# Structure (Noise Barrier Wall) Exploration
# Data Summary Report
# LOR-90-10.76 (PID 107714)
# Lorain County, Ohio
# S&ME Project No. 217525A

PREPARED FOR:

**ODOT District 3**
**906 Clark Avenue**
**Ashland, OH 44805**

PREPARED BY:

**S&ME, Inc.**
**6190 Enterprise Court**
**Dublin, OH 43016**

**November 17, 2023**

November 17, 2023

ODOT District 3
906 Clark Avenue
Ashland, OH 44805

Attention: Mr. Nicholas Foster, PE

Reference: **Structure (Noise Barrier Wall) Exploration Data Summary – Final Report**
**LOR-90-10.76 Third Lane Widening**
PID 107714 Lorain County, Ohio
S&ME Project No. 217525A

Mr. Foster:

In accordance with our proposal dated February 24, 2023, which was authorized by ODOT on April 6, 2023, S&ME, Inc. (S&ME) is herewith submitting this final Structure Exploration Data Summary report for proposed noise barrier walls being planned for the LOR-90-10.76 third lane widening project in Lorain County, Ohio. On October 19, 2023, ODOT District 3 notified S&ME that District 3 and the ODOT Office of Geotechnical Engineering had no comments on our draft report. This report contains a description of the field and laboratory work, laboratory soil test results, findings in the borings and summaries of each proposed noise barrier wall. Geotechnical Profile sheets including borings performed for the subgrade exploration and noise barrier wall exploration, will be submitted under separate cover.

If you have any questions regarding this submission, please do not hesitate to contact our office.

Respectfully,

**S&ME, Inc.**

Brian K. Sears, P.E.
Senior Engineer | Project Manager

Richard S. Weigand, P.E.
Principal Engineer | Senior Reviewer

Attachments: Appendices A through G

Submitted: Email copy (Nicholas.foster@dot.ohio.gov)

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# 1.0 Introduction

Based on the ODOT project scope documents and follow-up discussions with ODOT District 3 (D3), S&ME understands that the LOR-90-10.76 Third Lane Widening project will be completed using a design-build approach, and will include five (5) noise barrier walls:

- Wall A – Along the IR 90 eastbound outside shoulder between the Ohio Turnpike and SR 2 interchange with a length of approximately 1,700 feet.
- Wall D (NE Quad) – Along the north edge of the off-ramp from westbound IR 90 to SR 57 with a length of approximately 1,000 feet.
- Wall E – Along the IR 90 eastbound outside shoulder between the Gulf Road overpass and SR 254 with a length of approximately 2,600 feet.
- Wall F – Along the IR 90 eastbound outside shoulder between SR 254 and French Creek Road with a length of approximately 8,800 feet.
- Wall G – Along the IR 90 eastbound outside shoulder between French Creek Road and SR 611 with a length of approximately 5,200 feet.
- The total length of noise barrier walls is approximately 19,300 feet.
- Information from ODOT District 3 indicates the walls are planned to be located approximately 5 feet behind the proposed edge of pavement or guardrail.

A Vicinity Map showing the approximate limits of this project is included as Plate 1 in Appendix A at the rear of this report. The exploration program was performed in accordance with the January 2023 ODOT *Specifications for Geotechnical Explorations* (*SGE*).

# 2.0 Geology and Observations of the Project

## 2.1 Site Geology

This project site is in a portion of Ohio which was glaciated and within the Erie Lake Plain physiographic region. This portion of the state is characterized as an ice-age lake basin separated from modern Lake Erie by shoreline cliffs with major streams in deep gorges. Pleistocene-age lacustrine sand, silt, clay, and wave-planed glacial till over Devonian- and Mississippian-age shales and sandstones are typically present. The ODNR "Ohio Karst Areas" map indicates that this site is not in an area of known karst features. Additionally, this project is not located in an area of Ohio subject to severe slope failures, and no mapped abandoned underground mines are reported in this area.

## 2.2 Site Reconnaissance

Site reconnaissance visits were made by S&ME personnel on May 9 and 12, 2023, to observe the project site with respect to drilling access and safety, and field mark the planned boring locations for the noise barrier walls. Embankment side slopes within the proposed alignments of Walls A, E and F were generally shallow (ranging from approximately 4H:1V to 6H:1V) where predominantly natural soil is present below a few feet of fill associated with the construction of IR 90. The SR 57 ramp where Wall D is proposed is situated where the existing fill embankment for the ramp gains height to the east and the slope inclination varies from shallow (4H:1V to 6H:1V) to steep

(2H:1V). The amount of fill within the length of foundations for Wall D is expected to vary. Finally, approximately 2,500 feet of Wall G is proposed to be constructed within the fill embankment approaches for the bridge over the railroad tracks which has approximately 2H:1V slopes. Wall foundations in this area are expected to be predominantly or entirely within existing embankment fill. The remainder of Wall G north of the fill embankment returns to generally shallower slopes as previously described for Walls A, E and F.

Multiple visits were also made in 2022 and 2023 as part of the subgrade exploration along the project alignment. The existing pavements appeared to be in fair to good condition, with isolated areas in poor condition. Transverse, longitudinal, and "alligator" cracking were observed throughout the project alignment.

# 3.0 Exploration

## 3.1 Field Exploration

Between May 15 and July 13, 2023, S&ME performed 101 Type E4 noise barrier wall borings within the limits of the proposed wall locations. These noise barrier wall borings were spaced approximately 200 feet apart along the proposed wall alignments. S&ME performed nine (9) borings for wall A, six (6) borings for Wall D, 14 borings for Wall E, 45 borings for Wall F, and 27 borings for Wall G. Most of the borings were located within approximately 5 feet outside the edge of the existing shoulder pavement; however, at locations where steep embankment slopes or existing guardrail were present at the edge of the existing pavement, the borings were advanced through the existing shoulder pavement. Following the completion of drilling, Bramhall Engineering and Surveying obtained the locations of the completed borings. The approximate locations of the borings for each wall are shown on the Plans of Borings included in Appendices B through F.

In each boring, Standard Penetration Test (SPT) sampling was attempted at 2.5-foot intervals by a drill rig using a 2-inch O.D. split-barrel sampler driven by blows from a 140-pound hammer freely falling 30 inches. The borings were either extended to a depth of 25 feet, or where bedrock was encountered prior to reaching 25 feet, the borings were extended a minimum of approximately 5 feet into bedrock. At the request of ODOT D3, five (5) feet of bedrock were cored at seven (7) boring locations within the limits of Wall F. At the completion of drilling, the borings were backfilled with soil cuttings mixed with bentonite gravel and, where advanced through existing pavement, the surface of the pavement was repaired with cold-patch asphalt.

Within the limits of Wall D, at four (4) locations where noise wall borings were advanced through the existing concrete, or composite shoulder pavement, a portable, generator driven coring machine equipped with a diamond-impregnated drilling bit was used to advance the borings through the existing pavement section. Photographs of the recovered pavement cores were obtained and are included in Appendix D.

In the field, experienced personnel performed the following specific duties: preserved all recovered soil samples; prepared a log of each boring; made seepage and groundwater observations; obtained hand-penetrometer measurements in soil samples exhibiting cohesion; measured the recovered pavement cores; and coordinated with the S&ME Project Engineer so that the program of explorations could be modified, if necessary, because of unanticipated conditions. All recovered soil samples and pavement cores were transported to the laboratory of S&ME for further identification and testing.

### 3.2 Laboratory Testing Program

In the laboratory, a testing program was assigned and supervised by a registered Professional Engineer. In accordance with ODOT specifications, moisture content tests were performed on all recovered, representative samples and complete classification test series (Atterberg Limits and gradation) were performed on representative samples from the borings. A single Loss-on-Ignition (LoI) test was performed on a potentially organic soil sample from Boring B-051-2-23. Two (2) unconfined compressive strength tests were performed on recovered sections of bedrock core retrieved from Borings B-061-1-23 and B-076-1-23. The results of these tests are reported numerically on the boring logs included in this submission.

The subsurface stratigraphy encountered in each boring is presented on the individual boring logs included in the Appendices B through F for the proposed noise barrier walls. Shown on these logs are: descriptions of the soil stratigraphy encountered; depths from which samples were preserved; sampling efforts (blow-counts) required to obtain the specimens in the borings; calculated $N_{60}$ values for the borings; sampling depths; laboratory test results; seepage and groundwater observations; and, values of hand-penetrometer measurements made in soil samples exhibiting cohesion. For your reference, hand-penetrometer values are roughly equivalent to the unconfined compressive strength of the cohesive fraction of the soil sample.

The soils have been classified in general accordance with Section 603 of the ODOT *SGE* and described in general accordance with Section 602. Bedrock has been described and classified in general accordance with Section 605 of the ODOT *SGE*. An explanation of the symbols and terms used on the boring logs, definitions of the special adjectives used to denote the minor soil components, and information pertaining to sampling and identification are presented on Plate 2 of Appendix A. An explanation of the symbols and terms used on the boring logs for bedrock are presented on Plate 3 of Appendix A.

## 4.0 Findings

Please refer to the individual boring logs (provided in Appendices B through F and organized by wall) for more detailed information at each exploration location. Because of the wide spacing between explorations, inferences should not be made regarding the subsurface conditions in the areas between or away from the borings without performing additional borings or other field verification. Note that all boring number reference omit the two-digit year extension.

## 4.1 Noise Barrier Wall A

Wall A includes nine (9) borings, numbered B-002-1 through B-006-1. A summary of the general soil and bedrock conditions encountered in these borings is provided in Table 4-1. Please refer to Plates 2 through 10 in Appendix B for individual boring logs.

### Table 4-1: Summary of Soil & Bedrock Findings at Wall A

| General Lithologic Description | Top of Strata (ft) | Bottom of Strata (ft) | Soil/Bedrock Type/Classification/Description | Applicable Borings |
|---|---|---|---|---|
| Rootmat | 0.0 | 0.3 – 1.7 | Mixed with SANDY SILT in B-004-1 & B-004-2 | B-002-1, and B-004-1 thru B-006-2 |
| Granular Fill | 0.0 | 0.5 – 1.3 | Loose to medium-dense GRAVEL WITH SAND (A-1-b) or GRAVEL WITH SAND, SILT AND CLAY (A-2-6) | B-002-2 and B-003-1 |
| Fill/ Possible Fill/ Probable Fill | 0.3 – 1.7 | 3.0 – 8.5 | Stiff to hard SILT AND CLAY (A-6a)<br>Stiff to hard SILTY CLAY (A-6b)<br>Medium-dense GRAVEL WITH SAND AND SILT (A-2-4)<br>Medium-dense to dense SANDY SILT (A-4a) | All Borings |
| Natural Soil | 3.0 – 8.5 | 8.5 – 20.5 | Stiff to hard SANDY SILT (A-4a)<br>Hard SILT (A-4b)<br>Hard SILT AND CLAY (A-6a)<br>Stiff to very-stiff SILTY CLAY (A-6b)<br>Stiff to very-stiff CLAY (A-7-6)<br>Medium-dense to very-dense SANDY SILT (A-4a)<br>Dense SILT (A-4b) | All Borings except B-006-1 |
| Bedrock | 3.0 – 20.5 | 10.5 – 25.0 | SHALE, moderately to severely weathered, very-weak to weak<br>SANDSTONE, severely weathered, very-weak to weak (B-006-1 & B-006-2 only) | All Borings |

Seepage or groundwater was noted at depths ranging from 6.0 to 18.5 feet in Borings B-002-1, B-002-2, B-005-1, B-006-1, and B-006-2.

## 4.2 Noise Barrier Wall D

Wall D includes six (6) borings numbered B-032-1 through B-032-6. A summary of the soil and bedrock conditions encountered in these borings is provided in Table 4-2. Please refer to Plates 2 through 7 in Appendix C for individual boring logs.

### Table 4-2: Summary of Soil & Bedrock Findings at Wall D

| General Lithologic Description | Top of Strata (ft) | Bottom of Strata (ft) | Soil/Bedrock Type/Classification/Description | Applicable Borings |
|---|---|---|---|---|
| Rootmat | 0.0 | 0.2 | | B-032-4 & B-032-5 |
| Existing Pavement | 0.0 | 0.8 – 1.5 | 9″ to 10″ Concrete at B-032-1, B-032-2 and B-032-3<br>11″ Asphalt at B-032-6<br>4″ to 9″ Granular Base at B-032-2 and B-032-6 | B-032-1, B-032-2, B-032-3, B-032-6 |
| Fill/ Possible Fill/ Probable Fill | 0.2 – 1.5 | 8.0 – 13.0 | Very-stiff to hard SILT AND CLAY (A-6a)<br>Stiff to hard SILTY CLAY (A-6b)<br>Very-stiff CLAY (A-7-6)<br>Loose to very-dense GRAVEL WITH SAND (A-1-b)<br>Loose to medium-dense GRAVEL WITH SAND, SILT AND CLAY (A-2-4) | All Borings |
| Natural Soil | 8.0 – 13.0 | 25.0 | Very-stiff to hard SANDY SILT (A-4a)<br>Stiff to hard SILT AND CLAY (A-6a)<br>Stiff to hard SILTY CLAY (A-6b)<br>Stiff to hard CLAY (A-7-6) | All Borings |
| Bedrock | N/A | N/A | No bedrock encountered | All Borings |

Seepage or groundwater was noted at depths ranging from 6.0 to 21.0 feet in Borings B-032-1, B-032-3, B-032-4, and B-032-5.

## 4.3 Noise Barrier Wall E

Wall E includes 14 borings including B-047-1 through B-054-1. A summary of the soil and bedrock conditions are provided in Table 4-3. Please refer to Plates 2 through 15 in Appendix D for individual boring logs.

**Table 4-3: Summary of Soil & Bedrock Findings at Wall E**

| General Lithologic Description | Top of Strata (ft) | Bottom of Strata (ft) | Soil/Bedrock Type/Classification/Description | Applicable Borings |
|---|---|---|---|---|
| Rootmat | 0.0 | 1.3 | Mixed with granular fill | B-047-1 |
| Granular Fill | 0.0 | 1.2 | Granular shoulder fill | All borings except B-047-1, B-053-2 |
| Fill/ Possible Fill/ Probable Fill | 0.0 – 1.3 | 3.0 – 8.0 | Stiff to hard SILT AND CLAY (A-6a) with medium-stiff zone in B-052-2 and LOI = 2.5% in B-051-2<br>Hard SILTY CLAY (A-6b)<br>Stiff to hard CLAY (A-7-6)<br>Medium-dense GRAVEL WITH SAND AND SILT (A-2-4)<br>Loose to medium-dense SANDY SILT (A-4a) | B-050-1 thru B-054-1 |
| Natural Soil | 0.8 – 8.0 | 19.0 – 25.0 | Very-stiff to hard SANDY SILT (A-4a)<br>Stiff to hard SILT AND CLAY (A-6a)<br>Stiff to hard SILTY CLAY (A-6b)<br>Very-stiff to hard CLAY (A-7-6)<br>Very-dense GRAVEL WITH SAND AND SILT (A-2-4) | All borings |
| Bedrock | 19.0 – 21.5 | 23.8 | SHALE, highly to severely weathered, very-weak to weak | B-047-1 and B-048-1 |

No seepage or groundwater was noted in the borings performed for Wall E.

## 4.4 Noise Barrier Wall F

Wall F includes 45 borings numbered B-061-1 through B-083-2. A summary of the soil and bedrock conditions encountered in these explorations is presented in Table 4-4. Please refer to Plates 2 through 46 in Appendix E for the logs of the individual borings.

## Table 4-4: Summary of Soil & Bedrock Findings at Wall F

| General Lithologic Description | Top of Strata (ft) | Bottom of Strata (ft) | Soil/Bedrock Type/Classification/Description | Applicable Borings |
|---|---|---|---|---|
| Rootmat | 0.0 | 0.2 – 0.4 | | 17 Borings |
| Granular Fill | 0.0 | 0.6 – 1.5 | Granular shoulder fill | 20 Borings |
| Pavement | 0.0 | 0.6 – 1.4 | 7.5" to 9.5" Asphalt over 5.5" to 9" Granular Base (no granular base noted in B-076-2) | B-071-1, B-076-2, B-081-2 |
| Fill/ Possible Fill/ Probable Fill | 0.0 – 1.5 | 1.5 – 5.5 (8.0 in B-078-2) | Stiff to hard SANDY SILT (A-4a) with zone of medium-stiff in B-079-1<br>Stiff to hard SILT AND CLAY (A-6a) with zone of medium-stiff in B-077-2<br>Very-stiff SILTY CLAY (A-6b)<br>Very-stiff to hard CLAY (A-7-6) with zone of medium-stiff in B-076-2<br>Medium-dense GRAVEL WITH SAND (A-1-b)<br>Loose to dense GRAVEL WITH SAND AND SILT (A-2-4)<br>Loose to medium-dense COARSE AND FINE SAND (A-3a)<br>Medium-dense SANDY SILT (A-4a) | All Borings |
| Natural Soil | 1.5 – 5.5 (8.0 in B-078-2) | 6.5 – 18.0 | Very-stiff to hard SANDY SILT (A-4a)<br>Hard SILT (A-4b)<br>Stiff to hard SILT AND CLAY (A-6a)<br>Stiff to hard SILTY CLAY (A-6b)<br>Stiff to hard CLAY (A-7-6) with zone of medium-stiff in B-083-1<br>Dense to very-dense GRAVEL WITH SAND AND SILT (A-2-4)<br>Medium-dense to very-dense SANDY SILT (A-4a) | All Borings |
| Bedrock | 6.5 – 18.0 | 13.8 – 23.9 | SHALE, slightly to severely weathered, very-weak to slightly strong, with few moderately strong zones<br>NOTE: Between Borings B-061-1 and B-070-2 bedrock was encountered between 6.5 and 12.0 feet. Between Borings B-071-1 and B-083-2, bedrock was encountered between 11.0 and 18.0 feet.<br>Where bedrock cored, RQD ranged from 0% to 70% and recovery ranged from 90% to 100%.<br>Unconfined compressive strength test results: 1,371 psi in B-061-1) and 6,789 psi in B-076-1) | All borings<br>Bedrock was cored in B-061-1, B-064-1, B-066-2, B-068-2, B-070-2, B-073-2 and B-076-1 |

Seepage or groundwater was noted at a depth of 16.0 feet in Borings B-077-1 and B-082-1, and at depths of 3.5 and 6.0 feet in Boring B-083-1.

## 4.5 Noise Barrier Wall G

Wall G includes 27 borings number from B-086-1 through B-098-4. A summary of the soil and bedrock conditions encountered in these borings is provided in Table 4-5. Please refer to Plates 2 through 28 in Appendix F for the individual boring logs.

### Table 4-5: Summary of Soil & Bedrock Findings at Wall G

| General Lithologic Description | Top of Strata (ft) | Bottom of Strata (ft) | Soil/Bedrock Type/Classification/Description | Applicable Borings |
|---|---|---|---|---|
| Rootmat | 0.0 | 0.2 | | B-096-1, B-096-2 |
| Granular Fill | 0.0 | 0.5 – 1.5 | Granular shoulder fill (6" thickness in B-095-2 and 18" thickness in all other borings) | B-092-2 through B-095-2 |
| Pavement | 0.0 | 0.7 – 2.0 | In Borings B-086-1 through B-092-1:<br>10" to 17" Asphalt over 6" to 9" Granular Base<br>In Borings B-097-1 through B-098-4:<br>4" Asphalt over 4" to 6" Granular Base | B-086-1 through B-092-1 and B-097-1 through B-098-4 |
| Embankment Fill | 1.5 – 2.0 | 13.0 – 25.0 | Very-stiff to hard SANDY SILT (A-4a)<br>Very-stiff to hard SILT AND CLAY (A-6a)<br>Very-stiff to hard SILTY CLAY (A-6b)<br>Very-stiff to hard CLAY (A-7-6)<br>Few stiff zones encountered in B-087-1, B-008-1, B-088-2, B-089-2 and B-091-1<br>Medium-dense to dense SANDY SILT (A-4a) | B-086-1 through B-092-1 (entirety of Borings B-086-1 through B-090-1) |
| Fill/ Possible Fill/ Probable Fill | 0.2 – 1.5 | 3.0 – 8.0 | Very-stiff to hard SANDY SILT (A-4a)<br>Stiff to hard SILT AND CLAY (A-6a)<br>Stiff to hard SILTY CLAY (A-6b)<br>Stiff to hard CLAY (A-7-6)<br>Medium-dense to very-dense GRAVEL WITH SAND AND SILT (A-2-4) – loose in B-098-4<br>Medium-dense to dense COARSE AND FINE SAND (A-3a) | B-092-2 through B-098-4 |
| Natural Soil | 3.0 – 13.0 | 15.5 – 25.0 | Very-stiff to hard SANDY SILT (A-4a)<br>Stiff to very-stiff SILT (A-4b)<br>Stiff to hard SILT AND CLAY (A-6a)<br>Stiff to hard SILTY CLAY (A-6b)<br>Stiff to hard CLAY (A-7-6)<br>Medium-dense COARSE AND FINE SAND (A-3a)<br>Very-dense SANDY SILT (A-4a)<br>Dense to very-dense SILT (A-4b) | B-092-2 through B-098-4 |
| Bedrock | 15.5 – 22.0 | 20.7 – 25.0 | SHALE, highly to severely weathered, very-weak to weak | B-092-2 through B-097-1, B-098-1 |

Seepage or groundwater was noted at a depth of 23.0 feet in Boring B-092-1, at 15.5 feet in Borings B-092-2 through B-093-2 and at 18.0 feet in Boring B-094-1. Further north, seepage or groundwater was noted at depths of 3.0 feet, 2.0 feet and 4.0 feet in Borings B-098-1, B-098-2 and B-098-3, respectively.

## 5.0 Noise Barrier Wall Foundation Design

S&ME has utilized the Noise Wall Foundation Design Spreadsheet (Ver. 2019.01 dated 7/19/2019) prepared by ODOT Office of Geotechnical Engineering, to input the geotechnical information obtained from the noise wall explorations. Individual spreadsheets have been generated for each proposed noise wall and includes individual pages (tabs) for each boring performed along the length of that wall. Since this project will be completed using a design-build team, multiple input items needed for wall foundation design such as wall height, post spacing, ground elevation at wall and final cross slope inclination have yet to be determined at the time of this geotechnical data report. As such, the foundation design for the noise walls will need to be completed by the design build team at a later date. To facilitate the future foundation design, S&ME has entered the location information and ground surface elevation at each boring, along with the soil classification and corrected blow counts for each subsurface layer encountered in each boring. S&ME has submitted a copy of the spreadsheet file for each individual noise barrier wall in electronic format with this Geotechnical Data Report submission.

## 6.0 Final Considerations

The contents of this data report are also based on the subsurface conditions as they existed at the time of our field investigation, and further on the assumption that the exploratory borings are representative of actual subsurface conditions throughout the area investigated. It should be noted that actual subsurface conditions between and beyond the borings might differ from those encountered at the boring locations.

