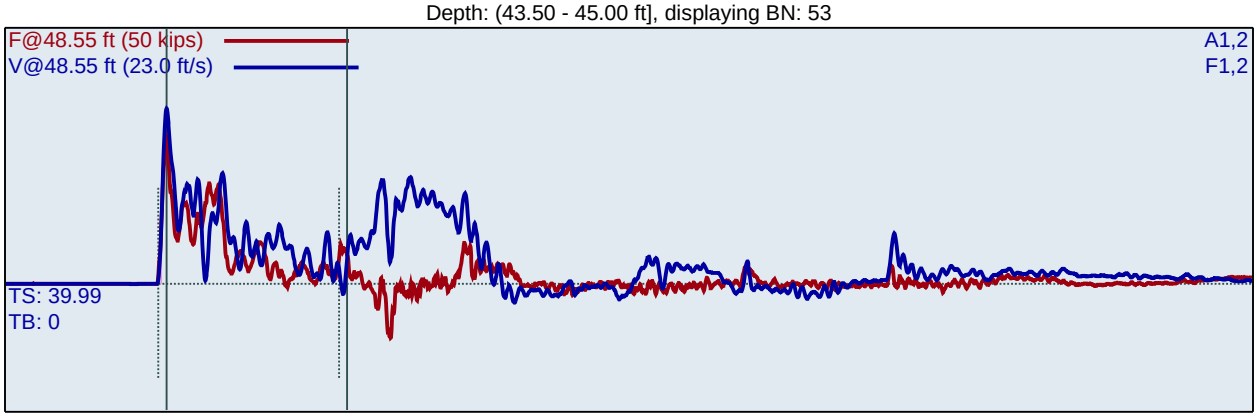
CME-45B SN 311524
JRW
TEST HOLE

28.5-30.0 FEET
Interval start: 12/14/2023

AR: 1.22 in^2
LE: 48.55 ft
WS: 16807.9 ft/s

SP: 0.492 k/ft3
EM: 30000 ksi

Depth: (43.50 - 45.00 ft], displaying BN: 53



F1 : [203 AWJ-1] 208.46 PDICAL (1) FF1
F2 : [203 AWJ-2] 208.57 PDICAL (1) FF1

A1 (PR): [K4664] 376.6 mv/6.4v/5000g (1) VF1
A2 (PR): [K10182] 380.7 mv/6.4v/5000g (1) VF1

BL#	LP ft	BC /6"	BPM bpm	FMX kips	VMX ft/s	DMX in	CSX ksi	DFN in	EFV ft-lb	ETR %
39	43.67	3	1.9	30	17.6	2.31	24.3	2.00	298	85.0
40	43.83	3	52.7	30	18.1	2.00	24.8	2.00	309	88.3
41	44.00	3	52.8	32	18.4	2.00	26.1	2.00	305	87.1
42	44.10	5	52.7	30	16.6	1.37	24.6	1.20	294	84.0
43	44.20	5	52.4	31	17.9	1.32	25.2	1.20	303	86.6
44	44.30	5	52.5	31	17.9	1.21	25.5	1.20	306	87.5
45	44.40	5	52.4	31	17.8	1.20	25.2	1.20	305	87.1
46	44.50	5	52.5	31	17.7	1.20	25.2	1.20	310	88.7
47	44.56	9	51.9	31	17.5	0.90	25.1	0.67	299	85.4
48	44.61	9	52.2	30	17.3	0.81	24.6	0.67	302	86.4
49	44.67	9	52.2	30	17.2	0.80	24.8	0.67	298	85.2
50	44.72	9	52.3	30	16.8	0.79	24.4	0.67	300	85.6
51	44.78	9	52.2	30	16.4	0.82	24.5	0.67	304	87.0
52	44.83	9	52.2	29	15.9	0.73	24.1	0.67	295	84.3
53	44.89	9	52.3	29	15.7	0.75	23.7	0.67	292	83.5
54	44.94	9	52.1	29	16.6	0.81	24.0	0.67	304	86.9
55	45.00	9	52.2	29	16.1	0.67	24.0	0.67	287	82.1
		Average	52.3	30	17.0	0.96	24.6	0.86	300	85.7
		Std Dev	0.2	1	0.7	0.23	0.5	0.26	6	1.7
		Maximum	52.7	31	17.9	1.37	25.5	1.20	310	88.7
		Minimum	51.9	29	15.7	0.67	23.7	0.67	287	82.1

N-value: 14

Sample Interval Time: 18.37 seconds.

Summary of SPT Test Results

Project: CME-45B SN 311524, Test Date: 12/14/2023

BPM: Blows/Minute
FMX: Maximum Force
VMX: Maximum Velocity
DMX: Maximum Displacement
CSX: Compression Stress Maximum
DFN: Final Displacement
EFV: Maximum Energy
ETR: Energy Transfer Ratio - Rated

Instr. Length ft	Start Depth ft	Final Depth ft	Blows Applied /6"	**N Value**	**N60 Value**	Average BPM bpm	Average FMX kips	Average VMX ft/s	Average DMX in	Average CSX ksi	Average DFN in	Average EFV ft-lb	Average ETR %
33.55	28.50	30.00	**4-5-6**	**11**	**15**	52.2	29	19.2	1.12	24.0	1.09	287	82.0
38.55	33.50	35.00	**2-4-4**	**8**	**11**	52.5	28	16.9	1.58	23.2	1.50	297	84.8
43.55	38.50	40.00	**2-5-6**	**11**	**15**	52.4	31	17.3	1.21	25.2	1.09	295	84.2
48.55	43.50	45.00	**3-5-9**	**14**	**19**	52.3	30	17.0	0.96	24.6	0.86	300	85.7
					Overall Average Values:	52.3	30	17.6	1.18	24.4	1.09	295	84.2
					Standard Deviation:	0.2	1	1.1	0.27	1.0	0.27	8	2.3
					Overall Maximum Value:	52.8	32	20.2	1.78	26.0	1.50	310	88.7
					Overall Minimum Value:	51.9	27	15.7	0.67	22.0	0.67	279	79.8

Appendix VIII – Electronic Data Files

gINT® Project Files