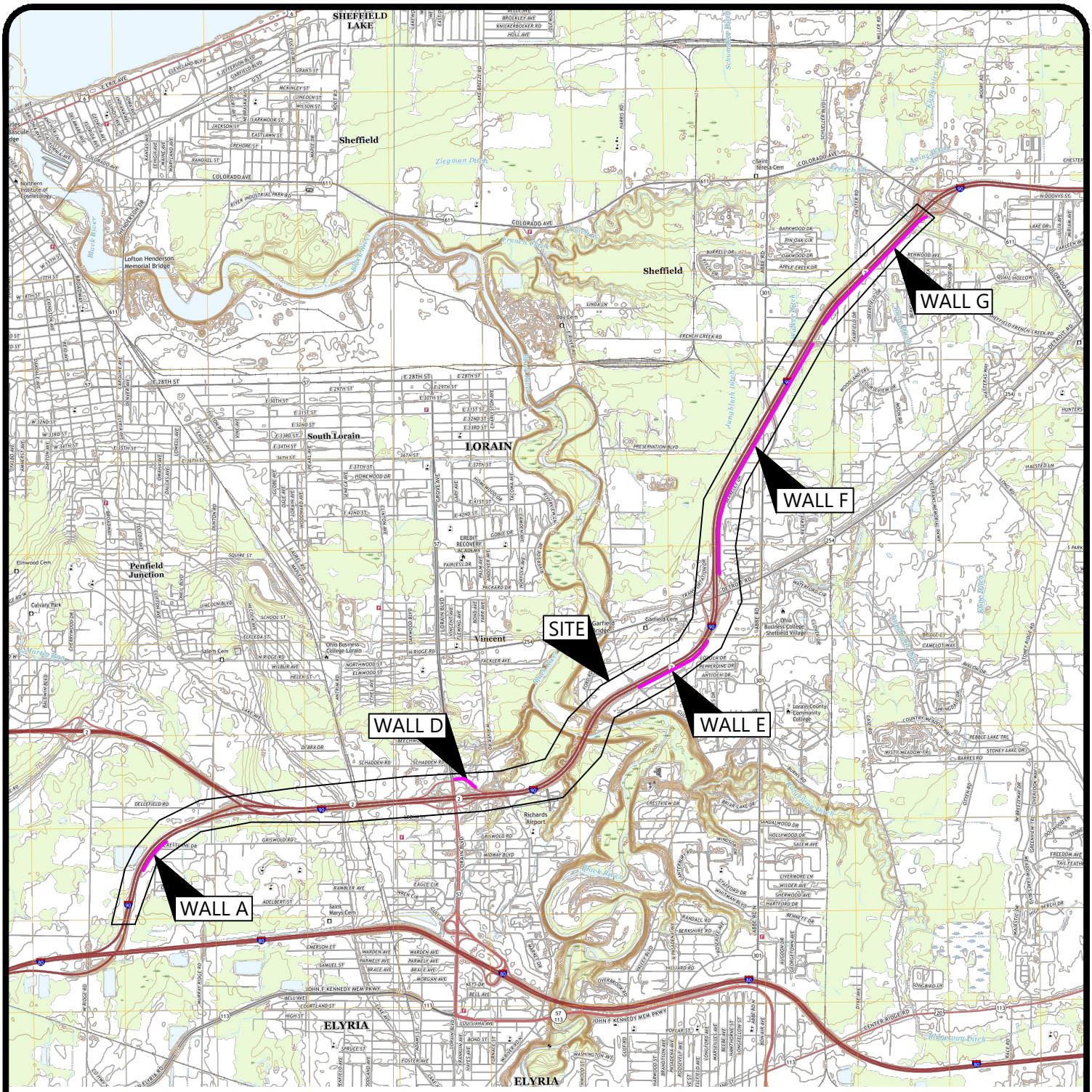
This report has been prepared in accordance with generally accepted geotechnical engineering practice for specific application to this project. The conclusions and recommendations contained in this report are based upon applicable standards of our practice in this geographic area at the time this report was prepared. No other representation or warranty either express or implied, is made.

We relied on project information given to us to develop our conclusions and recommendations. If project information described in this report is not accurate, or if it changes during project development, we should be notified of the changes so that we can modify our recommendations based on this additional information if necessary.

Our conclusions and recommendations are based on limited data from a field exploration program. Subsurface conditions can vary widely between explored areas. Some variations may not become evident until 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. S&ME can provide a proposal and perform these services if requested.

# Appendix A – General Information




N

Project Location
Lorain County, Ohio

USGS Mapping:
Lorain and Avon USGS Quads

0 5000 10000

GRAPHIC SCALE (IN FEET)

# Vicinity Map

Noise Barrier Wall Exploration
LOR-90-10.76 Third Lane Widening
Lorain County, Ohio

| SCALE: | FIGURE NO. |
|---|---|
| GRAPHIC | 1 |
| DATE: | |
| 08-29-2023 | |
| PROJECT NUMBER | |
| 217525A | |

Drawing Path: T:\Columbus-1170\Projects\2021\217525A_ODOT D3_LOR-90-10.76 Noise Walls_Sheffield OH\GEO\CAD\Construction\Plan of Borings.dwg

## EXPLANATION OF SYMBOLS AND TERMS USED ON BORING LOGS FOR SAMPLING AND DESCRIPTION OF SOIL

### SAMPLING DATA

- ▯ - Indicates sample was attempted within this depth interval.
- 2 / 3 / 5 - The number of blows required for each 6-inch increment of penetration of a "Standard" 2-inch O.D. split-barrel sampler, driven a distance of 18 inches by a 140-pound hammer freely falling 30 inches (SPT). The raw "blowcount" or "N" is equal to the sum of the second and third 6-inch increments of penetration.
- $N_{60}$ - Corrected Blowcount = [(Drill Rod Energy Ratio) / (0.60 Standard)] X N
- 90* - Calibrated energy ratio exceeds 90% but is limited to 90% per ODOT SGE.
- SS - Split-barrel sampler, any size.
- ST - Shelby tube sampler, 3″ O.D., hydraulically pushed.
- R - Refusal of sampler in very-hard or dense soil, or on a resistant surface.
- 50-4" - Number of blows (50) to drive a split-barrel sampler a certain distance (4 inches), other than the normal 6-inch increment.

### DEPTH DATA

- W - Depth of water or seepage encountered during drilling.
- ▽ - Depth to water in boring at the end of drilling (EOD).
- ▼ 5 days - Depth to water in monitoring well or piezometer in boring a certain number of days (5) after termination of drilling.
- TR - Depth to top of rock.

### SOIL DESCRIPTIONS

Soils have been classified in general accordance with Section 603 of the most recent ODOT SGE, and described in general accordance with Section 602, including the use of special adjectives to designate approximate percentages of minor components as follows:

| Adjective | Percent by Weight |
|---|---|
| trace | 1 to 10 |
| little | 10 to 20 |
| some | 20 to 35 |
| "and" | 35 to 50 |

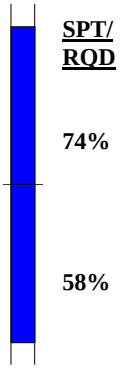
The following terms are used to describe density and consistency of soils:

| Term (Granular Soils) | Blows per foot ($N_{60}$) |
|---|---|
| Very-loose | Less than 5 |
| Loose | 5 to 10 |
| Medium-dense | 11 to 30 |
| Dense | 31 to 50 |
| Very-dense | Over 50 |

| Term (Cohesive Soils) | Qu (tsf) |
|---|---|
| Very-soft | Less than 0.25 |
| Soft | 0.25 to 0.5 |
| Medium-stiff | 0.5 to 1.0 |
| Stiff | 1.0 to 2.0 |
| Very-stiff | 2.0 to 4.0 |
| Hard | Over 4.0 |

## EXPLANATION OF SYMBOLS AND TERMS USED ON BORING LOGS FOR SAMPLING AND DESCRIPTION OF ROCK

### SAMPLING DATA




When bedrock is encountered and rock core samples are attempted, the length of core recovered and lost during the core run is reported in the “REC” column. The type of rock core barrel utilized is recorded under the heading “Sampling Method” at the top of the boring log, and also in the “SAMPLE ID” column. Rock-core barrels can be of either single- or double-tube construction, and a special series of double-tube barrels, designated by the suffix M, may also be used to obtain maximum core recovery in very-soft or fractured rock. Four basic groups of barrels are used most often in subsurface investigations for engineering purposes, and these groups and the diameters of the cores obtained are as follows:

| | | |
|---|---|---|
| AX, AW, AXM, AWM | - | 1-1/8 inches |
| BX, BW, BXM, BWM | - | 1-5/8 inches |
| NX, NW, NXM, NWM | - | 2-1/8 inches |
| NQ, NQ2 | - | 1-7/8 inches |

Rock Quality Designation (RQD) is expressed as a percentage and is obtained by summing the total length of all core pieces which are at least 4 inches long and then dividing this sum by, either, the total length of core run or the length of the core run in a particular bedrock stratum. The RQD value is reported as a percentage in the “SPT/RQD” column. It has been found that there is a reasonably good relationship between the RQD value and the general quality of rock for engineering purposes. This relationship is shown as follows:

| RQD - % | General Quality |
|---|---|
| 0 - 25 | Very-poor |
| 25 - 50 | Poor |
| 50 - 75 | Fair |
| 75 - 90 | Good |
| 90 - 100 | Excellent |

### ROCK HARDNESS

Recovered bedrock samples are described in general accordance with Section 605 of the 2007 ODOT SGE and subsequent revisions, where necessary. The following terms are used to describe rock hardness:

| Term | Meaning |
|---|---|
| Very Weak | Rock can be excavated readily with the point of a pick and carved with a knife. Pieces 1 inch or greater in thickness can be broken by finger pressure. Can be scratched with a fingernail. |
| Weak | Rock can be grooved or gouged readily by a knife or pick, and can be excavated in small fragments with moderate blows from a pick point. Small, thin pieces may be broken with finger pressure. |
| Slightly Strong | Rock can be grooved or gouged 0.05 inches deep with firm pressure from a knife or pick point, and can be excavated in small chips to pieces of 1 inch maximum size using hard blows from the point of a geologist’s pick. |
| Moderately Strong | Rock can be scratched with a knife or pick. Grooves or gouges to ¼ inch deep can be excavated by hard blows of a geologist’s pick. Requires moderate hammer blows to detach a hand specimen. |
| Strong | Rock can be scratched with a knife or pick only with difficulty. Requires hard hammer blows to detach a hand specimen. Sharp and resistant edges are present on hand specimens. |
| Very Strong | Rock cannot be scratched by a knife or sharp pick. Breaking of hand specimens requires repeated hard blows of a geologist’s hammer. |
| Extremely Strong | Rock cannot be scratched by a knife or sharp pick. Chipping of hand specimens requires repeated hard blows of a geologist’s hammer. |

# Important Information About Your
# Geotechnical Engineering Report

*Variations in subsurface conditions can be a principal cause of construction delays, cost overruns and claims. The following information is provided to assist you in understanding and managing the risk of these variations.*

### Geotechnical Findings Are Professional Opinions

Geotechnical engineers cannot specify material properties as other design engineers do. Geotechnical material properties have a far broader range on a given site than any manufactured construction material, and some geotechnical material properties may change over time because of exposure to air and water, or human activity.

Site exploration identifies subsurface conditions at the time of exploration and only at the points where subsurface tests are performed or samples obtained. Geotechnical engineers review field and laboratory data and then apply their judgment to render professional opinions about site subsurface conditions. Their recommendations rely upon these professional opinions. Variations in the vertical and lateral extent of subsurface materials may be encountered during construction that significantly impact construction schedules, methods and material volumes. While higher levels of subsurface exploration can mitigate the risk of encountering unanticipated subsurface conditions, no level of subsurface exploration can eliminate this risk.

### Geotechnical Findings Are Professional Opinions

Professional geotechnical engineering judgment is required to develop a geotechnical exploration scope to obtain information necessary to support design and construction. A number of unique project factors are considered in developing the scope of geotechnical services, such as the exploration objective; the location, type, size and weight of the proposed structure; proposed site grades and improvements; the construction schedule and sequence; and the site geology.

Geotechnical engineers apply their experience with construction methods, subsurface conditions and exploration methods to develop the exploration scope. The scope of each exploration is unique based on available project and site information. Incomplete project information or constraints on the scope of exploration increases the risk of variations in subsurface conditions not being identified and addressed in the geotechnical report.

### Services Are Performed for Specific Projects

Because the scope of each geotechnical exploration is unique, each geotechnical report is unique. Subsurface conditions are explored and recommendations are made for a specific project.

Subsurface information and recommendations may not be adequate for other uses. Changes in a proposed structure location, foundation loads, grades, schedule, etc. may require additional geotechnical exploration, analyses, and consultation. The geotechnical engineer should be consulted to determine if additional services are required in response to changes in proposed construction, location, loads, grades, schedule, etc.

### Geo-Environmental Issues

The equipment, techniques, and personnel used to perform a geo-environmental study differ significantly from those used for a geotechnical exploration. Indications of environmental contamination may be encountered incidental to performance of a geotechnical exploration but go unrecognized. Determination of the presence, type or extent of environmental contamination is beyond the scope of a geotechnical exploration.

### Geotechnical Recommendations Are Not Final

Recommendations are developed based on the geotechnical engineer's understanding of the proposed construction and professional opinion of site subsurface conditions. Observations and tests must be performed during construction to confirm subsurface conditions exposed by construction excavations are consistent with those assumed in development of recommendations. It is advisable to retain the geotechnical engineer that performed the exploration and developed the geotechnical recommendations to conduct tests and observations during construction. This may reduce the risk that variations in subsurface conditions will not be addressed as recommended in the geotechnical report.

# Appendix B – Noise Barrier Wall A


INFORMATION FOR SUBGRADE BORINGS IS INCLUDED IN S&ME'S SUBGRADE EXPLORATION REPORT DATED JUNE 28, 2023.

LEGEND

B-001-0-22 SUBGRADE BORING NUMBER AND LOCATION (SEE NOTE)

B-002-1-23 NOISE WALL BORING NUMBER AND LOCATION

N

0 300 600

GRAPHIC SCALE (IN FEET)

# PLAN OF BORINGS

LOR-90-10.76 THIRD LANE WIDENING
NOISE BARRIER WALL EXPLORATION - WALL A
LORAIN COUNTY, OHIO

| | |
|---|---|
| SCALE: | SEE GRAPHIC |
| DATE: | 08-29-2023 |
| PROJECT NUMBER | 217525A |
| FIGURE NO. | 1 |

Drawing path: T:\Columbus-1170\Projects\2021\217525A_ODOT D3_LOR-90-10.76 Noise Walls_Sheffield OH\GEO\CAD\Construction\Plan of Borings.dwg

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 580+64, 81' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL A | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 747.8 (MSL) EOB: 18.7 ft. |
| START: 5/15/23 END: 5/15/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.397532 N, 82.157971 W |

EXPLORATION ID **B-002-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 747.8 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 4 INCHES | 747.5 | | | | | | | | | | | | | | | | | |
| FILL: Very-stiff gray and brown **SILT AND CLAY**, little to some fine to coarse sand, trace fine gravel, damp. | 744.3 | | 4 4 4 | 12 | 100 | SS-1 | 2.0-3.0 | - | - | - | - | - | - | - | - | 13 | A-6a (V) | |
| FILL: Medium-dense gray **GRAVEL WITH SAND AND SILT**, trace clay, many sandstone fragments, dry to damp. | 742.3 | | 4 6 7 | 20 | 100 | SS-2 | - | - | - | - | - | - | - | - | - | 9 | A-2-4 (V) | |
| FILL: Stiff to very-stiff gray mottled with brown **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, damp. | 739.3 | W 741.8 | 4 4 4 | 12 | 67 | SS-3 | 1.0-2.5 | 2 | 2 | 17 | 50 | 29 | 31 | 16 | 15 | 17 | A-6a (10) | |
| Dense brown **SILT**, some fine sand, little clay, dry to damp. | 736.8 | | 8 14 18 | 48 | 100 | SS-4 | - | 0 | 0 | 22 | 61 | 17 | 23 | 16 | 7 | 9 | A-4b (8) | |
| **SHALE**, light-brown, severely to highly weathered, very weak. | 734.8 | TR | 50 | - | 100 | SS-5 | - | - | - | - | - | - | - | - | - | 6 | Rock (V) | |
| **SHALE**, gray, highly becoming moderately weathered, weak to slightly strong. | 729.1 | | 50-3" | - | 33 | SS-6 | - | - | - | - | - | - | - | - | - | 1 | Rock (V) | |
| | | EOB | 50-2" | - | 50 | SS-7 | - | - | - | - | - | - | - | - | - | 4 | Rock (V) | |

NOTES:
- Seepage encountered at 6.0'.
- After removal of augers, boring caved at 14.8' and was dry.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 16:51 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 2

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 582+61, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL A | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 747.9 (MSL) EOB: 21.3 ft. |
| START: 5/15/23 END: 5/15/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.398006 N, 82.157672 W |

EXPLORATION ID **B-002-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 747.9 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FILL: Loose brown and gray **GRAVEL WITH SAND**, trace to little silt, dry. | 747.4 | 1 | 4 4 4 | 12 | 100 | SS-1A | 3.0-4.5 | - | - | - | - | - | - | - | - | 14 | A-6b (V) | |
| FILL: Very-stiff to hard dark-brown becoming grayish-brown **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp. | 744.9 | 2 | | | | SS-1B | 3.0-4.5 | - | - | - | - | - | - | - | - | 13 | A-6b (V) | |
| POSSIBLE FILL: Dense gray **SANDY SILT**, little fine to coarse gravel (shale fragments), trace clay, few cobbles, dry. | 741.9 | 3 4 5 | 4 14 19 | 50 | 89 | SS-2 | - | - | - | - | - | - | - | - | - | 7 | A-4a (V) | |
| Stiff to very-stiff gray mottled with brown **SILTY CLAY**, little fine to coarse sand, trace fine to coarse gravel, few shale and sandstone fragments, becoming reddish-brown with depth, moist. | 734.9 | 6 7 8 | 4 5 7 | 18 | 0 | SS | - | - | - | - | - | - | - | - | - | - | | |
| | | | 5 | - | 100 | SS-3 | 1.0-1.5 | - | - | - | - | - | - | - | - | 22 | A-6b (V) | |
| | | 9 10 | 2 4 5 | 14 | 89 | SS-4 | 2.5-4.0 | - | - | - | - | - | - | - | - | 24 | A-6b (V) | |
| | | 11 12 | 2 4 6 | 15 | 100 | SS-5 | 3.0-3.5 | - | - | - | - | - | - | - | - | 22 | A-6b (V) | |
| Medium-dense brownish-gray **SANDY SILT**, little fine to coarse gravel, trace clay, damp. | 732.4 | 13 14 15 | 6 10 8 | 27 | 100 | SS-6 | - | - | - | - | - | - | - | - | - | 13 | A-4a (V) | |
| | | ▽ 732.8 TR | | | | | | | | | | | | | | | | |
| **SHALE**, gray, severely to highly weathered, very weak to weak. | 726.6 | 16 17 18 | 16 31 15 | 69 | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | W 729.4 | | | | | | | | | | | | | | | | |
| | | 19 | 50-3" | - | 100 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 20 21 EOB | 50-4" | - | 50 | SS-9 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- Encountered water at 18.5'.
- Water at 15.1' inside HSA at completion.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

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PLATE 3

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 584+69, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL A | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 747.4 (MSL) EOB: 25.0 ft. |
| START: 5/15/23 END: 5/15/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.398485 N, 82.157302 W |

EXPLORATION ID **B-003-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 747.4 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FILL: Loose to medium-dense brown and gray **GRAVEL WITH SAND, SILT AND CLAY**, damp. | 746.1 | 1 | 6 4 4 | 12 | 67 | SS-1A | - | - | - | - | - | - | - | - | - | 15 | A-2-6 (V) | |
| | | | | | | SS-1B | - | - | - | - | - | - | - | - | - | 12 | A-4a (V) | |
| POSSIBLE FILL: Medium-dense becoming dense grayish-brown and gray **SANDY SILT**, little to some fine to coarse gravel, trace to little clay, damp. | 741.9 | 2 3 4 5 | 6 10 20 | 45 | 78 | SS-2 | - | 28 | 7 | 25 | 28 | 12 | NP | NP | NP | 9 | A-4a (1) | |
| Stiff brown mottled with gray **SILTY CLAY**, little to some fine to coarse sand, trace fine gravel, damp to moist. | 739.4 | 6 7 8 | 2 2 2 | 6 | 56 | SS-3 | 1.0-2.0 | 1 | 3 | 19 | 36 | 41 | 39 | 16 | 23 | 25 | A-6b (13) | |
| Hard reddish-brown **SILT AND CLAY**, some fine to coarse sand, trace fine to coarse gravel, damp. | 736.9 | 9 10 | 4 4 5 | 14 | 89 | SS-4 | 4.5+ | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| Hard reddish-brown **SILT AND CLAY**, little to some fine to coarse sand, partly similar to completely degraded shale, few iron oxide stains, damp. | 734.4 | 11 12 | 6 16 25 | 62 | 100 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 10 | A-6a (V) | |
| **SHALE**, brown, severely weathered, very weak, partly similar to hard soil. | | TR 13 14 | 8 16 21 | 56 | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 15 16 17 | 8 13 18 | 47 | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 18 19 20 | 8 13 12 | 38 | 100 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 21 22 | 10 20 20 | 60 | 100 | SS-9 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | 722.4 | EOB 23 24 25 | 11 18 21 | 59 | 100 | SS-10 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 16:51 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 4

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 586+73, 79' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL A | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 746.6 (MSL) EOB: 25.0 ft. |
| START: 5/15/23 END: 5/15/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.398934 N, 82.156890 W |

EXPLORATION ID **B-004-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 746.6 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT mixed with SANDY SILT, slightly organic. | 744.9 | 1 | 2 4 4 | 12 | 100 | SS-1A | - | - | - | - | - | - | - | - | - | 13 | Visual (V) | |
| POSSIBLE FILL: Hard gray **SILT AND CLAY**, little to some fine to coarse sand, trace to little fine to coarse gravel, damp. | | 2 | | | | SS-1B | 4.5+ | - | - | - | - | - | - | - | - | 12 | A-6a (V) | |
| | 741.1 | 3 | | | | | | | | | | | | | | | | |
| | | 4 | 8 18 6 | 36 | 67 | SS-2 | 4.5+ | - | - | - | - | - | - | - | - | 9 | A-6a (V) | |
| Stiff gray mottled with brown **CLAY**, "and" silt, little fine to coarse sand, trace fine gravel, damp to moist. | | 5 | | | | | | | | | | | | | | | | |
| | 738.6 | 6 | | | | | | | | | | | | | | | | |
| | | 7 | 2 2 3 | 8 | 67 | SS-3 | 1.0-2.0 | 3 | 3 | 11 | 40 | 43 | 44 | 19 | 25 | 23 | A-7-6 (15) | |
| Stiff to very-stiff brown becoming grayish-brown **SANDY SILT**, little fine to coarse gravel, little clay, damp. | | 8 | | | | | | | | | | | | | | | | |
| | | 9 | 1 2 3 | 8 | 78 | SS-4 | - | - | - | - | - | - | - | - | - | 18 | A-4a (V) | |
| | | 10 | | | | | | | | | | | | | | | | |
| | | 11 | | | | | | | | | | | | | | | | |
| | | 12 | 4 10 13 | 35 | 100 | SS-5 | 2.0-2.5 | - | - | - | - | - | - | - | - | 11 | A-4a (V) | |
| | | 13 | | | | | | | | | | | | | | | | |
| | | 14 | 8 3 3 | 9 | 56 | SS-6 | 1.0-1.5 | 23 | 12 | 13 | 35 | 17 | 25 | 15 | 10 | 12 | A-4a (3) | |
| | | 15 | | | | | | | | | | | | | | | | |
| | | 16 | | | | | | | | | | | | | | | | |
| | 729.1 | 17 | 10 13 9 | 33 | 100 | SS-7 | - | - | - | - | - | - | - | - | - | 14 | A-4a (V) | |
| **SHALE**, brown, severely weathered, very weak, partly similar to hard soil. | | 18 | | | | | | | | | | | | | | | | |
| | | 19 | 4 8 11 | 29 | 100 | SS-8 | - | - | - | - | - | - | - | - | - | 11 | Rock (V) | |
| | | 20 | | | | | | | | | | | | | | | | |
| | | 21 | | | | | | | | | | | | | | | | |
| | | 22 | 9 11 14 | 38 | 100 | SS-9 | - | - | - | - | - | - | - | - | - | 8 | Rock (V) | |
| | | 23 | | | | | | | | | | | | | | | | |
| | | 24 | 10 18 23 | 62 | 100 | SS-10 | - | - | - | - | - | - | - | - | - | 7 | Rock (V) | |
| | 721.6 | 25 | | | | | | | | | | | | | | | | |

TR

EOB

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 16:51 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 5

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 588+77, 79' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL A | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 746.2 (MSL) EOB: 24.2 ft. |
| START: 5/16/23 END: 5/16/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.399362 N, 82.156443 W |

EXPLORATION ID **B-004-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 746.2 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GR | CS | FS | SI | CL | LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT mixed with SANDY SILT, slightly organic. | 744.8 | 1 | | | | | | | | | | | | | | | | |
| | | | 2 3 2 | 8 | 67 | SS-1A | - | - | - | - | - | - | - | - | - | 17 | Visual (V) | |
| FILL: Very-stiff gray and dark-gray **SILTY CLAY**, little fine to coarse sand, trace fine gravel, few roots, slightly organic, damp. | 743.2 | 2 | | | | SS-1B | 3.0-3.5 | - | - | - | - | - | - | - | - | 16 | A-6b (V) | |
| | | 3 | | | | | | | | | | | | | | | | |
| POSSIBLE FILL: Stiff gray **SILTY CLAY**, little to some fine to coarse sand, trace fine gravel, slightly organic, moist. | 740.7 | 4 | 2 2 2 | 6 | 67 | SS-2 | 1.0-2.0 | 4 | 6 | 15 | 43 | 32 | 37 | 19 | 18 | 31 | A-6b (11) | |
| | | 5 | | | | | | | | | | | | | | | | |
| Very-stiff gray mottled with dark-gray **CLAY**, "and" silt, little fine to coarse sand, trace fine to coarse gravel, damp to moist. | 738.2 | 6 | | | | | | | | | | | | | | | | |
| | | 7 | 1 3 4 | 11 | 100 | SS-3 | 2.0-3.5 | - | - | - | - | - | - | - | - | 23 | A-7-6 (V) | |
| Hard brown **SILT AND CLAY**, some fine to coarse sand, trace fine to coarse gravel, damp. | 735.7 | 8 | | | | | | | | | | | | | | | | |
| | | 9 | 3 6 8 | 21 | 100 | SS-4 | 4.5+ | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| Dense brown **SANDY SILT**, little fine to coarse gravel, trace to little clay, dry to damp. | 730.7 | 10 | | | | | | | | | | | | | | | | |
| | | 11 | | | | | | | | | | | | | | | | |
| | | 12 | 5 14 14 | 42 | 100 | SS-5 | - | - | - | - | - | - | - | - | - | 9 | A-4a (V) | |
| | | 13 | | | | | | | | | | | | | | | | |
| | | 14 | 6 13 18 | 47 | 100 | SS-6 | - | - | - | - | - | - | - | - | - | 9 | A-4a (V) | |
| Hard reddish-brown **SILT AND CLAY**, little fine to coarse sand, little fine to coarse gravel (shale fragments), partly similar to very-weak shale, dry to damp. | 725.7 | 15 | | | | | | | | | | | | | | | | |
| | | 16 | | | | | | | | | | | | | | | | |
| | | 17 | 12 16 18 | 51 | 100 | SS-7 | - | 13 | 5 | 7 | 52 | 23 | 27 | 16 | 11 | 8 | A-6a (8) | |
| | | 18 | | | | | | | | | | | | | | | | |
| | | 19 | 6 12 18 | 45 | 100 | SS-8 | 4.5+ | - | - | - | - | - | - | - | - | 9 | A-6a (V) | |
| **SHALE**, reddish-brown, severely weathered, very weak. | 722.0 TR | 20 | | | | | | | | | | | | | | | | |
| | | 21 | 21 50 | - | 100 | SS-9 | - | - | - | - | - | - | - | - | - | 6 | Rock (V) | |
| | | 22 | | | | | | | | | | | | | | | | |
| | EOB | 23 | | | | | | | | | | | | | | | | |
| | | 24 | 22 50-3" | - | 100 | SS-10 | - | - | - | - | - | - | - | - | - | 6 | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 16:51 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 6

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 590+92, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL A | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 746.0 (MSL) EOB: 19.0 ft. |
| START: 5/16/23 END: 5/16/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.399785 N, 82.155931 W |

EXPLORATION ID **B-005-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 746.0 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 9 INCHES | 745.3 | | | | | | | | | | | | | | | | | |
| FILL: Medium-dense brown **GRAVEL WITH SAND AND SILT**, trace clay, few asphalt fragments, damp. | 743.0 | | 3 10 10 | 30 | 67 | SS-1 | 3.0-3.5 | 45 | 13 | 14 | 21 | 7 | 29 | 19 | 10 | 15 | A-2-4 (0) | |
| Very-stiff gray mottled with reddish-brown **CLAY**, "and" silt, little fine to coarse sand, trace fine gravel, few iron oxide stains, damp to moist. | 740.5 | | 2 2 3 | 8 | 78 | SS-2 | 2.0-2.5 | - | - | - | - | - | - | - | - | 23 | A-7-6 (V) | |
| Very-stiff brown mottled with gray **SILTY CLAY**, trace fine to coarse sand, trace fine gravel, damp. | 738.0 | | 3 3 6 | 14 | 56 | SS-3 | 2.0-4.0 | 2 | 1 | 6 | 57 | 34 | 34 | 17 | 17 | 15 | A-6b (11) | |
| Hard brown **SILT**, little to some clay, trace fine to coarse sand, trace fine gravel, partly similar to decomposed shale, dry. | 734.0 | | 19 24 50-3" | - | 100 | SS-4 | - | - | - | - | - | - | - | - | - | 9 | A-4b (V) | |
| | | | 19 50 | - | 100 | SS-5 | - | 6 | 1 | 4 | 69 | 20 | 26 | 17 | 9 | 9 | A-4b (8) | |
| **SHALE**, brownish-gray, severely weathered, very-weak to weak. | | TR ▽ 733.0 | 50 | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | 7 | Rock (V) | |
| | | W 730.0 | 50 | - | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | 727.0 | EOB | 50 | - | 100 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- Encountered water at 16.0'.
- Water measured at 13.0' inside HSA at completion.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 16:51 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\PROJECTS\217525A.GPJ

PLATE 7

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 592+98, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL A | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 745.2 (MSL) EOB: 25.0 ft. |
| START: 5/16/23 END: 5/16/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.400161 N, 82.155397 W |

EXPLORATION ID **B-005-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 745.2 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 9 INCHES | 744.5 | | | | | | | | | | | | | | | | | |
| FILL: Stiff to very-stiff gray **SILTY CLAY**, little fine to coarse sand, trace to little fine to coarse gravel, few roots, slightly organic, few medium-stiff zones, damp to moist. | | | 3 3 3 | 9 | 39 | SS-1 | 2.0-3.5 | - | - | - | - | - | - | - | - | 14 | A-6b (V) | |
| | 739.7 | | 2 2 3 | 8 | 67 | SS-2 | 0.5-1.5 | - | - | - | - | - | - | - | - | 22 | A-6b (V) | |
| Medium-dense brown **SILT**, little clay, trace fine to coarse sand, moist. | | | 2 4 4 | 12 | 89 | SS-3 | - | - | - | - | - | - | - | - | - | 21 | A-4b (V) | |
| | 734.7 | | 2 4 6 | 15 | 100 | SS-4 | - | 0 | 0 | 5 | 81 | 14 | NP | NP | NP | 21 | A-4b (8) | |
| Hard brown becoming gray **SANDY SILT**, little to some clay, trace to little fine to coarse gravel, few cobbles, damp. | | | 4 9 16 | 38 | 100 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 14 | A-4a (V) | |
| | | | 9 13 15 | 42 | 89 | SS-6 | 4.5+ | - | - | - | - | - | - | - | - | 11 | A-4a (V) | |
| | | | 14 16 22 | 57 | 100 | SS-7 | 4.5+ | 6 | 9 | 14 | 49 | 22 | 21 | 14 | 7 | 10 | A-4a (7) | |
| | 725.7 | TR | 16 26 50-4" | - | 100 | SS-8 | 4.5+ | - | - | - | - | - | - | - | - | 8 | A-4a (V) | |
| **SHALE**, reddish-brown and gray, severely weathered, very weak, few zones similar to hard soil. | | | 8 14 12 | 39 | 67 | SS-9 | - | - | - | - | - | - | - | - | - | 8 | Rock (V) | |
| | 720.2 | EOB | 7 16 16 | 48 | 100 | SS-10 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE



PLATE 8

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 595+00, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL A | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 744.7 (MSL) EOB: 10.5 ft. |
| START: 5/16/23 END: 5/16/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.400501 N, 82.154842 W |

EXPLORATION ID **B-006-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 744.7 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 8 INCHES | 744.0 | | | | | | | | | | | | | | | | | |
| FILL: Very-stiff gray and brown **SILTY CLAY**, some fine to coarse sand, trace fine gravel, damp. | 741.7 | | 3 3 4 | 11 | 67 | SS-1 | 2.0-3.0 | 4 | 3 | 23 | 40 | 30 | 31 | 15 | 16 | 15 | A-6b (9) | |
| **SANDSTONE**, reddish-brown and gray, severely weathered, very weak, few completely degraded zones similar to fine to coarse sand. | | TR | | | | | | | | | | | | | | | | |
| | | ▽ 739.2 | 8 16 37 | 80 | 67 | SS-2 | - | - | - | - | - | - | - | - | - | 14 | Rock (V) | |
| | | | 50-5" | - | 40 | SS-3 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | W 736.2 | 50 | - | 100 | SS-4 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | 734.2 | EOB | | | | | | | | | | | | | | | | |

NOTES:
- Encountered water at 8.5'.
- Encountered auger refusal at 10.5'.
- Water measured at 5.5' in HSA at completion.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 16:51 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 9

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 597+08, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL A | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 744.0 (MSL) EOB: 13.7 ft. |
| START: 5/16/23 END: 5/16/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.400821 N, 82.154238 W |

EXPLORATION ID **B-006-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 744.0 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 9 INCHES | 743.3 | | | | | | | | | | | | | | | | | |
| FILL: Stiff to very-stiff gray and brown **SILTY CLAY**, some fine to coarse sand, trace fine gravel, few medium-stiff zones, damp. | | | 2 2 3 | 8 | 78 | SS-1 | 2.0-3.0 | - | - | - | - | - | - | - | - | 14 | A-6b (V) | |
| | 738.5 | | 2 2 4 | 9 | 67 | SS-2 | 0.5-3.0 | 2 | 1 | 27 | 42 | 28 | 34 | 16 | 18 | 18 | A-6b (10) | |
| Dense to very-dense gray **SANDY SILT**, some fine to coarse gravel (sandstone fragments), trace clay, dry to damp. | 735.5 | | 9 17 19 | 54 | 67 | SS-3 | - | 27 | 3 | 29 | 35 | 6 | NP | NP | NP | 8 | A-4a (1) | |
| **SANDSTONE**, gray, severely weathered, very weak to weak. | | TR | 25 50-4" | - | 100 | SS-4 | - | - | - | - | - | - | - | - | - | 17 | Rock (V) | |
| | | W 733.0 | 50-5" | - | 100 | SS-5 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | 730.3 | EOB | 50-2" | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- Encountered seepage at 11'.

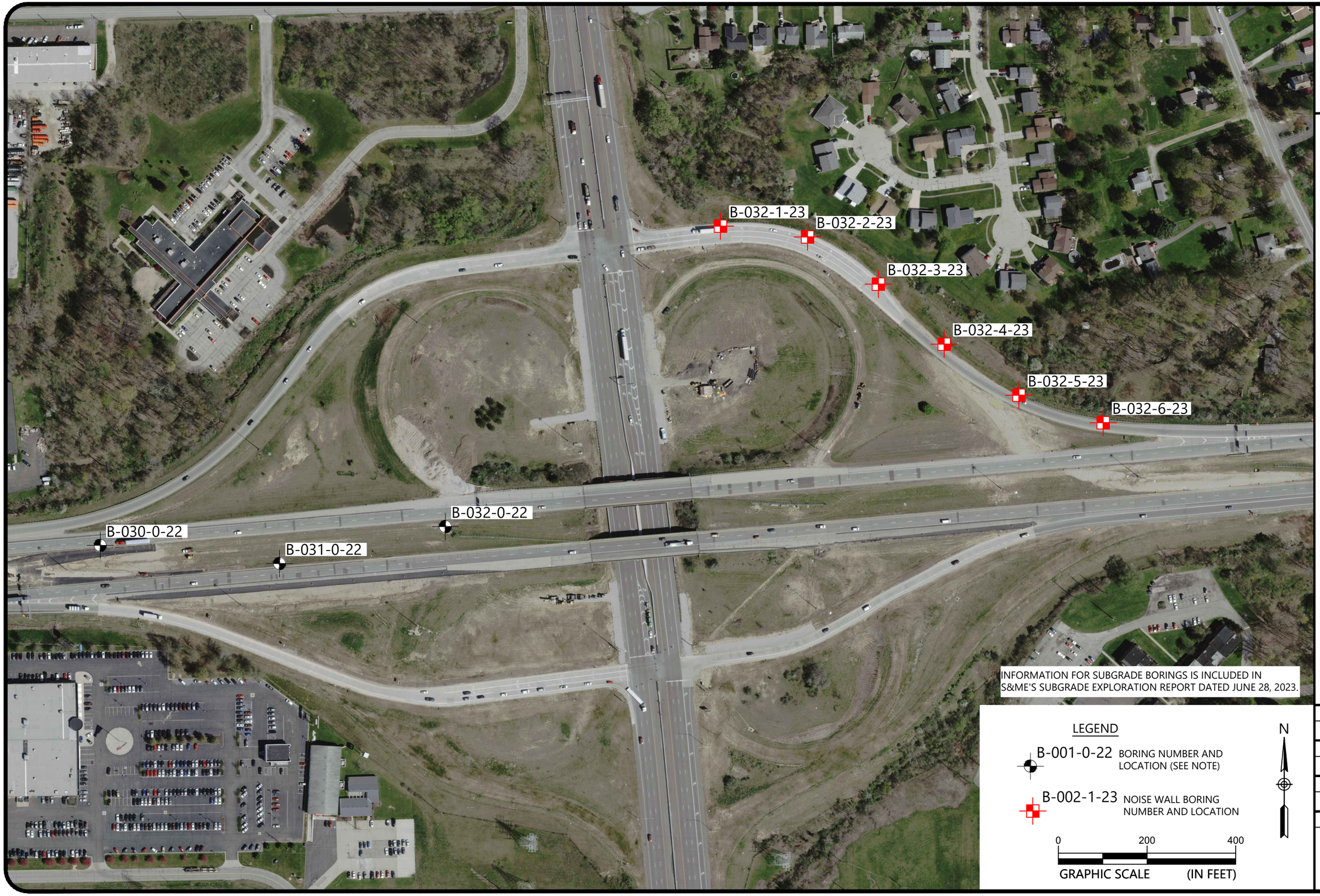
NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 16:51 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 10

# Appendix C – Noise Barrier Wall D




INFORMATION FOR SUBGRADE BORINGS IS INCLUDED IN S&ME'S SUBGRADE EXPLORATION REPORT DATED JUNE 28, 2023.

LEGEND

B-001-0-22 BORING NUMBER AND LOCATION (SEE NOTE)

B-002-1-23 NOISE WALL BORING NUMBER AND LOCATION

N

0 200 400

GRAPHIC SCALE (IN FEET)

# PLAN OF BORINGS

LOR-90-10.76 THIRD LANE WIDENING
NOISE BARRIER WALL EXPLORATION - WALL D
LORAIN COUNTY, OHIO

SCALE: SEE GRAPHIC

DATE: 08-29-2023

PROJECT NUMBER 217525A

FIGURE NO. 1

Drawing path: T:\Columbus-1170\Projects\2021\217525A_ODOT D3_LOR-90-10.76 Noise Walls_Sheffield OH\GEO\CAD\Construction\Plan of Borings.dwg

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 699+34, 645' LT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL D | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 692.8 (MSL) EOB: 25.0 ft. |
| START: 6/20/23 END: 6/20/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.406460 N, 82.116367 W |

EXPLORATION ID **B-032-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 692.8 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GR | CS | FS | SI | CL | LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONCRETE - 10 INCHES | 692.0 | | | | | | | | | | | | | | | | | |
| FILL: Loose gray **GRAVEL WITH SAND**, trace silt, trace clay, damp. | 690.8 | | 3 2 3 | 8 | 94 | SS-1 | - | - | - | - | - | - | - | - | - | 8 | A-1-b (V) | |
| | | | | | | SS-2 | 2.0-2.5 | - | - | - | - | - | - | - | - | 19 | A-6b (V) | |
| FILL: Very-stiff to hard gray, brown and reddish-brown **SILTY CLAY**, little to some fine to coarse sand, trace to little fine gravel, slightly organic, damp. | 687.3 | | 3 2 3 | 8 | 61 | SS-2 | 3.5-4.5+ | - | - | - | - | - | - | - | - | 16 | A-6b (V) | |
| POSSIBLE FILL: Very-stiff brown mottled with gray **CLAY**, "and" silt, trace fine to coarse sand, damp to moist. | 684.8 | | 2 3 5 | 12 | 78 | SS-3 | 2.0-3.0 | 0 | 0 | 1 | 40 | 59 | 52 | 19 | 33 | 22 | A-7-6 (18) | |
| Hard brown mottled with gray **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp to moist. | 679.8 | | 2 4 6 | 15 | 83 | SS-4 | 4.5+ | - | - | - | - | - | - | - | - | 19 | A-6b (V) | |
| | | | 3 4 7 | 17 | 100 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 25 | A-6b (V) | |
| Very-stiff to hard gray **SANDY SILT**, some to "and" clay, trace fine to coarse gravel, few seams of fine to coarse sand, becoming reddish-brown at 23.8 feet, damp. | | | 3 5 5 | 15 | 100 | SS-6 | 2.5-4.5+ | - | - | - | - | - | - | - | - | 17 | A-4a (V) | |
| | | | 3 5 7 | 18 | 100 | SS-7 | 2.0-3.0 | 6 | 12 | 16 | 30 | 36 | 26 | 16 | 10 | 17 | A-4a (6) | |
| | | | 5 7 10 | 26 | 100 | SS-8 | 4.5+ | - | - | - | - | - | - | - | - | 17 | A-4a (V) | |
| | | W 671.8 | 5 7 11 | 27 | 100 | SS-9 | 4.5+ | - | - | - | - | - | - | - | - | 15 | A-4a (V) | |
| | 667.8 | EOB | 6 8 10 | 27 | 100 | SS-10 | 4.5+ | - | - | - | - | - | - | - | - | 10 | A-4a (V) | |

NOTES:
- Encountered seepage at 21.0'.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 16:54 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 2

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 701+27, 605' LT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL D | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 696.7 (MSL) EOB: 25.0 ft. |
| START: 6/20/23 END: 6/20/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.406392 N, 82.115652 W |

EXPLORATION ID **B-032-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 696.7 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONCRETE - 9 INCHES | 695.9 | | | | | | | | | | | | | | | | | |
| GRANULAR BASE - 9 INCHES | 695.2 | | | | | | | | | | | | | | | | | |
| FILL: Very-stiff to hard gray and dark gray **SILTY CLAY**, some fine to coarse sand, trace fine to coarse gravel, slight solvent odor, damp. | | 1 | | | | | | | | | | | | | | | | |
| | | 2 | 6 7 7 | 21 | 78 | SS-1 | 4.5+ | - | - | - | - | - | - | - | - | 19 | A-6b (V) | |
| | | 3 | | | | | | | | | | | | | | | | |
| | | 4 | 5 6 6 | 18 | 67 | SS-2 | 2.0-3.0 | 8 | 8 | 16 | 27 | 41 | 37 | 17 | 20 | 21 | A-6b (11) | |
| | | 5 | | | | | | | | | | | | | | | | |
| | | 6 | | | | | | | | | | | | | | | | |
| | | 7 | 3 4 6 | 15 | 89 | SS-3 | 4.0-4.5+ | - | - | - | - | - | - | - | - | 19 | A-6b (V) | |
| | | 8 | | | | | | | | | | | | | | | | |
| | 686.2 | 9 | 1 5 4 | 14 | 100 | SS-4 | 3.0-4.5+ | - | - | - | - | - | - | - | - | 18 | A-6b (V) | |
| Stiff to very-stiff brown mottled with gray **CLAY**, "and" silt, trace fine to coarse sand, damp. | | 10 | | | | | | | | | | | | | | | | |
| | | 11 | | | | | | | | | | | | | | | | |
| | | 12 | 2 2 3 | 8 | 56 | SS-5 | 1.5-2.0 | 0 | 1 | 2 | 42 | 55 | 41 | 28 | 13 | 26 | A-7-6 (9) | |
| | | 13 | | | | | | | | | | | | | | | | |
| | | 14 | 2 5 5 | 15 | 94 | SS-6 | 2.0-3.5 | - | - | - | - | - | - | - | - | 20 | A-7-6 (V) | |
| | 681.2 | 15 | | | | | | | | | | | | | | | | |
| Hard gray mottled with brown **SILT AND CLAY**, little to some fine to coarse sand, trace fine to coarse gravel, few shale fragments, damp. | | 16 | | | | | | | | | | | | | | | | |
| | | 17 | 3 5 6 | 17 | 100 | SS-7 | 4.5+ | - | - | - | - | - | - | - | - | 16 | A-6a (V) | |
| | | 18 | | | | | | | | | | | | | | | | |
| | | 19 | 3 8 8 | 24 | 100 | SS-8 | 4.5+ | - | - | - | - | - | - | - | - | 16 | A-6a (V) | |
| | | 20 | | | | | | | | | | | | | | | | |
| | | 21 | | | | | | | | | | | | | | | | |
| | | 22 | 5 9 10 | 29 | 100 | SS-9 | 4.5+ | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| | | 23 | | | | | | | | | | | | | | | | |
| | 671.7 | 24 | 6 10 13 | 35 | 100 | SS-10 | 4.5+ | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| | EOB | 25 | | | | | | | | | | | | | | | | |

NOTES
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 16:54 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 3

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 702+78, 485' LT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL D | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 697.3 (MSL) EOB: 25.0 ft. |
| START: 6/20/23 END: 6/20/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.406098 N, 82.115071 W |

EXPLORATION ID **B-032-3-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 697.3 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONCRETE - 9-1/4 INCHES | 696.5 | | | | | | | | | | | | | | | | | |
| FILL: Very-dense gray **GRAVEL WITH SAND**, trace silt, trace clay, damp. | 694.6 | | 21 50-2" | - | 100 | SS-1 | - | - | - | - | - | - | - | - | - | 18 | A-1-b (V) | |
| FILL: Very-stiff gray, dark gray, reddish-brown and brown **SILTY CLAY**, some fine to coarse sand, trace to little fine to coarse gravel, few wood and brick fragments, slight asphalt odor in SS-3, damp. | 686.8 | W 691.3 | 2 4 5 | 14 | 61 | SS-2 | 2.0-3.0 | 15 | 11 | 21 | 25 | 28 | 35 | 17 | 18 | 19 | A-6b (7) | |
| | | | 5 7 18 | 38 | 72 | SS-3 | - | - | - | - | - | - | - | - | - | 17 | A-6b (V) | |
| | | | 1 3 5 | 12 | 100 | SS-4 | 2.0-4.0 | - | - | - | - | - | - | - | - | 14 | A-6b (V) | |
| Very-stiff to hard gray mottled with brown **CLAY**, "and" silt, trace fine to coarse sand, trace fine gravel, damp to moist. | 676.8 | W 684.3 | 2 2 4 | 9 | 78 | SS-5 | 2.0-3.0 | 0 | 0 | 1 | 36 | 63 | 44 | 21 | 23 | 25 | A-7-6 (14) | |
| | | | 3 7 10 | 26 | 100 | SS-6 | 4.5+ | - | - | - | - | - | - | - | - | 20 | A-7-6 (V) | |
| | | | 3 5 7 | 18 | 83 | SS-7 | 4.5+ | - | - | - | - | - | - | - | - | 25 | A-7-6 (V) | |
| | | | 2 5 8 | 20 | 100 | SS-8 | 4.5+ | - | - | - | - | - | - | - | - | 20 | A-7-6 (V) | |
| Hard brown mottled with gray **SILTY CLAY**, little fine to coarse sand, trace fine to coarse gravel, few sandstone fragments, damp. | 672.3 | EOB | 4 6 8 | 21 | 100 | SS-9 | 4.5+ | - | - | - | - | - | - | - | - | 17 | A-6b (V) | |
| | | | 3 7 11 | 27 | 100 | SS-10 | 4.5+ | - | - | - | - | - | - | - | - | 17 | A-6b (V) | |

NOTE
- Encountered seepage at 6.0'.
- Encountered water at 13.0'.
- After removing augers, borehole caved at 5.9' and was dry.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 16:54 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\PROJECTS\217525A.GPJ

PLATE 4

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 704+14, 338' LT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL D | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 6/6/22 | ELEVATION: 697.9 (MSL) EOB: 25.0 ft. |
| START: 6/20/23 END: 6/20/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 85.4 | COORD: 41.405724 N, 82.114532 W |

EXPLORATION ID **B-032-4-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 697.9 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 2 INCHES | 697.7 | | | | | | | | | | | | | | | | | |
| FILL: Very-stiff brown and gray **SILT AND CLAY**, little to some fine to coarse sand, trace fine to coarse gravel, few brick and wood fragments, damp. | 694.9 | | 3 8 8 | 23 | 100 | SS-1 | 3.5-4.0 | - | - | - | - | - | - | - | - | 13 | A-6a (V) | |
| FILL: Dense to very-dense gray and dark gray **GRAVEL WITH SAND** (shale fragments), trace silt, trace clay, few cobbles (shale fragments), dry to damp. | 690.4 | | 13 11 11 | 31 | 100 | SS-2 | - | - | - | - | - | - | - | - | - | 7 | A-1-b (V) | |
| | | | 50-5" | - | 100 | SS-3 | - | - | - | - | - | - | - | - | - | 8 | A-1-b (V) | |
| PROBABLE FILL: Very-stiff gray and brown **SILT AND CLAY**, some fine to coarse sand, little to some fine to coarse gravel, damp. | 687.4 | ▽ 688.9 | 4 8 8 | 23 | 100 | SS-4 | 3.0-3.5 | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| Very-stiff to hard brown mottled with gray **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp. | 677.4 | | 4 5 8 | 19 | 100 | SS-5 | 2.5-3.0 | 1 | 2 | 9 | 33 | 55 | 38 | 19 | 19 | 23 | A-6b (12) | |
| | | | 4 8 12 | 28 | 100 | SS-6 | 3.0-4.5 | - | - | - | - | - | - | - | - | 22 | A-6b (V) | |
| | | | 5 11 13 | 34 | 89 | SS-7 | 4.0-4.5 | - | - | - | - | - | - | - | - | 21 | A-6b (V) | |
| | | | 5 8 13 | 30 | 100 | SS-8 | 2.5-3.0 | - | - | - | - | - | - | - | - | 27 | A-6b (V) | |
| Very-stiff brown **SILT AND CLAY**, little to some fine to coarse sand, trace fine to coarse gravel, few cobbles, damp. | 672.9 | EOB | 4 5 11 | 23 | 100 | SS-9 | 2.5-3.0 | 7 | 7 | 12 | 33 | 41 | 28 | 15 | 13 | 18 | A-6a (9) | |
| | | | 7 8 12 | 28 | 89 | SS-10 | 2.0-2.5 | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |

NOTES
- Encountered water at 9.0'.
- Water measured at 9.0' inside HSA at completion.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 16:54 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 5

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 705+72, 209' LT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL D | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 6/6/22 | ELEVATION: 699.4 (MSL) EOB: 25.0 ft. |
| START: 6/20/23 END: 6/20/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 85.4 | COORD: 41.405406 N, 82.113921 W |

EXPLORATION ID **B-032-5-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 699.4 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 2 INCHES | 699.2 | | | | | | | | | | | | | | | | | |
| FILL: Hard brown and gray **SILT AND CLAY**, little to some fine to coarse sand, trace to little fine to coarse gravel, few brick fragments, damp. | 696.4 | | 3 5 15 | 28 | 100 | SS-1 | 4.5+ | - | - | - | - | - | - | - | - | 13 | A-6a (V) | |
| FILL: Very-stiff (est.) gray **SILT AND CLAY**, some fine to coarse gravel (shale fragments), some fine to coarse sand, dry. | 693.9 | | 5 15 20 | 50 | 100 | SS-2 | - | 35 | 15 | 8 | 30 | 12 | 27 | 16 | 11 | 7 | A-6a (2) | |
| FILL: Very-stiff gray **SILT AND CLAY**, little to some fine to coarse sand, trace fine to coarse gravel, few shale fragments, damp. | 691.4 | | 3 3 13 | 23 | 89 | SS-3 | 3.5-4.0 | - | - | - | - | - | - | - | - | 13 | A-6a (V) | |
| FILL: Very-stiff to hard (est.) gray **SILT AND CLAY**, some fine to coarse gravel, some fine to coarse sand, few cobbles and shale fragments, dry. | 689.4 | 689.4 ▽ | 50-5" | - | 100 | SS-4 | - | 23 | 15 | 9 | 30 | 23 | 30 | 16 | 14 | 7 | A-6a (5) | |
| Very-stiff gray **SILTY CLAY**, little to some fine to coarse sand, trace fine gravel (shale fragments), damp. | 683.9 | | 3 3 5 | 11 | 100 | SS-5 | 2.5-3.0 | - | - | - | - | - | - | - | - | 18 | A-6b (V) | |
| | | | 4 6 9 | 21 | 100 | SS-6 | 3.5-4.0 | - | - | - | - | - | - | - | - | 18 | A-6b (V) | |
| Stiff to very-stiff brown mottled with gray **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp. | 676.4 | | 3 5 6 | 16 | 100 | SS-7 | 2.5-3.0 | - | - | - | - | - | - | - | - | 22 | A-6b (V) | |
| | | | 3 3 6 | 13 | 100 | SS-8 | 1.5-2.0 | 6 | 7 | 6 | 29 | 52 | 38 | 18 | 20 | 27 | A-6b (12) | |
| | | | 3 5 7 | 17 | 100 | SS-9 | 2.0-2.5 | - | - | - | - | - | - | - | - | 20 | A-6b (V) | |
| Stiff to very-stiff gray **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, damp. | 674.4 | EOB | 3 5 16 | 30 | 100 | SS-10 | 1.5-2.5 | - | - | - | - | - | - | - | - | 16 | A-6a (V) | |

NOTES
- Encountered water at 10.0'.
- Water measured at 10.0' inside HSA at completion.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE



PLATE 6

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 707+57, 132' LT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL D | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 700.2 (MSL) EOB: 25.0 ft. |
| START: 6/20/23 END: 6/20/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.405234 N, 82.113229 W |

EXPLORATION ID **B-032-6-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 700.2 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASPHALT - 11 INCHES | 699.3 | | | | | | | | | | | | | | | | | |
| GRANULAR BASE - 4 INCHES | 698.9 | | | | | | | | | | | | | | | | | |
| FILL: Very-stiff to hard reddish-brown and gray **SILT AND CLAY**, little to some fine to coarse sand, trace fine gravel, few brick and shale fragments, damp. | 697.2 | | 1 2 3 | 8 | 72 | SS-1 | 3.0-4.5+ | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| FILL: Loose to medium-dense brown and gray **GRAVEL WITH SAND, SILT AND CLAY**, many shale fragments, damp. | 692.2 | | 2 3 3 | 9 | 67 | SS-2 | - | - | - | - | - | - | - | - | - | 7 | A-2-6 (V) | |
| | | | 5 3 4 | 11 | 56 | SS-3 | - | - | - | - | - | - | - | - | - | 10 | A-2-6 (V) | |
| PROBABLE FILL: Stiff to very-stiff gray **SILTY CLAY**, little to some fine to coarse gravel, trace to little fine to coarse sand, few shale fragments, damp. | 687.2 | | 2 2 3 | 8 | 33 | SS-4 | 1.5 | 26 | 4 | 4 | 31 | 35 | 33 | 17 | 16 | 11 | A-6b (9) | |
| | | | 1 3 5 | 12 | 72 | SS-5 | 2.5-3.0 | - | - | - | - | - | - | - | - | 12 | A-6b (V) | |
| Stiff to very-stiff grayish-brown **SILTY CLAY**, little fine to coarse sand, trace fine to coarse gravel, damp. | 682.2 | | 1 2 2 | 6 | 89 | SS-6 | 1.0-2.0 | 9 | 6 | 10 | 30 | 45 | 32 | 16 | 16 | 16 | A-6b (10) | |
| | | | 1 2 5 | 11 | 100 | SS-7 | 2.0-2.5 | - | - | - | - | - | - | - | - | 18 | A-6b (V) | |
| Hard brown mottled with gray **SILTY CLAY**, little fine to coarse sand, trace fine to coarse gravel, damp. | 675.2 | | 2 3 6 | 14 | 100 | SS-8 | 4.5+ | - | - | - | - | - | - | - | - | 17 | A-6b (V) | |
| | | | 4 6 8 | 21 | 100 | SS-9 | 4.5+ | - | - | - | - | - | - | - | - | 15 | A-6b (V) | |
| | | EOB | 3 6 8 | 21 | 100 | SS-10 | 4.5+ | - | - | - | - | - | - | - | - | 16 | A-6b (V) | |

NOTES
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 16:54 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 7

Date: 6/20/2023

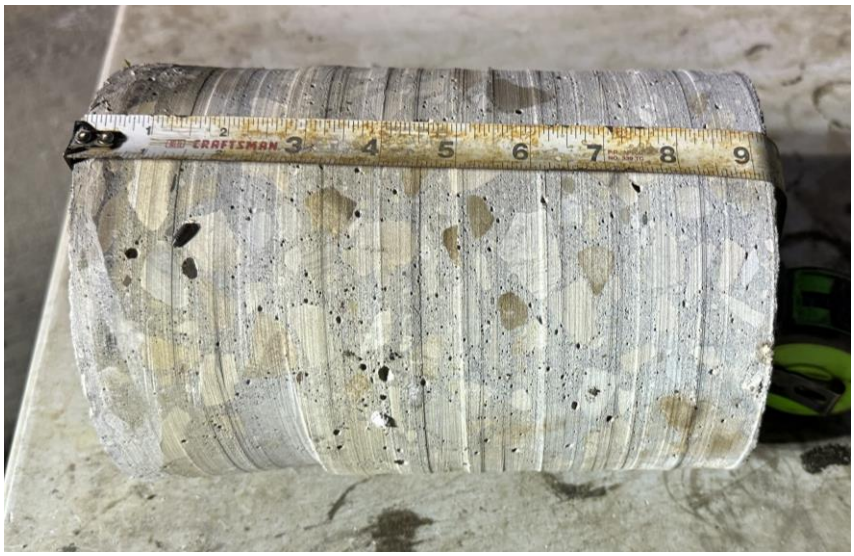
Photographer: NS

| | | |
|---|---|---|
| **1** | **Location / Orientation** | Pavement Core Recovered from Boring B-031-1-23 |
| | **Remarks** | 10" Concrete |

Date: 6/20/2023

Photographer: NS

| | | |
|---|---|---|
| **2** | **Location / Orientation** | Pavement Core Recovered from Boring B-031-2-23 |
| | **Remarks** | 9" Concrete |




Date: 6/20/2023

Photographer: NS

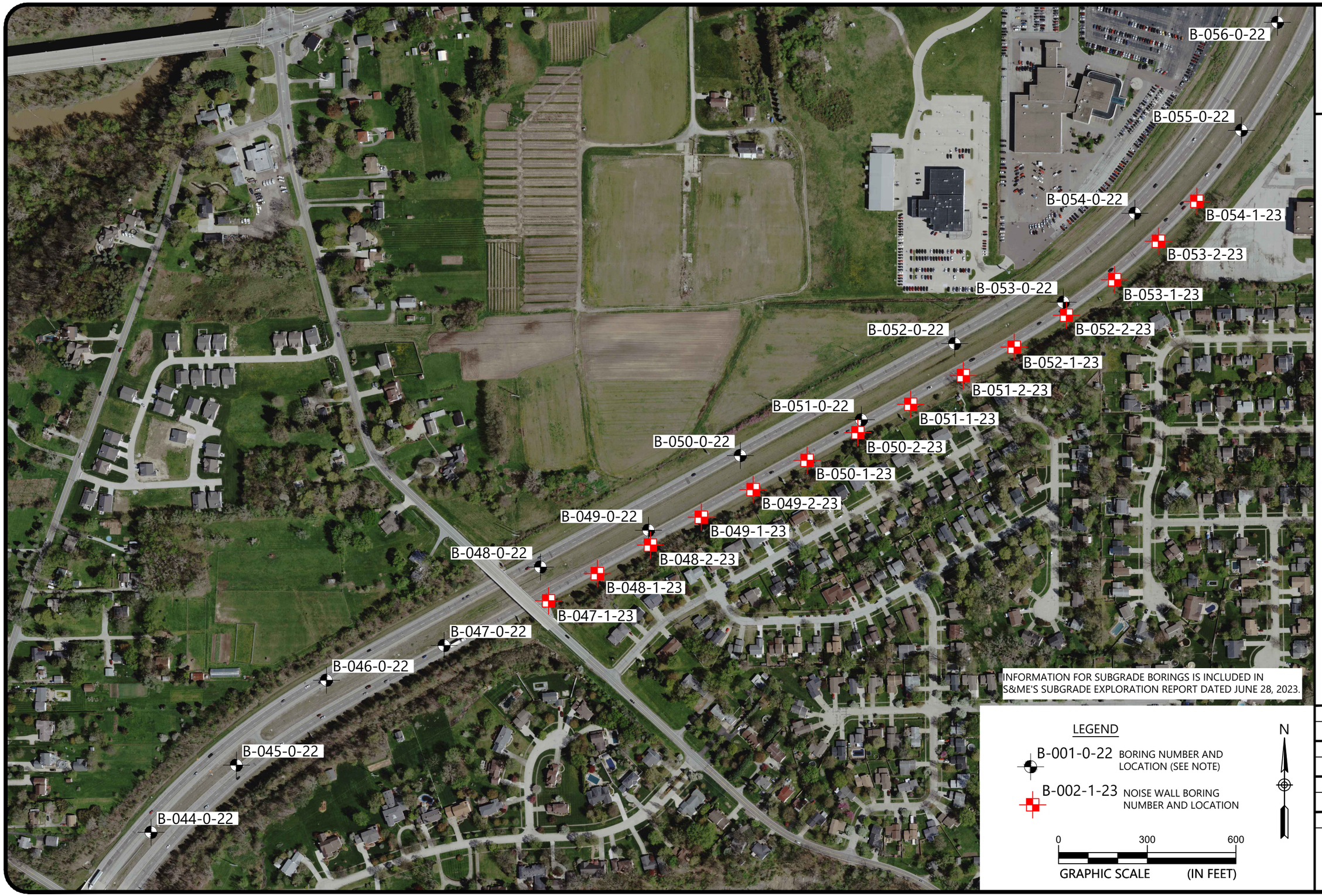
| | | |
|---|---|---|
| 3 | **Location / Orientation** | Pavement Core Recovered from Boring B-031-3-23 |
| | **Remarks** | 9-1/4" Concrete |


Date: 6/20/2023

Photographer: NS

| | | |
|---|---|---|
| 4 | **Location / Orientation** | Pavement Core Recovered from Boring B-031-6-23 |
| | **Remarks** | 11" Asphalt |

# Appendix D – Noise Barrier Wall E




INFORMATION FOR SUBGRADE BORINGS IS INCLUDED IN S&ME'S SUBGRADE EXPLORATION REPORT DATED JUNE 28, 2023.

LEGEND

B-001-0-22 BORING NUMBER AND LOCATION (SEE NOTE)

B-002-1-23 NOISE WALL BORING NUMBER AND LOCATION

N

0 300 600

GRAPHIC SCALE (IN FEET)

# PLAN OF BORINGS

LOR-90-10.76 THIRD LANE WIDENING
NOISE BARRIER WALL EXPLORATION - WALL E
LORAIN COUNTY, OHIO

SCALE: SEE GRAPHIC

DATE: 08-29-2023

PROJECT NUMBER 217525A

FIGURE NO. 1

Drawing path: T:\Columbus-1170\Projects\2021\217525A_ODOT D3_LOR-90-10.76 Noise Walls_Sheffield OH\GEO\CAD\Construction\Plan of Borings.dwg

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 780+36, 81' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL E | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 674.7 (MSL) EOB: 23.8 ft. |
| START: 5/17/23 END: 5/17/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.415676 N, 82.092958 W |

EXPLORATION ID **B-047-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 674.7 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT MIXED WITH GRANULAR FILL - 16 INCHES | 673.4 | | | | | | | | | | | | | | | | | |
| Very-stiff to hard brown mottled with gray **SILT AND CLAY**, little to some fine to coarse sand, trace to little fine to coarse gravel, damp. | | 1 | 3 4 6 | 14 | 67 | SS-1 | 3.5-4.5 | - | - | - | - | - | - | - | - | 16 | A-6a (V) | |
| | | 2 | | | | | | | | | | | | | | | | |
| | | 3 | 3 4 4 | 11 | 33 | SS-2 | 4.5+ | - | - | - | - | - | - | - | - | 19 | A-6a (V) | |
| | | 4 | | | | | | | | | | | | | | | | |
| | | 5 | 3 4 6 | 14 | 67 | SS-3 | 3.0-4.5 | 10 | 8 | 13 | 27 | 42 | 28 | 15 | 13 | 16 | A-6a (8) | |
| | | 6 | | | | | | | | | | | | | | | | |
| | | 7 | 3 6 6 | 17 | 67 | SS-4 | 3.0-4.5 | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| | 664.2 | 8 | | | | | | | | | | | | | | | | |
| Hard grayish-brown becoming gray **SANDY SILT**, some clay, trace fine to coarse gravel (shale fragments), damp. | | 9 | 4 7 10 | 24 | 100 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 15 | A-4a (V) | |
| | | 10 | | | | | | | | | | | | | | | | |
| | | 11 | 5 12 21 | 46 | 89 | SS-6 | 4.5+ | 9 | 9 | 13 | 38 | 31 | 25 | 15 | 10 | 14 | A-4a (7) | |
| | | 12 | | | | | | | | | | | | | | | | |
| | | 13 | 13 18 23 | 57 | 100 | SS-7 | 4.5+ | - | - | - | - | - | - | - | - | 10 | A-4a (V) | |
| | 655.7 | 14 | | | | | | | | | | | | | | | | |
| **SHALE**, gray, severely weathered, very-weak to weak, partly similar to hard soil. | | 15 | 27 50-4" | - | 100 | SS-8 | - | - | - | - | - | - | - | - | - | 8 | A-4a (V) | |
| | | 16 | | | | | | | | | | | | | | | | |
| | | 17 | 38 50-3" | - | 100 | SS-9 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | 650.9 | 18 | | | | | | | | | | | | | | | | |
| | | 19 | 50-3" | - | 100 | SS-10 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 20 | | | | | | | | | | | | | | | | |
| | | 21 | | | | | | | | | | | | | | | | |
| | | 22 | | | | | | | | | | | | | | | | |
| | | 23 | | | | | | | | | | | | | | | | |
| | | TR | | | | | | | | | | | | | | | | |
| | | EOB | | | | | | | | | | | | | | | | |

NOTES
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:42 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 2

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 782+25, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL E | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 676.0 (MSL) EOB: 23.8 ft. |
| START: 5/17/23 END: 5/17/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.415927 N, 82.092355 W |

EXPLORATION ID **B-048-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 676.0 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 9 INCHES | 675.2 | | | | | | | | | | | | | | | | | |
| Hard brown **SILTY CLAY**, trace fine to coarse sand, trace fine gravel, damp. | | 1 | 2 4 7 | 15 | 67 | SS-1 | 4.5+ | - | - | - | - | - | - | - | - | 23 | A-6b (V) | |
| | | 2 | | | | | | | | | | | | | | | | |
| | | 3 | | | | | | | | | | | | | | | | |
| | | 4 | 3 5 7 | 17 | 72 | SS-2 | 4.5+ | 0 | 0 | 1 | 35 | 64 | 40 | 18 | 22 | 21 | A-6b (13) | |
| | | 5 | | | | | | | | | | | | | | | | |
| | 669.6 | 6 | 3 5 6 | 15 | 72 | SS-3A | - | - | - | - | - | - | - | - | - | 16 | A-6b (V) | |
| Very-stiff to hard gray mottled with brown **SILT AND CLAY**, little to some fine to coarse sand, trace fine to coarse gravel, many shale fragments below 18 feet, damp. | | 7 | | | | SS-3B | 2.0-2.5 | - | - | - | - | - | - | - | - | - | A-6a (V) | |
| | | 8 | | | | | | | | | | | | | | | | |
| | | 9 | 3 5 7 | 17 | 100 | SS-4 | 2.0-2.5 | 6 | 8 | 12 | 32 | 42 | 29 | 15 | 14 | 16 | A-6a (9) | |
| | | 10 | | | | | | | | | | | | | | | | |
| | | 11 | 6 8 11 | 26 | 100 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| | | 12 | | | | | | | | | | | | | | | | |
| | | 13 | | | | | | | | | | | | | | | | |
| | | 14 | 6 9 13 | 31 | 89 | SS-6 | 4.5+ | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| | | 15 | | | | | | | | | | | | | | | | |
| | | 16 | | | | | | | | | | | | | | | | |
| | | 17 | 7 14 18 | 44 | 89 | SS-7 | 4.5+ | - | - | - | - | - | - | - | - | 10 | A-6a (V) | |
| | | 18 | | | | | | | | | | | | | | | | |
| | | 19 | 28 50-3" | - | 100 | SS-8 | 4.5+ | 6 | 8 | 12 | 41 | 33 | 26 | 14 | 12 | 10 | A-6a (9) | |
| | | 20 | | | | | | | | | | | | | | | | |
| | 654.5 | 21 | 23 50 | - | 100 | SS-9A | - | - | - | - | - | - | - | - | - | 11 | A-6a (V) | |
| | | TR | | | | SS-9B | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| **SHALE**, dark gray, severely to highly weathered, very-weak to weak. | | 22 | | | | | | | | | | | | | | | | |
| | 652.2 | 23 | | | | | | | | | | | | | | | | |
| | | EOB | 50-3" | - | 100 | SS-10 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:42 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 3

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 784+29, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL E | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 678.0 (MSL) EOB: 24.3 ft. |
| START: 5/17/23 END: 5/17/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.416189 N, 82.091698 W |

EXPLORATION ID **B-048-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 678.0 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 9 INCHES | 677.2 | | | | | | | | | | | | | | | | | |
| Hard brown mottled with gray **SILTY CLAY**, trace to little fine to coarse sand, trace fine gravel, damp. | | 1 | | | | | | | | | | | | | | | | |
| | | 2 | 2 4 7 | 15 | 72 | SS-1 | 4.0-4.5 | - | - | - | - | - | - | - | - | 20 | A-6b (V) | |
| | | 3 | | | | | | | | | | | | | | | | |
| | | 4 | 4 6 8 | 19 | 100 | SS-2 | 4.5+ | - | - | - | - | - | - | - | - | 23 | A-6b (V) | |
| | | 5 | | | | | | | | | | | | | | | | |
| | | 6 | | | | | | | | | | | | | | | | |
| | | 7 | 3 5 8 | 18 | 100 | SS-3 | 4.5+ | - | - | - | - | - | - | - | - | 26 | A-6b (V) | |
| | 670.0 | 8 | | | | | | | | | | | | | | | | |
| Stiff gray **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp to moist. | | 9 | 2 2 5 | 10 | 100 | SS-4 | 1.5-2.0 | - | - | - | - | - | - | - | - | 27 | A-6b (V) | |
| | 667.5 | 10 | | | | | | | | | | | | | | | | |
| Very-stiff to hard gray **SILT AND CLAY**, little to some fine to coarse sand, trace fine to coarse gravel, few seams of fine to coarse sand, shale fragments below 21 feet, damp. | | 11 | | | | | | | | | | | | | | | | |
| | | 12 | 3 5 7 | 17 | 67 | SS-5 | 1.5-2.0 | 8 | 9 | 12 | 29 | 42 | 28 | 14 | 14 | 16 | A-6a (9) | |
| | | 13 | | | | | | | | | | | | | | | | |
| | | 14 | 3 6 8 | 19 | 89 | SS-6 | 3.0-3.5 | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| | | 15 | | | | | | | | | | | | | | | | |
| | | 16 | | | | | | | | | | | | | | | | |
| | | 17 | 11 12 17 | 40 | 100 | SS-7 | 4.5+ | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| | | 18 | | | | | | | | | | | | | | | | |
| | | 19 | 17 25 50-4" | - | 100 | SS-8 | 4.5+ | - | - | - | - | - | - | - | - | 8 | A-6a (V) | |
| | | 20 | | | | | | | | | | | | | | | | |
| | | 21 | | | | | | | | | | | | | | | | |
| | | 22 | 14 25 28 | 73 | 100 | SS-9 | 4.5+ | 9 | 7 | 8 | 37 | 39 | 27 | 14 | 13 | 10 | A-6a (9) | |
| | | 23 | | | | | | | | | | | | | | | | |
| | 653.7 | 24 EOB | 28 50-3" | - | 100 | SS-10 | 4.5+ | - | - | - | - | - | - | - | - | 8 | A-6a (V) | |

NOTES:
- Encountered split-spoon refusal on possible shale at 24.3'.
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE



PLATE 4

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 786+25, 77' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL E | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 679.9 (MSL) EOB: 25.0 ft. |
| START: 5/17/23 END: 5/17/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.416445 N, 82.091070 W |

EXPLORATION ID **B-049-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 679.9 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 11 INCHES | 679.0 | | | | | | | | | | | | | | | | | |
| Very-stiff to hard brown mottled with gray **SILTY CLAY**, trace fine to coarse sand, damp. | | 1 | 3 3 6 | 12 | 50 | SS-1 | 4.5+ | - | - | - | - | - | - | - | - | 20 | A-6b (V) | |
| | | 2 | | | | | | | | | | | | | | | | |
| | | 3 | | | | | | | | | | | | | | | | |
| | | 4 | 3 5 6 | 15 | 78 | SS-2 | 4.5+ | 0 | 0 | 1 | 42 | 57 | 37 | 19 | 18 | 22 | A-6b (11) | |
| | | 5 | | | | | | | | | | | | | | | | |
| | | 6 | | | | | | | | | | | | | | | | |
| | | 7 | 3 7 10 | 24 | 83 | SS-3 | 4.5+ | - | - | - | - | - | - | - | - | 21 | A-6b (V) | |
| | | 8 | | | | | | | | | | | | | | | | |
| | | 9 | 3 5 7 | 17 | 100 | SS-4 | 2.5-4.5 | - | - | - | - | - | - | - | - | 21 | A-6b (V) | |
| | 669.4 | 10 | | | | | | | | | | | | | | | | |
| Very-stiff to hard gray mottled with brown **SILT AND CLAY**, little to some fine to coarse sand, trace fine to coarse gravel, damp. | | 11 | | | | | | | | | | | | | | | | |
| | | 12 | 3 5 7 | 17 | 67 | SS-5 | 2.0-3.5 | - | - | - | - | - | - | - | - | 16 | A-6a (V) | |
| | | 13 | | | | | | | | | | | | | | | | |
| | | 14 | 4 6 8 | 19 | 67 | SS-6 | 3.0-3.5 | 7 | 7 | 10 | 35 | 41 | 29 | 15 | 14 | 14 | A-6a (10) | |
| | | 15 | | | | | | | | | | | | | | | | |
| | | 16 | 6 9 12 | 29 | 100 | SS-7 | 4.5+ | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| | 659.4 | 17 | | | | | | | | | | | | | | | | |
| Hard gray **SANDY SILT**, some clay, trace to little fine to coarse gravel, dry to damp. | | 18 | | | | | | | | | | | | | | | | |
| | | 19 | 5 8 13 | 29 | 100 | SS-8 | 4.5+ | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| | | 20 | | | | | | | | | | | | | | | | |
| | | 21 | 8 13 17 | 42 | 100 | SS-9 | 4.5+ | - | - | - | - | - | - | - | - | 7 | A-4a (V) | |
| | | 22 | | | | | | | | | | | | | | | | |
| | | 23 | | | | | | | | | | | | | | | | |
| | 654.9 | 24 | 13 21 26 | 65 | 67 | SS-10 | 4.5+ | - | - | - | - | - | - | - | - | 10 | A-4a (V) | |
| | | EOB 25 | | | | | | | | | | | | | | | | |

NOTES
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:42 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 5

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 788+24, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL E | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 681.7 (MSL) EOB: 25.0 ft. |
| START: 5/17/23 END: 5/17/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.416700 N, 82.090430 W |

EXPLORATION ID **B-049-2-23**

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| MATERIAL DESCRIPTION AND NOTES | ELEV. 681.7 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 11 INCHES | 680.8 | | | | | | | | | | | | | | | | | |
| Hard brown mottled with gray **SILTY CLAY**, trace to little fine to coarse sand, trace fine gravel, damp. | 673.7 | 1 | 2 3 8 | 15 | 67 | SS-1 | 4.5+ | - | - | - | - | - | - | - | - | 20 | A-6b (V) | |
| | | 2 | | | | | | | | | | | | | | | | |
| | | 3 | 3 4 6 | 14 | 50 | SS-2 | 4.5+ | - | - | - | - | - | - | - | - | 20 | A-6b (V) | |
| | | 4 | | | | | | | | | | | | | | | | |
| | | 5 | | | | | | | | | | | | | | | | |
| | | 6 | 3 6 8 | 19 | 78 | SS-3 | 4.5+ | - | - | - | - | - | - | - | - | 20 | A-6b (V) | |
| | | 7 | | | | | | | | | | | | | | | | |
| Very-stiff to hard brown becoming grayish-brown **SANDY SILT**, some clay, trace fine gravel, damp. | 668.7 | 8 | | | | | | | | | | | | | | | | |
| | | 9 | 4 7 12 | 26 | 100 | SS-4 | 4.5+ | - | - | - | - | - | - | - | - | 10 | A-4a (V) | |
| | | 10 | | | | | | | | | | | | | | | | |
| | | 11 | | | | | | | | | | | | | | | | |
| | | 12 | 3 5 8 | 18 | 100 | SS-5 | 2.5-3.5 | 4 | 8 | 18 | 45 | 25 | 21 | 13 | 8 | 11 | A-4a (7) | |
| Very-stiff gray **SANDY SILT**, some clay, trace fine gravel, damp. | 666.2 | 13 | | | | | | | | | | | | | | | | |
| | | 14 | 2 3 5 | 11 | 67 | SS-6 | 2.0-3.0 | - | - | - | - | - | - | - | - | 14 | A-4a (V) | |
| | | 15 | | | | | | | | | | | | | | | | |
| Hard gray **SILT AND CLAY**, little to some fine to coarse sand, trace fine to coarse gravel, damp. | 661.2 | 16 | | | | | | | | | | | | | | | | |
| | | 17 | 4 6 10 | 22 | 67 | SS-7 | 4.5+ | - | - | - | - | - | - | - | - | 13 | A-6a (V) | |
| | | 18 | | | | | | | | | | | | | | | | |
| | | 19 | 5 8 10 | 25 | 83 | SS-8 | 4.5+ | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| | | 20 | | | | | | | | | | | | | | | | |
| Very-dense gray and brown **GRAVEL WITH SAND AND SILT**, trace clay, damp. | 656.7 | 21 | | | | | | | | | | | | | | | | |
| | | 22 | 13 32 34 | 92 | 100 | SS-9 | - | 26 | 25 | 16 | 23 | 10 | 20 | 13 | 7 | 8 | A-2-4 (0) | |
| | | 23 | | | | | | | | | | | | | | | | |
| | | 24 | 16 25 30 | 76 | 89 | SS-10 | - | - | - | - | - | - | - | - | - | 9 | A-2-4 (V) | |
| | | EOB 25 | | | | | | | | | | | | | | | | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:42 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINTW\PROJECTS\217525A.GPJ

PLATE 6

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 790+31, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL E | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 683.6 (MSL) EOB: 25.0 ft. |
| START: 5/18/23 END: 5/18/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.416968 N, 82.089763 W |

EXPLORATION ID **B-050-1-23**

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| MATERIAL DESCRIPTION AND NOTES | ELEV. 683.6 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 13 INCHES | 682.5 | | | | | | | | | | | | | | | | | |
| POSSIBLE FILL: Very-stiff to hard dark-gray and gray mottled with brown **CLAY**, some silt, trace fine to coarse sand, trace fine gravel, damp. | 678.1 | 1 2 3 4 5 | 3 2 5 | 10 | 56 | SS-1 | 3.0-3.5 | - | - | - | - | - | - | - | - | 22 | A-7-6 (V) | |
| | | | 3 5 6 | 15 | 50 | SS-2 | 3.5-4.5 | 1 | 2 | 5 | 27 | 65 | 51 | 21 | 30 | 21 | A-7-6 (18) | |
| Hard gray mottled with brown **CLAY**, some silt, trace to little fine to coarse sand, trace fine gravel, damp. | 673.1 | 6 7 8 9 10 | 3 7 11 | 25 | 67 | SS-3 | 4.5+ | - | - | - | - | - | - | - | - | 22 | A-7-6 (V) | |
| | | | 7 10 14 | 33 | 78 | SS-4 | 4.5+ | - | - | - | - | - | - | - | - | 20 | A-7-6 (V) | |
| Hard gray **SILT AND CLAY**, some fine to coarse sand, trace fine to coarse gravel, damp. | 670.6 | 11 12 13 | 7 13 13 | 36 | 100 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 13 | A-6a (V) | |
| Hard gray **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp. | 668.1 | 14 15 | 4 7 9 | 22 | 100 | SS-6 | 4.5+ | - | - | - | - | - | - | - | - | 18 | A-6b (V) | |
| Very-stiff to hard gray mottled with brown **SANDY SILT**, "and" clay, trace fine to coarse gravel, few shale fragments in SS-10. | 658.6 | 16 17 18 19 20 21 22 23 24 25 EOB | 5 7 9 | 22 | 100 | SS-7 | 2.5-3.5 | 6 | 7 | 11 | 33 | 43 | 29 | 20 | 9 | 15 | A-4a (8) | |
| | | | 5 7 9 | 22 | 33 | SS-8 | 2.0-3.0 | - | - | - | - | - | - | - | - | 15 | A-4a (V) | |
| | | | 5 7 11 | 25 | 100 | SS-9 | 4.5+ | - | - | - | - | - | - | - | - | 14 | A-4a (V) | |
| | | | 9 26 29 | 76 | 100 | SS-10 | 4.5+ | - | - | - | - | - | - | - | - | 10 | A-4a (V) | |

NOTES
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:42 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 7

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 792+27, 77' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL E | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 685.3 (MSL) EOB: 25.0 ft. |
| START: 5/18/23 END: 5/18/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.417223 N, 82.089136 W |

EXPLORATION ID **B-050-2-23**

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| MATERIAL DESCRIPTION AND NOTES | ELEV. 685.3 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 14 INCHES | 684.1 | 1 | | | | | | | | | | | | | | | | |
| FILL: Stiff to very-stiff dark-gray **CLAY**, some to "and" silt, some fine to coarse sand, trace fine gravel, damp. | | 2 | 3 3 5 | 11 | 67 | SS-1 | 1.5-3.0 | - | - | - | - | - | - | - | - | 20 | A-7-6 (V) | |
| | | 3 | | | | | | | | | | | | | | | | |
| | | 4 | 3 4 6 | 14 | 72 | SS-2 | 1.5-2.5 | 1 | 7 | 18 | 33 | 41 | 41 | 20 | 21 | 23 | A-7-6 (12) | |
| | 680.3 | 5 | | | | | | | | | | | | | | | | |
| Very-stiff brown mottled with gray **SILTY CLAY**, trace fine to coarse sand, trace fine gravel, damp to moist. | | 6 | | | | | | | | | | | | | | | | |
| | | 7 | 2 5 6 | 15 | 67 | SS-3 | 2.5-3.0 | - | - | - | - | - | - | - | - | 23 | A-6b (V) | |
| | | 8 | | | | | | | | | | | | | | | | |
| | | 9 | 3 6 8 | 19 | 78 | SS-4 | 3.5-4.5 | - | - | - | - | - | - | - | - | 23 | A-6b (V) | |
| | | 10 | | | | | | | | | | | | | | | | |
| | | 11 | | | | | | | | | | | | | | | | |
| | | 12 | 4 6 9 | 21 | 100 | SS-5 | 3.5-4.0 | - | - | - | - | - | - | - | - | 24 | A-6b (V) | |
| | | 13 | | | | | | | | | | | | | | | | |
| | | 14 | 3 4 6 | 14 | 67 | SS-6 | 2.5-3.0 | - | - | - | - | - | - | - | - | 21 | A-6b (V) | |
| | | 15 | | | | | | | | | | | | | | | | |
| | | 16 | | | | | | | | | | | | | | | | |
| | | 17 | 3 5 7 | 17 | 67 | SS-7 | 2.0-3.0 | 0 | 0 | 1 | 40 | 59 | 37 | 18 | 19 | 24 | A-6b (12) | |
| | 667.3 | 18 | | | | | | | | | | | | | | | | |
| Very-stiff gray mottled with brown **CLAY**, some to "and" silt, little fine to coarse sand, trace fine gravel, damp. | | 19 | | | | | | | | | | | | | | | | |
| | | 20 | 3 6 7 | 18 | 83 | SS-8 | 2.5-3.5 | - | - | - | - | - | - | - | - | 14 | A-7-6 (V) | |
| | | 21 | | | | | | | | | | | | | | | | |
| | | 22 | 4 5 9 | 19 | 67 | SS-9 | 2.5-3.5 | 6 | 7 | 11 | 36 | 40 | 42 | 18 | 24 | 16 | A-7-6 (14) | |
| | | 23 | | | | | | | | | | | | | | | | |
| | 660.3 | 24 | 5 9 12 | 29 | 83 | SS-10 | - | - | - | - | - | - | - | - | - | 15 | A-7-6 (V) | |
| | EOB | 25 | | | | | | | | | | | | | | | | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE



PLATE 8

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 794+29, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL E | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 686.7 (MSL) EOB: 25.0 ft. |
| START: 5/18/23 END: 5/18/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.417484 N, 82.088484 W |

EXPLORATION ID **B-051-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 686.7 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 13 INCHES | 685.6 | | | | | | | | | | | | | | | | | |
| FILL: Very-stiff dark-gray, brown and gray **CLAY**, some silt, little to some fine to coarse sand, trace fine gravel, damp to moist. | 681.2 | 1 | 4 2 5 | 10 | 50 | SS-1 | 2.0-3.0 | - | - | - | - | - | - | - | - | 21 | A-7-6 (V) | |
| | | 2 | | | | | | | | | | | | | | | | |
| | | 3 | | | | | | | | | | | | | | | | |
| | | 4 | 2 2 5 | 10 | 67 | SS-2 | 2.5-3.5 | - | - | - | - | - | - | - | - | 29 | A-7-6 (V) | |
| | | 5 | | | | | | | | | | | | | | | | |
| Very-stiff to hard gray mottled with brown **CLAY**, some to "and" silt, little fine to coarse sand, trace fine gravel, damp. | 676.2 | 6 | 2 4 5 | 12 | 67 | SS-3 | 2.5-4.0 | 0 | 4 | 10 | 33 | 53 | 41 | 20 | 21 | 19 | A-7-6 (13) | |
| | | 7 | | | | | | | | | | | | | | | | |
| | | 8 | | | | | | | | | | | | | | | | |
| | | 9 | 2 3 5 | 11 | 67 | SS-4 | 4.0-4.5 | - | - | - | - | - | - | - | - | 23 | A-7-6 (V) | |
| | | 10 | | | | | | | | | | | | | | | | |
| Very-stiff to hard brown mottled with gray **SILTY CLAY**, trace to little fine to coarse sand, trace fine gravel, damp. | 671.2 | 11 | 5 9 12 | 29 | 100 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 15 | A-6b (V) | |
| | | 12 | | | | | | | | | | | | | | | | |
| | | 13 | | | | | | | | | | | | | | | | |
| | | 14 | 5 8 11 | 26 | 100 | SS-6 | 3.0-3.5 | - | - | - | - | - | - | - | - | 16 | A-6b (V) | |
| | | 15 | | | | | | | | | | | | | | | | |
| Stiff to very-stiff gray **SILT AND CLAY**, little to some fine to coarse sand, trace fine to coarse gravel, few shale fragments below 20', becoming hard below 23', damp. | 661.7 | 16 | 4 6 8 | 19 | 78 | SS-7 | 1.5-2.0 | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| | | 17 | | | | | | | | | | | | | | | | |
| | | 18 | | | | | | | | | | | | | | | | |
| | | 19 | 3 6 8 | 19 | 67 | SS-8 | 2.5-3.0 | - | - | - | - | - | - | - | - | 16 | A-6a (V) | |
| | | 20 | | | | | | | | | | | | | | | | |
| | | 21 | | | | | | | | | | | | | | | | |
| | | 22 | 3 5 7 | 17 | 67 | SS-9 | 1.0-1.5 | 5 | 8 | 12 | 33 | 42 | 28 | 16 | 12 | 17 | A-6a (9) | |
| | | 23 | | | | | | | | | | | | | | | | |
| | | 24 | 5 6 9 | 21 | 100 | SS-10 | 4.0-4.5 | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| | | EOB 25 | | | | | | | | | | | | | | | | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE



PLATE 9

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 796+32, 77' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL E | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 687.6 (MSL) EOB: 25.0 ft. |
| START: 5/18/23 END: 5/18/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.417748 N, 82.087833 W |

EXPLORATION ID **B-051-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 687.6 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 12 INCHES | 686.6 | | | | | | | | | | | | | | | | | |
| FILL: Loose gray and brown **SANDY SILT**, some clay, trace fine to coarse gravel, damp. | 684.6 | | 3 3 4 | 10 | 50 | SS-1 | 3.5-4.5 | - | - | - | - | - | - | - | - | 15 | A-4a (V) | |
| FILL: Hard gray **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp. | 682.1 | | 3 5 8 | 18 | 50 | SS-2 | 4.5+ | - | - | - | - | - | - | - | - | 20 | A-6b (V) | |
| PROBABLE FILL: Stiff to very-stiff gray mottled with brown **SILT AND CLAY**, little fine to coarse sand, slightly organic, damp.<br>- Loss on Ignition (LOI) Test on SS-3 = 2.5%. | 679.6 | | 2 3 6 | 12 | 67 | SS-3 | 1.5-2.5 | 0 | 5 | 12 | 36 | 47 | 28 | 17 | 11 | 12 | A-6a (8) | |
| Hard gray mottled with brown **CLAY**, some to "and" silt, trace to little fine to coarse sand, trace fine gravel, damp. | 677.1 | | 3 4 7 | 15 | 67 | SS-4 | 4.5+ | - | - | - | - | - | - | - | - | 25 | A-7-6 (V) | |
| Very-stiff to hard gray mottled with brown **SILTY CLAY**, little fine to coarse sand, trace fine gravel, few silt seams, damp. | 669.6 | | 6 9 12 | 29 | 100 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 16 | A-6b (V) | |
| | | | 5 9 12 | 29 | 89 | SS-6 | 4.5+ | - | - | - | - | - | - | - | - | 17 | A-6b (V) | |
| | | | 5 8 8 | 22 | 100 | SS-7 | 3.0-3.5 | - | - | - | - | - | - | - | - | 15 | A-6b (V) | |
| Very-stiff to hard gray **SANDY SILT**, some fine to coarse sand, trace fine to coarse gravel, few shale fragments below 23', damp. | 662.6 | EOB | 3 5 6 | 15 | 100 | SS-8 | 2.0-2.5 | 6 | 9 | 19 | 37 | 29 | 21 | 13 | 8 | 11 | A-4a (6) | |
| | | | 4 6 8 | 19 | 78 | SS-9 | 3.5-4.5 | - | - | - | - | - | - | - | - | 14 | A-4a (V) | |
| | | | 5 9 10 | 26 | 67 | SS-10 | 4.5+ | - | - | - | - | - | - | - | - | 14 | A-4a (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:42 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 10

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 798+27, 76' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL E | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 688.4 (MSL) EOB: 25.0 ft. |
| START: 5/18/23 END: 5/18/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.418009 N, 82.087204 W |

EXPLORATION ID **B-052-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 688.4 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 12 INCHES | 687.4 | | | | | | | | | | | | | | | | | |
| FILL: Medium-dense gray **SANDY SILT**, some clay, trace fine to coarse gravel, damp to moist. | 686.6 | | 7 9 4 | 18 | 50 | SS-1 | - | - | - | - | - | - | - | - | - | 16 | A-4a (V) | |
| POSSIBLE FILL: Very-stiff gray mottled with brown **SILT AND CLAY**, "and" fine to coarse sand, trace fine to coarse gravel, few shale fragments, damp. | 680.4 | | 2 4 4 | 11 | 67 | SS-2 | 2.0-2.5 | 4 | 13 | 35 | 25 | 23 | 30 | 16 | 14 | 19 | A-6a (4) | |
| | | | 2 4 6 | 14 | 89 | SS-3 | 3.0-3.5 | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| Very-stiff to hard brown **SILTY CLAY**, trace fine to coarse sand, trace fine gravel, damp to moist. | 670.4 | | 3 5 6 | 15 | 50 | SS-4 | 4.5+ | - | - | - | - | - | - | - | - | 22 | A-6b (V) | |
| | | | 4 8 11 | 26 | 100 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 22 | A-6b (V) | |
| | | | 4 6 10 | 22 | 100 | SS-6 | 4.5+ | - | - | - | - | - | - | - | - | 24 | A-6b (V) | |
| | | | 3 5 5 | 14 | 100 | SS-7 | 2.0-2.5 | 0 | 0 | 1 | 38 | 61 | 37 | 20 | 17 | 26 | A-6b (11) | |
| Stiff becoming very-stiff to hard gray mottled with brown **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, damp. | 663.4 | | 2 4 6 | 14 | 100 | SS-8 | 1.0-1.5 | - | - | - | - | - | - | - | - | 13 | A-6a (V) | |
| | | | 2 4 6 | 14 | 67 | SS-9 | 2.0-3.5 | - | - | - | - | - | - | - | - | 16 | A-6a (V) | |
| | | EOB | 4 6 9 | 21 | 89 | SS-10 | 4.0-4.5 | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |

NOTES
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:42 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\PROJECTS\217525A.GPJ

PLATE 11

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 800+28, 77' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL E | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 687.8 (MSL) EOB: 25.0 ft. |
| START: 5/22/23 END: 5/22/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.418304 N, 82.086560 W |

EXPLORATION ID **B-052-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 687.8 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 12 INCHES | 686.8 | | | | | | | | | | | | | | | | | |
| FILL: Very-stiff to hard dark-brown **SILT AND CLAY**, some fine to coarse sand, trace to little fine to coarse gravel, damp. | | 1 | 3 8 5 | 18 | 50 | SS-1 | 4.5+ | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| | | 2 | | | | | | | | | | | | | | | | |
| | | 3 | | | | | | | | | | | | | | | | |
| | | 4 | 2 6 7 | 18 | 67 | SS-2 | 3.0-4.5+ | - | - | - | - | - | - | - | - | 13 | A-6a (V) | |
| | 682.3 | 5 | | | | | | | | | | | | | | | | |
| FILL: Medium-stiff dark-brown **SILT AND CLAY**, "and" fine sand, trace coarse sand, trace fine gravel, moist to wet. | | 6 | | | | | | | | | | | | | | | | |
| | | 7 | 2 2 2 | 6 | 78 | SS-3 | 0.5-0.75 | 3 | 6 | 36 | 30 | 25 | 28 | 16 | 12 | 26 | A-6a (5) | |
| | 679.8 | 8 | | | | | | | | | | | | | | | | |
| Stiff to very-stiff brown mottled with gray **SILTY CLAY**, trace fine to coarse sand, damp to moist. | | 9 | 2 2 4 | 8 | 67 | SS-4 | 1.5-2.5 | 0 | 1 | 3 | 51 | 45 | 36 | 18 | 18 | 21 | A-6b (11) | |
| | | 10 | | | | | | | | | | | | | | | | |
| | | 11 | | | | | | | | | | | | | | | | |
| | | 12 | 3 6 10 | 22 | 100 | SS-5 | 2.0-4.0 | - | - | - | - | - | - | - | - | 25 | A-6b (V) | |
| | | 13 | | | | | | | | | | | | | | | | |
| | | 14 | 4 5 7 | 17 | 100 | SS-6 | 3.0-4.0 | - | - | - | - | - | - | - | - | 27 | A-6b (V) | |
| | | 15 | | | | | | | | | | | | | | | | |
| | | 16 | | | | | | | | | | | | | | | | |
| | | 17 | 3 4 5 | 12 | 100 | SS-7 | 2.5-3.0 | - | - | - | - | - | - | - | - | 27 | A-6b (V) | |
| | 667.3 | 18 | | | | | | | | | | | | | | | | |
| Stiff to very-stiff gray mottled with brown **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, damp. | | 19 | 3 4 6 | 14 | 100 | SS-8 | 1.5-2.0 | 0 | 1 | 2 | 29 | 68 | 38 | 19 | 19 | 22 | A-6b (12) | |
| | | 20 | | | | | | | | | | | | | | | | |
| | | 21 | | | | | | | | | | | | | | | | |
| | | 22 | 3 5 6 | 15 | 100 | SS-9 | 1.0-1.5 | - | - | - | - | - | - | - | - | 16 | A-6a (V) | |
| | | 23 | | | | | | | | | | | | | | | | |
| | | 24 | 4 7 9 | 22 | 89 | SS-10 | 2.5-3.5 | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| | 662.8 | EOB 25 | | | | | | | | | | | | | | | | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:42 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 12

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 802+23, 77' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL E | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 686.0 (MSL) EOB: 25.0 ft. |
| START: 5/22/23 END: 5/22/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.418631 N, 82.085968 W |

EXPLORATION ID **B-053-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 686.0 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 12 INCHES | 685.0 | | | | | | | | | | | | | | | | | |
| FILL: Medium-dense gray, brown and dark-gray **GRAVEL WITH SAND AND SILT**, trace clay, damp. | 684.2 | 1 | 9 8 4 | 17 | 50 | SS-1 | - | - | - | - | - | - | - | - | - | 11 | A-2-4 (V) | |
| FILL: Hard dark-gray and dark-brown **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp. | 680.5 | 2 3 4 5 | 3 5 7 | 17 | 67 | SS-2 | 4.5+ | - | - | - | - | - | - | - | - | 17 | A-6b (V) | |
| POSSIBLE FILL: Stiff gray and brown **CLAY**, some silt, trace fine to coarse sand, slightly organic, moist. | 678.0 | 6 7 | 2 2 4 | 8 | 50 | SS-3 | 1.0-2.0 | 0 | 1 | 9 | 31 | 59 | 46 | 19 | 27 | 26 | A-7-6 (16) | |
| Very-stiff to hard brown mottled with gray **CLAY**, some silt, trace to little fine to coarse sand, trace fine gravel, damp. | 673.0 | 8 9 10 11 12 | 2 6 8 | 19 | 78 | SS-4 | 3.0-4.5+ | - | - | - | - | - | - | - | - | 20 | A-7-6 (V) | |
| | | | 3 6 9 | 21 | 100 | SS-5 | 3.5-4.5+ | - | - | - | - | - | - | - | - | 23 | A-7-6 (V) | |
| Stiff to very-stiff gray mottled with brown **SILTY CLAY**, trace fine sand, moist. | 670.5 | 13 14 15 | 3 4 6 | 14 | 100 | SS-6 | 1.5-3.0 | 0 | 0 | 1 | 30 | 69 | 37 | 19 | 18 | 26 | A-6b (11) | |
| Stiff to very-stiff gray **SILT AND CLAY**, little to some fine to coarse sand, trace fine gravel, few hard zones, damp. | 661.0 | 16 17 18 19 20 | 3 4 6 | 14 | 100 | SS-7 | 1.5-3.5 | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| | | | 4 6 9 | 21 | 100 | SS-8 | 2.0-3.5 | - | - | - | - | - | - | - | - | 16 | A-6a (V) | |
| | | 21 22 23 | 3 4 6 | 14 | 78 | SS-9 | 1.5-3.0 | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| | | EOB 24 25 | 5 6 9 | 21 | 67 | SS-10 | 2.0-4.5 | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:42 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 13

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 804+15, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL E | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 683.8 (MSL) EOB: 25.0 ft. |
| START: 5/22/23 END: 5/22/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.418986 N, 82.085421 W |

EXPLORATION ID **B-053-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 683.8 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FILL: Medium-dense gray and brown **GRAVEL WITH SAND AND SILT**, trace clay, moist. | 681.8 | 1 | 10 8 4 | 17 | 67 | SS-1 | - | - | - | - | - | - | - | - | - | 22 | A-2-4 (V) | |
| FILL: Medium-dense brown **SANDY SILT**, little fine gravel, little clay, damp. | 679.8 | 2 | | | | | | | | | | | | | | | | |
| Very-stiff to hard brown mottled with gray **SILTY CLAY**, trace fine to coarse sand, trace fine gravel, damp. | | 3 | | | | | | | | | | | | | | | | |
| | | 4 | 3 4 5 | 12 | 67 | SS-2A | - | - | - | - | - | - | - | - | - | 22 | A-4a (V) | |
| | | | | | | SS-2B | 3.0-3.5 | - | - | - | - | - | - | - | - | 25 | A-6b (V) | |
| | | 5 | | | | | | | | | | | | | | | | |
| | | 6 | | | | | | | | | | | | | | | | |
| | | 7 | 3 6 8 | 19 | 100 | SS-3 | 4.5+ | - | - | - | - | - | - | - | - | 24 | A-6b (V) | |
| | | 8 | | | | | | | | | | | | | | | | |
| | | 9 | 3 6 8 | 19 | 83 | SS-4 | 4.5+ | - | - | - | - | - | - | - | - | 21 | A-6b (V) | |
| | | 10 | | | | | | | | | | | | | | | | |
| | | 11 | | | | | | | | | | | | | | | | |
| | | 12 | 5 7 7 | 19 | 100 | SS-5 | 2.0-4.0 | 0 | 0 | 1 | 26 | 73 | 40 | 22 | 18 | 24 | A-6b (11) | |
| | 670.8 | 13 | | | | | | | | | | | | | | | | |
| Very-stiff to hard gray **SILT AND CLAY**, little to some fine to coarse sand, trace fine gravel, damp. | | 14 | 3 5 6 | 15 | 83 | SS-6 | 3.0-3.5 | - | - | - | - | - | - | - | - | 13 | A-6a (V) | |
| | | 15 | | | | | | | | | | | | | | | | |
| | | 16 | | | | | | | | | | | | | | | | |
| | | 17 | 3 4 6 | 14 | 67 | SS-7 | 3.0-4.5 | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| | | 18 | | | | | | | | | | | | | | | | |
| | | 19 | 4 5 8 | 18 | 100 | SS-8 | 2.0-3.0 | 5 | 9 | 11 | 32 | 43 | 28 | 15 | 13 | 15 | A-6a (9) | |
| | | 20 | | | | | | | | | | | | | | | | |
| | | 21 | | | | | | | | | | | | | | | | |
| | | 22 | 4 5 8 | 18 | 100 | SS-9 | 3.0-3.5 | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| | | 23 | | | | | | | | | | | | | | | | |
| | | 24 | 5 9 10 | 26 | 100 | SS-10 | 4.5+ | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| | 658.8 | 25 EOB | | | | | | | | | | | | | | | | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:42 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 14

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 805+97, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL E | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 681.6 (MSL) EOB: 25.0 ft. |
| START: 5/22/23 END: 5/22/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.419355 N, 82.084943 W |

EXPLORATION ID **B-054-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 681.6 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 12 INCHES | 680.6 | | | | | | | | | | | | | | | | | |
| FILL: Very-stiff to hard gray and brown **SILT AND CLAY**, little to some fine to coarse sand, trace fine gravel, damp. | 678.6 | 1 | 3 7 5 | 17 | 100 | SS-1 | 3.0-4.5+ | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| Very-stiff to hard brown mottled with gray **SILTY CLAY**, trace fine to coarse sand, trace fine gravel, damp. | 671.1 | 2 3 4 5 6 7 8 9 10 | 3 4 5 | 12 | 67 | SS-2 | 3.5-4.5+ | - | - | - | - | - | - | - | - | 23 | A-6b (V) | |
| | | | 3 5 9 | 19 | 100 | SS-3 | 4.5+ | - | - | - | - | - | - | - | - | 24 | A-6b (V) | |
| | | | 4 6 9 | 21 | 83 | SS-4 | 4.5+ | - | - | - | - | - | - | - | - | 21 | A-6b (V) | |
| Stiff gray **SILTY CLAY**, trace fine to coarse sand, moist. | 668.6 | 11 12 | 2 3 5 | 11 | 100 | SS-5 | 1.0-1.5 | 0 | 1 | 1 | 35 | 63 | 35 | 18 | 17 | 29 | A-6b (11) | |
| Very-stiff to hard gray **SILT AND CLAY**, little to some fine to coarse sand, trace fine gravel, becoming partly similar to severely weathered, very-weak shale at 23.5', damp. | 656.6 | 13 14 15 16 17 18 19 20 21 22 23 24 25 EOB | 3 4 6 | 14 | 100 | SS-6 | 3.0-3.5 | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| | | | 3 4 6 | 14 | 100 | SS-7 | 2.5-3.0 | 5 | 9 | 11 | 29 | 46 | 28 | 17 | 11 | 15 | A-6a (8) | |
| | | | 3 5 9 | 19 | 100 | SS-8 | 3.5-4.5+ | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| | | | 5 9 10 | 26 | 100 | SS-9 | 4.5+ | - | - | - | - | - | - | - | - | 16 | A-6a (V) | |
| | | | 20 28 37 | 90 | 56 | SS-10 | 4.5+ | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:42 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 15

# Appendix E – Noise Barrier Wall F

B-068-1-23
B-068-0-22
B-067-2-23
B-067-1-23
B-067-0-22
B-066-2-23
B-066-1-23
B-066-0-22
B-065-2-23
B-065-1-23
B-065-0-22
B-064-2-23
B-064-1-23
B-064-0-22
B-063-2-23
B-063-1-23
B-063-0-22
B-062-2-23
B-062-1-23
B-062-0-22
B-061-1-23
B-061-0-22

INFORMATION FOR SUBGRADE BORINGS IS INCLUDED IN S&ME'S SUBGRADE EXPLORATION REPORT DATED JUNE 28, 2023.

LEGEND

B-001-0-22 BORING NUMBER AND LOCATION (SEE NOTE)

B-002-1-23 NOISE WALL BORING NUMBER AND LOCATION

N

0 300 600

GRAPHIC SCALE (IN FEET)

# PLAN OF BORINGS

LOR-90-10.76 THIRD LANE WIDENING
NOISE BARRIER WALL EXPLORATION - WALL F (1 OF 3)
LORAIN COUNTY, OHIO

SCALE: SEE GRAPHIC

DATE: 08-29-2023

PROJECT NUMBER 217525A

FIGURE NO. 1A

Drawing path: T:\Columbus-1170\Projects\2021\217525A_ODOT D3_LOR-90-10.76 Noise Walls_Sheffield OH\GEO\CAD\Construction\Plan of Borings.dwg

B-076-1-23
B-076-0-22
B-075-2-23
B-075-1-23
B-075-0-22
B-074-2-23
B-074-1-23
B-074-0-22
B-073-2-23
B-073-1-23
B-073-0-22
B-072-2-23
B-072-1-23
B-072-0-22
B-071-2-23
B-071-1-23
B-071-0-22
B-070-2-23
B-070-1-23
B-070-0-22
B-069-2-23
B-069-1-23
B-069-0-22
B-068-2-23
B-068-1-23

INFORMATION FOR SUBGRADE BORINGS IS INCLUDED IN S&ME'S SUBGRADE EXPLORATION REPORT DATED JUNE 28, 2023.

LEGEND

B-001-0-22 BORING NUMBER AND LOCATION (SEE NOTE)

B-002-1-23 NOISE WALL BORING NUMBER AND LOCATION

N

0 300 600

GRAPHIC SCALE (IN FEET)

# PLAN OF BORINGS

LOR-90-10.76 THIRD LANE WIDENING
NOISE BARRIER WALL EXPLORATION - WALL F (2 OF 3)
LORAIN COUNTY, OHIO

SCALE: SEE GRAPHIC

DATE: 08-29-2023

PROJECT NUMBER 217525A

FIGURE NO. 1B

Drawing path: T:\Columbus-1170\Projects\2021\217525A_ODOT D3_LOR-90-10.76 Noise Walls_Sheffield OH\GEO\CAD\Construction\Plan of Borings.dwg

B-084-0-22
B-083-2-23
B-083-1-23
B-083-0-22
B-082-2-23
B-082-1-23
B-082-0-22
B-081-2-23
B-081-1-23
B-081-0-22
B-080-2-23
B-080-1-23
B-080-0-22
B-079-2-23
B-079-1-23
B-079-0-22
B-078-2-23
B-078-1-23
B-078-0-22
B-077-2-23
B-077-1-23
B-077-0-22
B-076-2-23
B-076-1-23
B-076-0-22
B-075-2-23

INFORMATION FOR SUBGRADE BORINGS IS INCLUDED IN S&ME'S SUBGRADE EXPLORATION REPORT DATED JUNE 28, 2023.

LEGEND

B-001-0-22 BORING NUMBER AND LOCATION (SEE NOTE)

B-002-1-23 NOISE WALL BORING NUMBER AND LOCATION

N

0 300 600

GRAPHIC SCALE (IN FEET)

# PLAN OF BORINGS

LOR-90-10.76 THIRD LANE WIDENING
NOISE BARRIER WALL EXPLORATION - WALL F (3 OF 3)
LORAIN COUNTY, OHIO

SCALE: SEE GRAPHIC

DATE: 08-29-2023

PROJECT NUMBER 217525A

FIGURE NO. 1C

Drawing path: T:\Columbus-1170\Projects\2021\217525A_ODOT D3_LOR-90-10.76 Noise Walls_Sheffield OH\GEO\CAD\Construction\Plan of Borings.dwg

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 835+60, 107' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 3.25" HSA / NQ | CALIBRATION DATE: 12/22/22 | ELEVATION: 649.9 (MSL) EOB: 20.0 ft. |
| START: 6/19/23 END: 6/19/23 | SAMPLING METHOD: SPT / NQ | ENERGY RATIO (%): 90* | COORD: 41.427229 N, 82.082639 W |

EXPLORATION ID **B-061-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 649.9 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 8 INCHES | 649.2 | | | | | | | | | | | | | | | | | |
| POSSIBLE FILL: Very-stiff gray, dark-gray and brown **SILT AND CLAY**, little to some fine to coarse sand, trace fine gravel, few shale fragments, damp. | 646.9 | 1 | 2 4 5 | 14 | 11 | SS-1 | 3.5 | - | - | - | - | - | - | - | - | 13 | A-6a (V) | |
| Very-stiff to hard gray mottled with brown **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp. | 644.4 | 5 | 3 4 4 | 12 | 78 | SS-2 | 2.0-4.5+ | - | - | - | - | - | - | - | - | 20 | A-6b (V) | |
| Dense to very-dense gray and dark-gray **SANDY SILT**, some fine to coarse gravel (highly weathered shale fragments), little clay, dry to damp. | 640.3 | 10 | 8 15 19 | 51 | 78 | SS-3 | - | 31 | 16 | 10 | 28 | 15 | 23 | 15 | 8 | 8 | A-4a (2) | |
| | | | 5 9 19 | 42 | 100 | SS-4A | - | - | - | - | - | - | - | - | - | 8 | A-4a (V) | |
| | | | | | | SS-4B | - | - | - | - | - | - | - | - | - | 6 | Rock (V) | |
| **SHALE**, gray, severely weathered, very-weak, highly fractured. | 636.9 | TR | 15 50 | - | 100 | SS-5 | - | - | - | - | - | - | - | - | - | 5 | Rock (V) | |
| **SHALE**, gray and dark-gray, highly weathered to moderately weathered, weak to slightly strong, laminated bedding, fissile, partly blocky structure. | | 15 | 22 50-1" | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | 5 | Rock (V) | |
| - From 18.9' - 19.3': Unconfined Compressive Strength Test = 1,371 psi. | 629.9 | EOB 20 | 33 | | 100 | NQ-7 | - | | | | | | | | | | CORE | |

NOTES:
- No seepage noted.
- Encountered auger refusal at 15.0'.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:11 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 2

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 837+62, 103' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 650.5 (MSL) EOB: 13.8 ft. |
| START: 6/19/23 END: 6/19/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.427784 N, 82.082659 W |

EXPLORATION ID **B-062-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 650.5 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 9 INCHES | 649.8 | | | | | | | | | | | | | | | | | |
| POSSIBLE FILL: Very-stiff gray and brown **SILT AND CLAY**, some fine to coarse sand, trace fine to coarse gravel, damp. | 647.5 | 1 | 2 4 5 | 14 | 89 | SS-1 | 3.0-4.0 | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| Very-stiff to hard brown mottled with gray **SILTY CLAY**, little fine to coarse sand, trace fine gravel, few iron oxide stains below 5 feet, partly similar to severely weathered shale below 5.5', damp. | 644.0 | 2 3 4 5 | 2 2 4 | 9 | 78 | SS-2 | 2.0-2.5 | 1 | 3 | 17 | 41 | 38 | 34 | 17 | 17 | 19 | A-6b (11) | |
| | | 6 | 4 | | | SS-3A | 4.5+ | - | - | - | - | - | - | - | - | 15 | A-6b (V) | |
| **SHALE**, brownish-gray, severely to highly weathered, very-weak to weak. | | TR 7 | 12 20 | 48 | 100 | SS-3B | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 8 | | | | | | | | | | | | | | | | |
| | | 9 | 20 50-4" | - | 80 | SS-4 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 10 | | | | | | | | | | | | | | | | |
| | | 11 | 30 50-2" | - | 100 | SS-5 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | 636.7 | 12 | | | | | | | | | | | | | | | | |
| | | EOB 13 | 50-3" | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:11 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 3

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 839+44, 100' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 650.2 (MSL) EOB: 16.2 ft. |
| START: 6/19/23 END: 6/19/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.428283 N, 82.082677 W |

EXPLORATION ID **B-062-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 650.2 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 4 INCHES | 649.9 | | | | | | | | | | | | | | | | | |
| POSSIBLE FILL: Very-stiff to hard gray and brown **SILT AND CLAY**, little to some fine to coarse sand, trace to little fine to coarse gravel, damp. | 647.2 | | 2 3 6 | 14 | 67 | SS-1 | 2.5-4.5+ | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| Very-stiff to hard gray mottled with brown **SILTY CLAY**, some fine to coarse sand, trace fine gravel, damp. | 644.7 | | 2 4 3 | 11 | 72 | SS-2 | 3.0-4.5+ | 1 | 3 | 23 | 35 | 38 | 35 | 18 | 17 | 26 | A-6b (10) | |
| Medium-dense to dense gray and dark-gray **SANDY SILT**, little to some fine to coarse gravel (severely weathered shale fragments), trace to little clay, damp. | 639.2 | | 3 11 16 | 41 | 100 | SS-3 | - | - | - | - | - | - | - | - | - | 13 | A-4a (V) | |
| | | | 6 9 10 | 29 | 100 | SS-4 | - | - | - | - | - | - | - | - | - | 9 | A-4a (V) | |
| **SHALE**, dark-gray and gray, severely to highly weathered, very-weak to weak. | | TR | 15 50-3" | - | 67 | SS-5 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 50-5" | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | 634.0 | EOB | 50-2" | - | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:11 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 4

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 841+60, 105' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 6/6/22 | ELEVATION: 648.3 (MSL) EOB: 13.9 ft. |
| START: 6/19/23 END: 6/19/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 85.4 | COORD: 41.428875 N, 82.082664 W |

EXPLORATION ID **B-063-1-23**



| MATERIAL DESCRIPTION AND NOTES | ELEV. 648.3 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 5 INCHES | 647.9 | | | | | | | | | | | | | | | | | |
| FILL: Hard brown and gray **SILT AND CLAY**, little to some fine to coarse sand, trace fine to coarse gravel, few plastic fragments, damp. | 645.3 | 1 | 2 5 8 | 19 | 89 | SS-1 | 4.5 | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| Stiff gray mottled with brown **SILT AND CLAY**, "and" fine to coarse sand, trace fine gravel, slightly organic, damp. | 642.8 | 2 3 4 5 | 4 8 8 | 23 | 100 | SS-2 | 1.5-2.0 | 2 | 8 | 30 | 24 | 36 | 31 | 16 | 15 | 19 | A-6a (7) | |
| Very-stiff gray and brown **SANDY SILT**, some clay, trace fine gravel, dry to damp. | 640.3 | 6 7 | 3 4 4 | 11 | 100 | SS-3 | 3.5-4.0 | - | - | - | - | - | - | - | - | 7 | A-4a (V) | |
| **SHALE**, dark-gray to gray, highly weathered, very-weak to weak. | | TR 8 9 10 | 14 28 50-4" | - | 100 | SS-4 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 11 12 | 23 50-4" | - | 100 | SS-5 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | 634.4 | 13 EOB | 50-5" | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE



PLATE 5

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 843+60, 97' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 6/6/22 | ELEVATION: 648.3 (MSL) EOB: 13.8 ft. |
| START: 6/19/23 END: 6/19/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 85.4 | COORD: 41.429425 N, 82.082697 W |

EXPLORATION ID **B-063-2-23**



| MATERIAL DESCRIPTION AND NOTES | ELEV. 648.3 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 3 INCHES | 648.0 | | | | | | | | | | | | | | | | | |
| POSSIBLE FILL: Hard gray **SILT AND CLAY**, little to some fine to coarse sand, trace fine gravel, damp. | | 1 | 3 4 5 | 13 | 94 | SS-1 | 4.5+ | - | - | - | - | - | - | - | - | 16 | A-6a (V) | |
| | | 2 | | | | | | | | | | | | | | | | |
| | | 3 | | | | | | | | | | | | | | | | |
| | | 4 | 7 8 8 | 23 | 100 | SS-2 | 4.5 | - | - | - | - | - | - | - | - | 13 | A-6a (V) | |
| | 642.8 | 5 | | | | | | | | | | | | | | | | |
| Very-stiff gray **SILTY CLAY**, trace to little fine to coarse sand, trace fine gravel, few roots, few shale fragments, damp to moist. | | 6 | | | | | | | | | | | | | | | | |
| | | 7 | 7 8 11 | 27 | 100 | SS-3 | 2.5-3.5 | - | - | - | - | - | - | - | - | 26 | A-6b (V) | |
| | 639.8 | 8 | | | | | | | | | | | | | | | | |
| **SHALE**, dark-gray becoming gray, severely to highly weathered, very-weak to weak. | | TR 9 | 11 22 23 | 64 | 100 | SS-4 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 10 | | | | | | | | | | | | | | | | |
| | | 11 | 50-5" | - | 100 | SS-5 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 12 | | | | | | | | | | | | | | | | |
| | 634.5 | 13 | | | | | | | | | | | | | | | | |
| | | EOB | 50-4" | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE



PLATE 6

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 845+63, 96' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 3.25" HSA / NQ | CALIBRATION DATE: 6/6/22 | ELEVATION: 647.6 (MSL) EOB: 15.0 ft. |
| START: 6/19/23 END: 6/19/23 | SAMPLING METHOD: SPT / NQ | ENERGY RATIO (%): 85.4 | COORD: 41.429980 N, 82.082710 W |

EXPLORATION ID **B-064-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 647.6 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 4 INCHES | 647.3 | | | | | | | | | | | | | | | | | |
| FILL: Hard gray and brown **SILT AND CLAY**, little fine to coarse sand, trace fine to coarse gravel, few straw and brick fragments, damp. | 644.6 | 1 | 3 5 5 | 14 | 94 | SS-1 | 4.5+ | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| Hard gray and dark-gray **CLAY**, some to "and" silt, trace to little fine to coarse sand, trace fine gravel, damp. | 642.1 | 2 3 4 | 4 7 8 | 21 | 100 | SS-2 | 4.5 | - | - | - | - | - | - | - | - | 28 | A-7-6 (V) | |
| Very-stiff brown mottled with gray **SILTY CLAY**, trace to little fine to coarse sand, trace fine to coarse gravel, damp. | 639.1 | 5 6 7 | 3 5 7 | 17 | 100 | SS-3 | 3.0-4.0 | - | - | - | - | - | - | - | - | 23 | A-6b (V) | |
| **SHALE**, dark-gray and gray, highly becoming moderately to slightly weathered, very-weak becoming slightly to moderately strong, laminated bedding, fissile, fractured to highly fractured. | 632.6 | TR 8 9 | 27 50-4" | - | 100 | SS-4 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 10 11 | 0 | | 100 | NQ-5 | - | | | | | | | | | | CORE | |
| | | 12 13 | 0 | | 100 | NQ-6 | - | | | | | | | | | | CORE | |
| | | EOB 14 15 | | | | | | | | | | | | | | | | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:11 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 7

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 847+69, 89' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 6/6/22 | ELEVATION: 647.0 (MSL) EOB: 13.8 ft. |
| START: 6/19/23 END: 6/19/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 85.4 | COORD: 41.430542 N, 82.082740 W |

EXPLORATION ID **B-064-2-23**



| MATERIAL DESCRIPTION AND NOTES | ELEV. 647.0 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 4 INCHES | 646.7 | | | | | | | | | | | | | | | | | |
| POSSIBLE FILL: Hard brown and gray **SILT AND CLAY**, little to some fine to coarse sand, trace fine to coarse gravel, damp. | 644.0 | 1 | 3 4 7 | 16 | 100 | SS-1 | 4.5 | - | - | - | - | - | - | - | - | 13 | A-6a (V) | |
| Very-stiff brown mottled with gray **SILTY CLAY**, trace to little fine to coarse sand, trace fine gravel, damp. | 638.5 | 2 3 4 5 | 4 6 8 | 20 | 100 | SS-2 | 3.5-4.0 | - | - | - | - | - | - | - | - | 29 | A-6b (V) | |
| | | 6 7 | 3 4 5 | 13 | 100 | SS-3 | 4.0 | - | - | - | - | - | - | - | - | 23 | A-6b (V) | |
| **SHALE**, dark-gray becoming gray, severely to highly weathered, very-weak to weak. | 633.2 | TR 8 9 10 11 12 13 EOB | 4 27 50-3" | - | 87 | SS-4 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 11 50-2" | - | 100 | SS-5 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 50-3" | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE



PLATE 8

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 849+66, 83' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 6/6/22 | ELEVATION: 646.3 (MSL) EOB: 13.8 ft. |
| START: 6/19/23 END: 6/19/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 85.4 | COORD: 41.431073 N, 82.082739 W |

EXPLORATION ID **B-065-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 646.3 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 3 INCHES | 646.0 | | | | | | | | | | | | | | | | | |
| POSSIBLE FILL: Hard brown and gray **SILT AND CLAY**, little fine to coarse sand, trace fine to coarse gravel, few iron oxide stains, slightly organic, damp. | 643.3 | 1 | 5 7 7 | 20 | 78 | SS-1 | 4.5 | - | - | - | - | - | - | - | - | 12 | A-6a (V) | |
| Very-stiff dark-brown and dark-gray **CLAY**, some silt, trace fine to coarse sand, damp. | 640.8 | 4 | 2 3 3 | 9 | 100 | SS-2 | 2.5-3.0 | 0 | 1 | 4 | 33 | 62 | 59 | 29 | 30 | 33 | A-7-6 (20) | |
| Very-stiff to hard gray and dark-gray **SILTY CLAY**, trace to little fine to coarse sand, trace fine gravel, damp. | 637.8 | 7 | 3 4 8 | 17 | 100 | SS-3 | 3.5-4.5 | - | - | - | - | - | - | - | - | 23 | A-6b (V) | |
| **SHALE**, dark-gray becoming gray, severely to highly weathered, very-weak to weak, few iron oxide stains. | 632.5 TR | 10 | 9 10 12 | 31 | 100 | SS-4 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 11 | 50-5" | - | 100 | SS-5 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | EOB | 13 | 50-3" | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

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PLATE 9

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 851+71, 84' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 6/6/22 | ELEVATION: 645.5 (MSL) EOB: 13.8 ft. |
| START: 6/19/23 END: 6/19/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 85.4 | COORD: 41.431620 N, 82.082675 W |

EXPLORATION ID **B-065-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 645.5 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 5 INCHES | 645.1 | | | | | | | | | | | | | | | | | |
| FILL: Hard gray and brown **SILT AND CLAY**, little to some fine to coarse sand, trace to little fine to coarse gravel, damp. | 642.5 | 1 2 3 | 3 5 6 | 16 | 100 | SS-1 | 4.0-4.5 | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| Hard brown mottled with gray and dark-gray **CLAY**, some to "and" silt, trace fine to coarse sand, damp. | 640.0 | 4 5 | 2 3 6 | 13 | 100 | SS-2 | 4.5+ | - | - | - | - | - | - | - | - | 22 | A-7-6 (V) | |
| Very-stiff to hard gray mottled with dark-gray **SILTY CLAY**, little fine to coarse sand, damp. | 637.0 | 6 7 8 | 4 11 20 | 44 | 100 | SS-3 | 3.5-4.5 | 0 | 5 | 9 | 63 | 23 | 38 | 22 | 16 | 17 | A-6b (10) | |
| **SHALE**, dark-gray, severely weathered, very-weak, partly similar to hard soil. | 632.5 | TR 9 10 11 12 | 14 27 50-4" | - | 100 | SS-4 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 14 18 25 | 61 | 100 | SS-5 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| **SHALE**, gray, highly weathered, weak. | 631.7 | 13 EOB | 50-4" | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

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PLATE 10

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 853+73, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 645.8 (MSL) EOB: 16.3 ft. |
| START: 6/19/23 END: 6/19/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.432161 N, 82.082601 W |

EXPLORATION ID **B-066-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 645.8 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 9 INCHES | 645.1 | | | | | | | | | | | | | | | | | |
| POSSIBLE FILL: Hard gray and brown **SILT AND CLAY**, little fine to coarse sand, trace fine to coarse gravel, few iron oxide stains, damp. | | 1 | 2 2 4 | 9 | 67 | SS-1 | 4.5+ | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| | | 2 | | | | | | | | | | | | | | | | |
| | | 3 | | | | | | | | | | | | | | | | |
| | 641.6 | 4 | 4 4 4 | 12 | 83 | SS-2A | 4.5+ | - | - | - | - | - | - | - | - | 11 | A-6a (V) | |
| | | | | | | SS-2B | 2.5-4.0 | - | - | - | - | - | - | - | - | 26 | A-7-6 (V) | |
| Very-stiff gray mottled with dark-gray **CLAY**, some to "and" silt, trace fine to coarse sand, damp. | 640.3 | 5 | | | | | | | | | | | | | | | | |
| Very-stiff to hard gray mottled with brown **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp. | | 6 | 2 3 4 | 11 | 72 | SS-3 | 3.5-4.5+ | 1 | 3 | 8 | 37 | 51 | 39 | 19 | 20 | 20 | A-6b (12) | |
| | | 7 | | | | | | | | | | | | | | | | |
| | | 8 | | | | | | | | | | | | | | | | |
| | | 9 | 3 3 5 | 12 | 100 | SS-4 | 4.0-4.5+ | - | - | - | - | - | - | - | - | 16 | A-6b (V) | |
| | 634.8 | 10 | | | | | | | | | | | | | | | | |
| **SHALE**, gray, severely to highly weathered, very-weak to weak, partly similar to hard soil. | | TR 11 | 5 15 50-5" | - | 100 | SS-5 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 12 | | | | | | | | | | | | | | | | |
| | | 13 | | | | | | | | | | | | | | | | |
| | | 14 | 50-5" | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 15 | | | | | | | | | | | | | | | | |
| | 629.5 | 16 | 50-3" | - | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | EOB | | | | | | | | | | | | | | | | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

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PLATE 11

S&ME JOB: 217525A

| | | | | |
|---|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 855+82, 86' RT | EXPLORATION ID B-066-2-23 |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE | |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 3.25" HSA / NQ | CALIBRATION DATE: 6/6/22 | ELEVATION: 644.5 (MSL) EOB: 17.0 ft. | PAGE 1 OF 1 |
| START: 6/20/23 END: 6/20/23 | SAMPLING METHOD: SPT / NQ | ENERGY RATIO (%): 85.4 | COORD: 41.432708 N, 82.082434 W | |

| MATERIAL DESCRIPTION AND NOTES | ELEV. 644.5 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 2 INCHES | 644.3 | | | | | | | | | | | | | | | | | |
| POSSIBLE FILL: Hard brown and gray **SILT AND CLAY**, little fine to coarse sand, trace fine to coarse gravel, few iron oxide stains, damp. | 641.5 | | 3 5 9 | 20 | 89 | SS-1 | 4.5+ | - | - | - | - | - | - | - | - | 13 | A-6a (V) | |
| Very-stiff to hard gray mottled with dark-gray **CLAY**, some to "and" silt, trace fine to coarse sand, damp. | 636.0 | | 3 6 10 | 23 | 100 | SS-2 | 3.5-4.5 | 0 | 1 | 6 | 40 | 53 | 49 | 21 | 28 | 22 | A-7-6 (17) | |
| | | | 3 4 6 | 14 | 100 | SS-3 | 4.0-4.5 | - | - | - | - | - | - | - | - | 24 | A-7-6 (V) | |
| **SHALE**, dark-gray, severely weathered, very-weak becoming weak, partly similar to hard soil. | 633.0 | TR | 8 8 12 | 28 | 100 | SS-4 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 50-5" | - | 100 | SS-5 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| **SHALE**, dark-gray and gray, highly to severely weathered, weak to slightly strong, laminated, slightly friable, fissile, laminated to blocky structure, fractured. | 627.5 | EOB | 0 | | 100 | NQ-6 | - | | | | | | | | | | CORE | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

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PLATE 12

S&ME JOB: 217525A

| | | | | |
|---|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 857+83, 86' RT | EXPLORATION ID B-067-1-23 |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE | |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 6/6/22 | ELEVATION: 643.9 (MSL) EOB: 13.9 ft. | PAGE 1 OF 1 |
| START: 6/21/23 END: 6/21/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 85.4 | COORD: 41.433233 N, 82.082265 W | |

| MATERIAL DESCRIPTION AND NOTES | ELEV. 643.9 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 3 INCHES | 643.6 | | | | | | | | | | | | | | | | | |
| FILL: Very-stiff dark-gray **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, damp. | 640.9 | 1 | 8 5 4 | 13 | 33 | SS-1 | 2.5-3.0 | - | - | - | - | - | - | - | - | 16 | A-6a (V) | |
| Very-stiff brown mottled with gray **CLAY**, some to "and" silt, trace fine sand, damp to moist. | 638.4 | 2 3 4 5 | 3 5 6 | 16 | 100 | SS-2 | 2.5-2.7 | 0 | 0 | 1 | 33 | 66 | 60 | 24 | 36 | 27 | A-7-6 (20) | |
| Very-stiff gray mottled with reddish-brown **SILTY CLAY**, little fine to coarse sand, little fine to coarse gravel (shale fragments), partly similar to very-weak shale, damp. | 635.9 | 6 7 | 3 8 15 | 33 | 100 | SS-3 | 3.2-3.2 | - | - | - | - | - | - | - | - | 18 | A-6b (V) | |
| **SHALE**, dark-gray, severely to highly weathered, very-weak becoming weak. | 630.0 | TR 8 9 10 11 12 13 EOB | 20 50-3" | - | 100 | SS-4 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 50-5" | - | 100 | SS-5 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 50-5" | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:11 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 13

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 859+83, 84' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 6/6/22 | ELEVATION: 643.9 (MSL) EOB: 14.8 ft. |
| START: 6/21/23 END: 6/21/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 85.4 | COORD: 41.433748 N, 82.082067 W |

EXPLORATION ID **B-067-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 643.9 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 3 INCHES | 643.6 | | | | | | | | | | | | | | | | | |
| POSSIBLE FILL: Hard brown and dark-gray **SILT AND CLAY**, little fine to coarse sand, trace to little fine to coarse gravel, damp. | 640.9 | 1 | 3 5 7 | 17 | 100 | SS-1 | 4.5+ | - | - | - | - | - | - | - | - | 13 | A-6a (V) | |
| Very-stiff brown mottled with gray and dark-gray **CLAY**, some to "and" silt, trace fine sand, damp to moist. | | 2 3 4 5 6 7 | 3 4 5 | 13 | 89 | SS-2 | 3.0-3.2 | - | - | - | - | - | - | - | - | 29 | A-7-6 (V) | |
| | | | 2 4 6 | 14 | 100 | SS-3 | 2.7-3.0 | 0 | 0 | 0 | 29 | 71 | 55 | 25 | 30 | 25 | A-7-6 (19) | |
| | 635.4 | 8 | | | | | | | | | | | | | | | | |
| **SHALE**, dark-gray, severely weathered to completely degraded, very-weak, partly similar to hard soil. | | TR 9 10 11 12 13 | 15 20 20 | 57 | 100 | SS-4 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 5 14 20 | 48 | 100 | SS-5 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | 629.1 | 14 EOB | 10 12 50-4" | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:11 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 14

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 861+90, 84' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 6/6/22 | ELEVATION: 643.1 (MSL) EOB: 14.3 ft. |
| START: 6/21/23 END: 6/21/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 85.4 | COORD: 41.434271 N, 82.081820 W |

EXPLORATION ID **B-068-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 643.1 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 3 INCHES | 642.8 | | | | | | | | | | | | | | | | | |
| POSSIBLE FILL: Hard grayish-brown **SILT AND CLAY**, little fine to coarse sand, trace to little fine to coarse gravel, damp. | 640.1 | 1 | 5 6 8 | 20 | 100 | SS-1 | 4.0-4.5+ | - | - | - | - | - | - | - | - | 13 | A-6a (V) | |
| Very-stiff brown mottled with gray and dark-gray **CLAY**, some to "and" silt, trace fine to coarse sand, damp to moist. | 635.1 | 2 3 4 5 | 5 6 5 | 16 | 100 | SS-2 | 2.5-2.7 | - | - | - | - | - | - | - | - | 23 | A-7-6 (V) | |
| | | 6 7 | 3 3 5 | 11 | 100 | SS-3 | 2.5-2.8 | 0 | 0 | 1 | 27 | 72 | 65 | 27 | 38 | 28 | A-7-6 (20) | |
| Dense brown and dark-gray **GRAVEL WITH SAND AND SILT**, trace to little clay, many shale fragments, damp. | 632.6 | 8 9 10 | 6 12 20 | 46 | 100 | SS-4 | - | - | - | - | - | - | - | - | - | 15 | A-2-4 (V) | |
| **SHALE**, dark-gray, severely weathered, very-weak to weak. | | TR 11 | 30 50-5" | - | 100 | SS-5 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | 628.8 | 12 13 14 EOB | | | | | | | | | | | | | | | | |
| | | | 30 50-4" | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:11 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 15

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 863+92, 79' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 3.25" HSA / NQ | CALIBRATION DATE: 12/22/22 | ELEVATION: 642.9 (MSL) EOB: 20.0 ft. |
| START: 6/21/23 END: 6/21/23 | SAMPLING METHOD: SPT / NQ | ENERGY RATIO (%): 90* | COORD: 41.434779 N, 82.081559 W |

EXPLORATION ID **B-068-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 642.9 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 10 INCHES | 642.1 | | | | | | | | | | | | | | | | | |
| FILL: Hard gray **SILT AND CLAY**, little to some fine to coarse sand, trace fine to coarse gravel (shale fragments), slightly organic, damp. | 639.9 | | 2 3 4 | 11 | 78 | SS-1 | 4.5+ | - | - | - | - | - | - | - | - | 12 | A-6a (V) | |
| POSSIBLE FILL: Very-stiff dark-gray **CLAY**, some to "and" silt, trace fine to coarse sand, moderately organic, moist. | 637.9 | | 2 3 5 | 12 | 44 | SS-2 | 2.5-3.5 | - | - | - | - | - | - | - | - | 35 | A-7-6 (V) | |
| Very-stiff brown mottled with gray **SILT AND CLAY**, little fine to coarse sand, trace fine to coarse gravel, few iron oxide stains, damp. | 632.4 | | 2 4 4 | 12 | 100 | SS-3 | 2.5-3.5 | - | - | - | - | - | - | - | - | 19 | A-6a (V) | |
| | | | 2 3 7 | 15 | 100 | SS-4 | 2.0-2.5 | 7 | 6 | 7 | 48 | 32 | 39 | 24 | 15 | 21 | A-6a (10) | |
| Dense brownish-gray **GRAVEL WITH SAND AND SILT**, little clay, few shale fragments, dry to damp. | 630.9 | TR | 9 20 50-5" | - | 88 | SS-5 | - | - | - | - | - | - | - | - | - | 10 | A-2-4 (V) | |
| **SHALE**, gray, severely becoming highly to moderately weathered, very-weak to weak, laminated, friable, fissile, fractured to highly fractured. | | | 35 50-2" | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | 622.9 | EOB | 7 | | 100 | NQ-7 | - | | | | | | | | | | CORE | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:11 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 16

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 865+96, 80' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 642.7 (MSL) EOB: 18.8 ft. |
| START: 6/21/23 END: 6/21/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.435271 N, 82.081243 W |

EXPLORATION ID **B-069-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 642.7 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FILL: Loose dark-gray **GRAVEL WITH SAND AND SILT**, little clay, few asphalt fragments, strong hydrocarbon odor, damp. | 641.4 | 1 | 7 | 8 | 61 | SS-1A | - | - | - | - | - | - | - | - | - | 9 | A-2-4 (V) | |
| FILL: Very-stiff gray **SILT AND CLAY**, little fine to coarse sand, trace fine to coarse gravel (shale fragments), damp. | 639.7 | 2 | 2 3 | | | SS-1B | 2.5-3.5 | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| POSSIBLE FILL: Very-stiff to hard dark-gray **CLAY**, some to "and" silt, trace fine to coarse sand, moderately organic, damp to moist. | 637.2 | 3 4 | 3 3 4 | 11 | 67 | SS-2 | 3.0-4.5+ | - | - | - | - | - | - | - | - | 27 | A-7-6 (V) | |
| Very-stiff to hard brown mottled with gray **CLAY**, "and" silt, trace fine to coarse sand, trace fine gravel, damp. | 632.2 | 5 6 7 | 2 4 5 | 14 | 100 | SS-3 | 3.0-4.5+ | 1 | 2 | 5 | 44 | 48 | 44 | 25 | 19 | 22 | A-7-6 (12) | |
| | | 8 9 10 | 2 3 4 | 11 | 72 | SS-4 | 3.5-4.5+ | - | - | - | - | - | - | - | - | 21 | A-7-6 (V) | |
| Very-dense dark-gray **GRAVEL WITH SAND AND SILT**, little clay, many shale fragments, dry. | 630.7 | 11 12 | 11 27 50-3" | - | 100 | SS-5 | - | - | - | - | - | - | - | - | - | - | A-2-4 (V) | |
| **SHALE**, gray, severely to highly weathered, very-weak to weak. | 623.9 | TR 13 14 15 16 17 18 EOB | 19 50-5" | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 50-5" | - | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 50-4" | - | 100 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:11 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 17

S&ME JOB: 217525A

| | | | | |
|---|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 868+07, 84' RT | EXPLORATION ID B-069-2-23 |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE | |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 6/6/22 | ELEVATION: 642.4 (MSL) EOB: 16.8 ft. | PAGE 1 OF 1 |
| START: 6/21/23 END: 6/21/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 85.4 | COORD: 41.435767 N, 82.080866 W | |

| MATERIAL DESCRIPTION AND NOTES | ELEV. 642.4 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 3 INCHES | 642.1 | | | | | | | | | | | | | | | | | |
| POSSIBLE FILL: Very-stiff to hard brown mottled with gray and dark-gray **SILT AND CLAY**, little to some fine to coarse sand, trace to little fine to coarse gravel, damp. | | 1 | 3 5 5 | 14 | 100 | SS-1 | 4.0-4.5+ | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| | | 2 | | | | | | | | | | | | | | | | |
| | | 3 | | | | | | | | | | | | | | | | |
| | | 4 | 3 4 7 | 16 | 89 | SS-2 | 3.0-3.3 | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| | 636.9 | 5 | | | | | | | | | | | | | | | | |
| Very-stiff brown mottled with gray **CLAY**, "and" silt, trace fine to coarse sand, trace fine sand, damp to moist. | | 6 | | | | | | | | | | | | | | | | |
| | | 7 | 4 5 5 | 14 | 100 | SS-3 | 3.2-3.5 | - | - | - | - | - | - | - | - | 22 | A-7-6 (V) | |
| | | 8 | | | | | | | | | | | | | | | | |
| | | 9 | 4 5 7 | 17 | 100 | SS-4 | 2.5 | 1 | 1 | 3 | 39 | 56 | 45 | 23 | 22 | 25 | A-7-6 (14) | |
| | 631.9 | 10 | | | | | | | | | | | | | | | | |
| | | TR | | | | | | | | | | | | | | | | |
| **SHALE**, dark-gray, severely to highly weathered, very-weak to weak, partly similar to hard soil. | | 11 | | | | | | | | | | | | | | | | |
| | | 12 | 10 20 21 | 58 | 100 | SS-5 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 13 | | | | | | | | | | | | | | | | |
| | | 14 | 33 50-4" | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 15 | | | | | | | | | | | | | | | | |
| | 625.6 | 16 | 15 50-3" | - | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | EOB | | | | | | | | | | | | | | | | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:11 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 18

S&ME JOB: 217525A

| | | | | |
|---|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 869+99, 80' RT | EXPLORATION ID B-070-1-23 |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE | |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 6/6/22 | ELEVATION: 642.9 (MSL) EOB: 16.4 ft. | PAGE 1 OF 1 |
| START: 6/21/23 END: 6/21/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 85.4 | COORD: 41.436228 N, 82.080531 W | |

| MATERIAL DESCRIPTION AND NOTES | ELEV. 642.9 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 4 INCHES | 642.6 | | | | | | | | | | | | | | | | | |
| FILL: Hard brown and dark-brown **SILT AND CLAY**, little fine to coarse sand, trace fine to coarse gravel, damp. | 639.9 | 1 | 5 5 6 | 16 | 100 | SS-1 | 4.0-4.5+ | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| POSSIBLE FILL: Very-stiff brown and gray **SANDY SILT**, trace fine gravel, few pockets of fine to coarse sand, damp. | 637.4 | 2 3 4 5 | 3 5 15 | 28 | 100 | SS-2 | 3.2-3.3 | 9 | 16 | 30 | 21 | 24 | 21 | 12 | 9 | 9 | A-4a (2) | |
| Very-stiff brown mottled with gray and dark-gray **CLAY**, some to "and" silt, trace fine to coarse sand, trace fine gravel, damp. | 631.9 | 6 7 8 9 10 | 4 6 9 | 21 | 94 | SS-3 | 3.7-3.8 | - | - | - | - | - | - | - | - | 23 | A-7-6 (V) | |
| | | | 4 8 8 | 23 | 100 | SS-4 | 3.5-3.8 | - | - | - | - | - | - | - | - | 21 | A-7-6 (V) | |
| **SHALE**, gray, severely to highly weathered, very-weak to weak. | | TR 11 12 13 14 15 16 | 10 45 50-2" | - | 100 | SS-5 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 50-5" | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | 626.5 | EOB | 50-5" | - | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:11 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 19

S&ME JOB: 217525A

| | | | | |
|---|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 872+03, 85' RT | EXPLORATION ID B-070-2-23 |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE | |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 3.25" HSA / NQ | CALIBRATION DATE: 6/6/22 | ELEVATION: 642.1 (MSL) EOB: 17.0 ft. | PAGE 1 OF 1 |
| START: 6/21/23 END: 6/21/23 | SAMPLING METHOD: SPT / NQ | ENERGY RATIO (%): 85.4 | COORD: 41.436706 N, 82.080145 W | |

| MATERIAL DESCRIPTION AND NOTES | ELEV. 642.1 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 3 INCHES | 641.8 | | | | | | | | | | | | | | | | | |
| POSSIBLE FILL: Hard brown and dark-brown **SILT AND CLAY**, little to some fine to coarse sand, trace to little fine to coarse gravel, damp. | 639.1 | | 3 4 4 | 11 | 100 | SS-1 | 4.0-4.5 | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| Very-stiff becoming hard brown mottled with gray **SILTY CLAY**, little fine to coarse sand, trace fine gravel, becoming similar to very-weak shale at 8.5', damp. | | | 8 6 3 | 13 | 100 | SS-2 | 2.2-2.5 | - | - | - | - | - | - | - | - | 18 | A-6b (V) | |
| | | | 3 4 7 | 16 | 100 | SS-3 | 4.0-4.5 | - | - | - | - | - | - | - | - | 18 | A-6b (V) | |
| | | | 6 10 18 | 40 | 100 | SS-4 | - | - | - | - | - | - | - | - | - | - | A-6b (V) | |
| | 631.6 | TR | | | | | | | | | | | | | | | | |
| **SHALE**, gray and dark-gray, highly weathered, weak to slightly strong, laminated bedding, slightly calcareous, fissile, fractured to highly fractured, few vertical fractures, slightly blocky structure. | | | 35 50-5" | - | 100 | SS-5 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 0 | | 100 | NQ-6 | - | | | | | | | | | | CORE | |
| | 625.1 | EOB | | | | | | | | | | | | | | | | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:11 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 20

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 874+11, 72' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 642.5 (MSL) EOB: 23.8 ft. |
| START: 6/21/23 END: 6/21/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.437221 N, 82.079811 W |

EXPLORATION ID **B-071-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 642.5 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASPHALT - 9-1/2 INCHES | 641.7 | | | | | | | | | | | | | | | | | |
| GRANULAR BASE - 5-1/2 INCHES | 641.2 | | | | | | | | | | | | | | | | | |
| FILL: Hard gray mottled with brown **SILT AND CLAY**, some fine to coarse sand, trace fine gravel, damp. | 639.5 | | 5<br>2<br>3 | 8 | 56 | SS-1A<br>SS-1B | -<br>4.0-4.5+ | -<br>- | -<br>- | -<br>- | -<br>- | -<br>- | -<br>- | -<br>- | -<br>- | 9<br>12 | A-1-b (V)<br>A-6a (V) | |
| FILL: Loose gray **COARSE AND FINE SAND**, little silt, trace clay, trace fine gravel, moist to wet. | 637.0 | | 1<br>2<br>4 | 9 | 39 | SS-2 | - | 1 | 37 | 41 | 17 | 4 | NP | NP | NP | 15 | A-3a (0) | |
| Stiff to very-stiff brown mottled with gray **CLAY**, "and" silt, little fine to coarse sand, damp. | 632.0 | | 2<br>3<br>5 | 12 | 78 | SS-3 | 2.5-3.5 | 0 | 2 | 13 | 43 | 42 | 49 | 22 | 27 | 23 | A-7-6 (17) | |
| | | | 2<br>2<br>3 | 8 | 78 | SS-4 | 1.5-3.0 | - | - | - | - | - | - | - | - | 21 | A-7-6 (V) | |
| Hard brown and gray **SANDY SILT**, little clay, little fine gravel, few shale fragments, damp. | 626.5 | | 4<br>10<br>16 | 39 | 100 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 12 | A-4a (V) | |
| | | | 9<br>15<br>16 | 47 | 100 | SS-6 | 4.5+ | - | - | - | - | - | - | - | - | 8 | A-4a (V) | |
| **SHALE**, gray, highly weathered, weak. | 618.7 | TR | 10<br>50-4" | - | 70 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 47<br>50-2" | - | 75 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 50-3" | - | 100 | SS-9 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | EOB | 50-3" | - | 100 | SS-10 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:11 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\PROJECTS\217525A.GPJ

PLATE 21

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 876+01, 77' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 641.6 (MSL) EOB: 16.5 ft. |
| START: 6/21/23 END: 6/21/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.437666 N, 82.079449 W |

EXPLORATION ID **B-071-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 641.6 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 7 INCHES | 641.0 | | | | | | | | | | | | | | | | | |
| FILL: Loose to medium-dense brown and gray **COARSE AND FINE SAND**, little fine gravel, little silt, trace clay, damp. | | 1 | 5 5 5 | 15 | 67 | SS-1 | - | - | - | - | - | - | - | - | - | 10 | A-3a (V) | |
| | | 2 | | | | | | | | | | | | | | | | |
| | | 3 | | | | | | | | | | | | | | | | |
| | | 4 | 2 3 2 | 8 | 100 | SS-2 | - | 17 | 23 | 38 | 16 | 6 | NP | NP | NP | 12 | A-3a (0) | |
| | 636.1 | 5 | | | | | | | | | | | | | | | | |
| Very-stiff to hard gray mottled with brown **CLAY**, "and" silt, little fine to coarse sand, trace fine gravel, damp. | | 6 | | | | | | | | | | | | | | | | |
| | | 7 | 2 3 5 | 12 | 61 | SS-3 | 2.5-3.0 | - | - | - | - | - | - | - | - | 22 | A-7-6 (V) | |
| | | 8 | | | | | | | | | | | | | | | | |
| | | 9 | 2 4 6 | 15 | 39 | SS-4 | 4.5+ | - | - | - | - | - | - | - | - | 19 | A-7-6 (V) | |
| | 631.1 | 10 | | | | | | | | | | | | | | | | |
| **SHALE**, gray, highly to severely weathered, very-weak to weak. | | TR 11 | | | | | | | | | | | | | | | | |
| | | 12 | 9 32 36 | 102 | 100 | SS-5 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 13 | | | | | | | | | | | | | | | | |
| | | 14 | 46 50-5" | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 15 | | | | | | | | | | | | | | | | |
| | 625.1 | 16 | 50 | - | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | EOB | | | | | | | | | | | | | | | | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:11 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 22

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 878+04, 82' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 6/6/22 | ELEVATION: 640.3 (MSL) EOB: 18.8 ft. |
| START: 6/22/23 END: 6/22/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 85.4 | COORD: 41.438143 N, 82.079066 W |

EXPLORATION ID **B-072-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 640.3 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 3 INCHES | 640.0 | | | | | | | | | | | | | | | | | |
| FILL: Loose to medium-dense brown **COARSE AND FINE SAND**, little silt, little clay, trace fine gravel, damp to moist. | 634.8 | | 3 5 7 | 17 | 100 | SS-1 | - | - | - | - | - | - | - | - | - | 11 | A-3a (V) | |
| | | | 3 4 3 | 10 | 100 | SS-2 | - | 9 | 23 | 39 | 17 | 12 | NP | NP | NP | 14 | A-3a (0) | |
| Very-stiff to hard brown mottled with gray **CLAY**, "and" silt, trace fine to coarse sand, trace fine gravel, damp. | 629.8 | | 3 4 4 | 11 | 100 | SS-3 | 3.5 | 2 | 1 | 8 | 37 | 52 | 48 | 22 | 26 | 10 | A-7-6 (16) | |
| | | | 4 6 7 | 19 | 100 | SS-4 | 4.0-4.5 | - | - | - | - | - | - | - | - | 20 | A-7-6 (V) | |
| **SHALE**, dark-gray, severely weathered, very-weak, similar to hard soil. | 627.8 | TR | 21 50-4" | - | 100 | SS-5 | - | - | - | - | - | - | - | - | - | 12 | Rock (V) | |
| **SHALE**, gray, highly to severely weathered, weak. | 621.5 | | 50-5" | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 50-5" | - | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | EOB | 50-4" | - | 100 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:11 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 23

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 879+93, 79' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 6/6/22 | ELEVATION: 640.0 (MSL) EOB: 19.8 ft. |
| START: 6/22/23 END: 6/22/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 85.4 | COORD: 41.438598 N, 82.078732 W |

EXPLORATION ID **B-072-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 640.0 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 3 INCHES | 639.7 | | | | | | | | | | | | | | | | | |
| FILL: Medium-dense reddish-gray **COARSE AND FINE SAND**, little silt, little clay, trace to little fine gravel, damp. | 637.0 | 1 | 3 5 7 | 17 | 100 | SS-1 | - | - | - | - | - | - | - | - | - | 12 | A-3a (V) | |
| Hard gray **SILTY CLAY**, some fine to coarse sand, trace fine gravel, damp. | 634.5 | 4 | 2 2 4 | 9 | 100 | SS-2 | 4.0-4.5 | 5 | 8 | 15 | 28 | 44 | 33 | 17 | 16 | 15 | A-6b (10) | |
| Very-stiff brown mottled with gray **CLAY**, some silt, trace fine to coarse sand, damp. | 629.0 | 7 | 3 5 5 | 14 | 89 | SS-3 | 3.7-4.0 | - | - | - | - | - | - | - | - | 19 | A-7-6 (V) | |
| | | 9 | 2 5 7 | 17 | 100 | SS-4 | 3.0-3.2 | 0 | 1 | 2 | 33 | 64 | 45 | 20 | 25 | 24 | A-7-6 (15) | |
| **SHALE**, gray, highly to severely weathered, very-weak to weak, partly similar to hard soil above 13'. | | TR 11 | 13 17 27 | 63 | 89 | SS-5 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 14 | 50-3" | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 16 | 30 50-1" | - | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | 620.2 | EOB 19 | 20 22 50-3" | - | 100 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:11 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 24

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 882+06, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 6/6/22 | ELEVATION: 640.0 (MSL) EOB: 18.9 ft. |
| START: 6/22/23 END: 6/22/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 85.4 | COORD: 41.439105 N, 82.078351 W |

EXPLORATION ID **B-073-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 640.0 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 4 INCHES | 639.7 | | | | | | | | | | | | | | | | | |
| FILL: Medium-dense dark-brown **COARSE AND FINE SAND**, little fine to coarse gravel, trace silt, trace clay, damp. | 637.0 | 1 | 13 8 7 | 21 | 100 | SS-1 | - | - | - | - | - | - | - | - | - | 11 | A-3a (V) | |
| POSSIBLE FILL: Hard gray **CLAY**, "and" silt, trace to little fine to coarse sand, trace fine gravel, damp. | 634.5 | 4 | 3 4 3 | 10 | 100 | SS-2 | 4.0-4.5+ | - | - | - | - | - | - | - | - | 19 | A-7-6 (V) | |
| Very-stiff brown mottled with gray **SILTY CLAY**, trace fine to coarse sand, damp. | 629.5 | 7 | 3 4 5 | 13 | 100 | SS-3 | 3.5 | - | - | - | - | - | - | - | - | 19 | A-6b (V) | |
| | | 9 | 3 3 7 | 14 | 100 | SS-4 | 3.2-3.5 | 0 | 3 | 6 | 44 | 47 | 40 | 20 | 20 | 22 | A-6b (12) | |
| Hard dark-gray **SILT AND CLAY**, some fine to coarse sand, trace fine to coarse gravel, partly similar to very-weak shale, damp. | 627.0 | 12 | 5 15 16 | 44 | 100 | SS-5 | 4.5 | - | - | - | - | - | - | - | - | 11 | A-6a (V) | |
| **SHALE**, dark-gray, severely to highly weathered, very-weak to weak. | | TR 13 | 35 50-4" | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 16 | 50-5" | - | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | 621.1 | EOB | 50-5" | - | 100 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:11 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 25

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 884+17, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 3.25" HSA / NQ | CALIBRATION DATE: 12/22/22 | ELEVATION: 639.7 (MSL) EOB: 20.5 ft. |
| START: 6/22/23 END: 6/22/23 | SAMPLING METHOD: SPT / NQ | ENERGY RATIO (%): 90* | COORD: 41.439609 N, 82.077970 W |

EXPLORATION ID **B-073-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 639.7 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 14 INCHES | 638.5 | | | | | | | | | | | | | | | | | |
| FILL: Medium-dense brown and gray **COARSE AND FINE SAND**, trace to little fine to coarse gravel, little silt, trace clay, few asphalt fragments, damp. | 636.7 | | 6 4 5 | 14 | 61 | SS-1A | - | - | - | - | - | - | - | - | - | 9 | A-1-b (V) | |
| | | | | | | SS-1B | - | - | - | - | - | - | - | - | - | 11 | A-3a (V) | |
| POSSIBLE FILL: Stiff gray **SANDY SILT**, little clay, little fine to coarse gravel, damp. | 634.2 | | 2 7 3 | 15 | 44 | SS-2 | 1.5-2.0 | 11 | 19 | 28 | 27 | 15 | 23 | 16 | 7 | 14 | A-4a (1) | |
| Very-stiff to hard gray mottled with brown **SILTY CLAY**, trace to little fine to coarse sand, trace fine gravel, few iron oxide stains, damp. | 629.2 | | 2 2 3 | 8 | 83 | SS-3 | 4.0-4.5+ | - | - | - | - | - | - | - | - | 17 | A-6b (V) | |
| | | | 2 3 4 | 11 | 100 | SS-4 | 2.5-3.0 | - | - | - | - | - | - | - | - | 17 | A-6b (V) | |
| Very-stiff to hard gray and grayish-brown **SILT AND CLAY**, little to some fine to coarse sand, trace fine gravel, similar to very-weak shale, damp to dry. | 625.7 | | 4 7 10 | 26 | 72 | SS-5 | 2.5-3.5 | - | - | - | - | - | - | - | - | 16 | A-6a (V) | |
| **SHALE**, dark-gray, highly to severely weathered, very-weak to slightly strong, laminated, friable, highly to moderately fractured. | 619.2 | TR | 11 50-5" | - | 100 | SS-6A | 4.5+ | - | - | - | - | - | - | - | - | 11 | A-6a (V) | |
| | | | | | | SS-6B | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 23 | | 93 | NQ-7 | - | | | | | | | | | | CORE | |
| | | EOB | | | | | | | | | | | | | | | | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:11 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 26

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 886+06, 79' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 6/6/22 | ELEVATION: 639.2 (MSL) EOB: 18.8 ft. |
| START: 6/22/23 END: 6/22/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 85.4 | COORD: 41.440059 N, 82.077625 W |

EXPLORATION ID **B-074-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 639.2 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FILL: Dense brown and gray **GRAVEL WITH SAND AND SILT**, trace clay, damp. | 636.2 | 1 | 15 15 8 | 33 | 100 | SS-1 | - | - | - | - | - | - | - | - | - | 10 | A-2-4 (V) | |
| POSSIBLE FILL: Stiff brown and dark-gray **SANDY SILT**, little to some clay, little fine to coarse gravel, damp. | 633.7 | 4 | 5 7 7 | 20 | 100 | SS-2 | 1.5-2.0 | 11 | 17 | 36 | 16 | 20 | 22 | 14 | 8 | 12 | A-4a (0) | |
| Very-stiff to hard brown mottled with gray **SILTY CLAY**, trace fine to coarse sand, trace fine gravel, damp. | 628.7 | 7 | 3 3 5 | 11 | 100 | SS-3 | 3.7-4.0 | - | - | - | - | - | - | - | - | 19 | A-6b (V) | |
| | | 9 | 5 9 9 | 26 | 100 | SS-4 | 4.0-4.5+ | - | - | - | - | - | - | - | - | 16 | A-6b (V) | |
| Dense dark-gray **GRAVEL WITH SAND AND SILT**, trace to little clay, many shale fragments, damp. | 626.2 | 12 | 7 15 15 | 43 | 89 | SS-5 | - | - | - | - | - | - | - | - | - | 14 | A-2-4 (V) | |
| **SHALE**, dark-gray, severely to highly weathered, very-weak becoming weak. | | TR 13 14 | 20 22 22 | 63 | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 16 | 50-4" | - | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | 620.4 | EOB 18 | 50-3" | - | 100 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:11 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 27

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 888+18, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / P. LEITER | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 638.6 (MSL) EOB: 19.3 ft. |
| START: 6/27/23 END: 6/27/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.440564 N, 82.077244 W |

EXPLORATION ID **B-074-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 638.6 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 18 INCHES | 637.1 | | | | | | | | | | | | | | | | | |
| FILL: Medium-dense brown **COARSE AND FINE SAND**, little silt, trace clay, trace to little fine gravel, slight hydrocarbon odor, few asphalt fragments, damp. | 634.4 | 1 | 2 5 7 | 18 | 67 | SS-1 | - | - | - | - | - | - | - | - | - | 13 | A-3a (V) | |
| | | 2 | 4 4 2 | 9 | 78 | SS-2A | - | - | - | - | - | - | - | - | - | 11 | A-3a (V) | |
| | | 3 | | | | SS-2B | 3.0 | - | - | - | - | - | - | - | - | 18 | A-7-6 (V) | |
| POSSIBLE FILL: Very-stiff dark-gray **CLAY**, "and" silt, trace to little fine to coarse sand, trace fine gravel, moderately organic, damp. | 633.1 | 4 | | | | | | | | | | | | | | | | |
| Very-stiff to hard brown mottled with gray **CLAY**, "and" silt, little fine to coarse sand, trace fine gravel, damp. | | 5 | 2 3 4 | 11 | 94 | SS-3 | 2.0-2.5 | 3 | 4 | 8 | 49 | 36 | 44 | 25 | 19 | 23 | A-7-6 (12) | |
| | | 6 | | | | | | | | | | | | | | | | |
| | 628.1 | 7 | 1 3 6 | 14 | 100 | SS-4 | 3.5-4.5 | - | - | - | - | - | - | - | - | 21 | A-7-6 (V) | |
| Hard gray **SILT AND CLAY**, "and" fine to coarse sand, some fine to coarse gravel, partly similar to very-weak shale, damp. | 625.1 | 8 | | | | | | | | | | | | | | | | |
| | | 9 | 5 11 13 | 36 | 89 | SS-5 | 4.5+ | 21 | 23 | 13 | 35 | 8 | 33 | 20 | 13 | 8 | A-6a (2) | |
| | | 10 | | | | | | | | | | | | | | | | |
| **SHALE**, gray and dark-gray, severely weathered, very-weak to weak. | | 11 | 6 14 34 | 72 | 94 | SS-6 | - | - | - | - | - | - | - | - | - | 7 | Rock (V) | |
| | | 12 | | | | | | | | | | | | | | | | |
| | | 13 | 19 32 25 | 86 | 94 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 14 | | | | | | | | | | | | | | | | |
| | 619.3 | 15 | 50-4" | - | 50 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 16 | | | | | | | | | | | | | | | | |
| | | 17 | | | | | | | | | | | | | | | | |
| | | 18 | | | | | | | | | | | | | | | | |
| | | 19 | | | | | | | | | | | | | | | | |

TR

EOB

NOTES:
- No seepage noted.
- Encountered auger refusal at 19.3'.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:11 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 28

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 890+16, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / P. LEITER | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 638.2 (MSL) EOB: 23.7 ft. |
| START: 6/27/23 END: 6/27/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.441034 N, 82.076885 W |

EXPLORATION ID **B-075-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 638.2 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 18 INCHES | 636.7 | | | | | | | | | | | | | | | | | |
| FILL: Medium-dense brown **COARSE AND FINE SAND**, little to some silt, trace to little clay, trace fine gravel, damp. | 635.2 | | 4 6 10 | 24 | 56 | SS-1 | - | - | - | - | - | - | - | - | - | 9 | A-3a (V) | |
| POSSIBLE FILL: Very-stiff dark-gray and gray **CLAY**, "and" silt, trace fine to coarse sand, trace fine gravel, damp. | 632.7 | | 7 3 3 | 9 | 78 | SS-2 | 2.0-4.0 | - | - | - | - | - | - | - | - | 27 | A-7-6 (V) | |
| Stiff to very-stiff brown mottled with gray **SILTY CLAY**, trace fine to coarse sand, trace fine gravel, damp to moist. | 627.7 | | 2 3 3 | 9 | 78 | SS-3 | 2.0-4.0 | - | - | - | - | - | - | - | - | 24 | A-6b (V) | |
| | | | 1 2 3 | 8 | 78 | SS-4 | 1.0-2.6 | 1 | 2 | 7 | 55 | 35 | 40 | 19 | 21 | 25 | A-6b (12) | |
| Hard brown and dark-brown **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, similar to very-weak shale, damp. | 625.2 | | 6 10 16 | 39 | 100 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| **SHALE**, gray and dark-gray, severely to highly weathered, very-weak, partly similar to hard soil. | 620.2 | TR | 16 50-5" | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | 5 | Rock (V) | |
| | | | 30 50-5" | - | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| **SHALE**, brown and dark-brown, severely becoming highly weathered, very-weak to weak, partly similar to hard soil above 20'. | 614.5 | EOB | 13 50-5" | - | 100 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 50-4" | - | 100 | SS-9 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 50-2" | - | 100 | SS-10 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:12 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 29

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 892+04, 77' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 637.8 (MSL) EOB: 23.8 ft. |
| START: 6/22/23 END: 6/22/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.441486 N, 82.076546 W |

EXPLORATION ID **B-075-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 637.8 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 16 INCHES | 636.5 | | | | | | | | | | | | | | | | | |
| FILL: Very-stiff to hard brown **SILT AND CLAY**, little fine to coarse sand, trace fine to coarse gravel, damp. | 634.8 | | 5 3 3 | 9 | 44 | SS-1 | 3.5-4.5+ | - | - | - | - | - | - | - | - | 16 | A-6a (V) | |
| FILL: Medium-dense gray **COARSE AND FINE SAND**, some fine to coarse gravel (asphalt fragments), trace clay, slight hydrocarbon odor, damp. | 632.3 | | 5 10 6 | 24 | 78 | SS-2 | - | - | - | - | - | - | - | - | - | 9 | A-3a (V) | |
| Very-stiff brown mottled with gray **CLAY**, "and" silt, little fine to coarse sand, trace fine gravel, damp. | 627.3 | | 2 4 5 | 14 | 72 | SS-3 | 3.0-3.5 | 2 | 4 | 9 | 45 | 40 | 50 | 25 | 25 | 22 | A-7-6 (16) | |
| | | | 2 3 6 | 14 | 61 | SS-4 | 2.0-3.0 | - | - | - | - | - | - | - | - | 16 | A-7-6 (V) | |
| Hard gray **SILT AND CLAY**, little to some fine to coarse sand, trace fine gravel, partly similar to very-weak shale, damp. | 622.3 | | 3 8 12 | 30 | 100 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 10 | A-6a (V) | |
| | | | 8 16 15 | 47 | 100 | SS-6 | 4.5+ | - | - | - | - | - | - | - | - | - | A-6a (V) | |
| **SHALE**, gray, severely becoming highly weathered, very-weak to weak. | 614.0 | TR | 11 20 32 | 78 | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 15 20 40 | 90 | 100 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 50-2" | - | 100 | SS-9 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | EOB | 50-4" | - | 100 | SS-10 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE



PLATE 30

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 894+13, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 3.25" HSA / NQ | CALIBRATION DATE: 12/22/22 | ELEVATION: 637.9 (MSL) EOB: 23.5 ft. |
| START: 6/22/23 END: 6/22/23 | SAMPLING METHOD: SPT / NQ | ENERGY RATIO (%): 90* | COORD: 41.441982 N, 82.076166 W |

EXPLORATION ID **B-076-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 637.9 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 16 INCHES | 636.6 | | | | | | | | | | | | | | | | | |
| POSSIBLE FILL: Stiff to very-stiff brown **SILT AND CLAY**, some fine to coarse sand, trace to little fine to coarse gravel, damp. | 634.9 | | 2 5 5 | 15 | 61 | SS-1 | 1.5-4.0 | - | - | - | - | - | - | - | - | 10 | A-6a (V) | |
| Very-stiff gray mottled with brown and dark-gray **CLAY**, "and" silt, little fine to coarse sand, trace fine gravel, damp. | 629.9 | | 1 2 4 | 9 | 56 | SS-2 | 2.0-2.5 | - | - | - | - | - | - | - | - | 24 | A-7-6 (V) | |
| | | | 1 2 4 | 9 | 67 | SS-3 | 2.0-4.0 | 1 | 6 | 13 | 45 | 35 | 44 | 21 | 23 | 24 | A-7-6 (14) | |
| Very-stiff to hard brownish-gray **SANDY SILT**, some clay, trace to little fine to coarse gravel (shale fragments), damp. | 624.9 | | 4 4 4 | 12 | 100 | SS-4 | 2.0-3.0 | - | - | - | - | - | - | - | - | 16 | A-4a (V) | |
| | | | 6 11 11 | 33 | 44 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 11 | A-4a (V) | |
| Very-dense gray **GRAVEL WITH SAND AND SILT** (shale fragments), trace clay, dry to damp. | 622.4 | | 9 18 23 | 62 | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | A-2-4 (V) | |
| **SHALE**, gray, severely becoming moderately weathered, weak becoming slightly to moderately strong, laminated, slightly calcareous, fissile, few very thin seams of limestone. | | TR | 50-4" | - | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| - From 21.2' to 21.6': Unconfined Compressive Strength Test = 6,789 psi. | 614.4 | EOB | 70 | | 90 | NQ-8 | - | | | | | | | | | | CORE | |

NOTED:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:12 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 31

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 896+07, 74' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 638.2 (MSL) EOB: 18.9 ft. |
| START: 5/23/23 END: 5/23/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.442448 N, 82.075828 W |

EXPLORATION ID **B-076-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 638.2 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASPHALT - 7½ INCHES | 637.6 | | | | | | | | | | | | | | | | | |
| FILL: Medium-dense dark-gray **GRAVEL WITH SAND AND SILT**, trace to little clay, damp. | 636.7 | 1 | 8 | 12 | 67 | SS-1A | - | - | - | - | - | - | - | - | - | 10 | A-2-4 (V) | |
| FILL: Stiff dark-gray **SILT AND CLAY**, little fine to coarse sand, trace fine to coarse gravel, damp. | 635.2 | 2 | 3 6 | | | SS-1B | 1.5-2.0 | - | - | - | - | - | - | - | - | 12 | A-6a (V) | |
| POSSIBLE FILL: Medium-stiff to stiff gray and dark-gray **CLAY**, "and" silt, trace to little fine to coarse sand, damp. | 632.7 | 3 4 | 5 3 5 | 11 | 56 | SS-2 | 0.5-2.0 | 0 | 2 | 8 | 38 | 52 | 48 | 22 | 26 | 21 | A-7-6 (16) | |
| Stiff to very-stiff gray mottled with brown **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp to moist. | 627.7 | 5 6 7 | 3 4 7 | 15 | 100 | SS-3 | 2.5-3.5 | - | - | - | - | - | - | - | - | 23 | A-6b (V) | |
| | | 8 9 | 2 3 5 | 11 | 67 | SS-4 | 1.5-3.0 | 4 | 6 | 11 | 39 | 40 | 39 | 19 | 20 | 23 | A-6b (12) | |
| Hard gray **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, becoming similar to severely weathered shale, damp. | 625.2 | 10 11 12 | 8 12 20 | 44 | 100 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 12 | A-6a (V) | |
| **SHALE**, brownish-gray, severely to highly weathered, very-weak to weak. | | TR 13 14 | 40 38 35 | 101 | 100 | SS-6 | - | - | - | - | - | - | - | - | - | 6 | Rock (V) | |
| | | 15 16 | 50-3" | - | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | 619.3 | 17 18 EOB | 50-5" | - | 100 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:12 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 32

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 898+00, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 638.0 (MSL) EOB: 18.8 ft. |
| START: 5/23/23 END: 5/23/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.442902 N, 82.075466 W |

EXPLORATION ID **B-077-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 12 INCHES | 638.0 | | | | | | | | | | | | | | | | | |
| | 637.0 | | | | | | | | | | | | | | | | | |
| FILL: Medium-dense brown **SANDY SILT**, little to some clay, trace fine gravel, damp. | | | 4 5 7 | 17 | 83 | SS-1 | - | - | - | - | - | - | - | - | - | 12 | A-4a (V) | |
| | 635.0 | | | | | | | | | | | | | | | | | |
| Hard becoming stiff gray **SILT AND CLAY**, some fine to coarse sand, trace fine gravel, damp. | | | 4 5 7 | 17 | 67 | SS-2 | 4.5+ | 6 | 12 | 16 | 30 | 36 | 27 | 15 | 12 | 12 | A-6a (7) | |
| | 631.5 | | 3 4 7 | 15 | 100 | SS-3A | 1.0-2.0 | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| Hard gray **CLAY**, "and" silt, little fine to coarse sand, trace fine gravel, damp. | | | | | | SS-3B | 4.5+ | - | - | - | - | - | - | - | - | 22 | A-7-6 (V) | |
| | 630.0 | | | | | | | | | | | | | | | | | |
| Hard gray mottled with brown **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, few shale fragments, partly similar to severely weathered shale, damp. | | | 10 9 9 | 25 | 17 | SS-4 | 4.5+ | - | - | - | - | - | - | - | - | 11 | A-6a (V) | |
| | 624.5 | | 8 16 22 | 53 | 100 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 11 | A-6a (V) | |
| | | ▽ 624.7 TR | | | | | | | | | | | | | | | | |
| **SHALE**, gray, severely becoming highly weathered, very-weak to weak. | | | 11 22 26 | 67 | 556 | SS-6 | - | - | - | - | - | - | - | - | - | 8 | Rock (V) | |
| | | W 622.0 | | | | | | | | | | | | | | | | |
| | | | 20 50-3" | - | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | 619.2 | | | | | | | | | | | | | | | | | |
| | | EOB | 50-4" | - | 100 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- Seepage observed at 16.0'.
- Water measured at 13.3' inside HSA before removing augers.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:12 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 33

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 900+11, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 638.8 (MSL) EOB: 18.8 ft. |
| START: 5/23/23 END: 5/23/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.443407 N, 82.075082 W |

EXPLORATION ID **B-077-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 638.8 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FILL: Medium-dense brown **GRAVEL WITH SAND**, little silt, trace clay, moist. | 636.8 | 1 | 12 12 3 | 21 | 100 | SS-1A | - | - | - | - | - | - | - | - | - | 22 | A-1-b (V) | |
| FILL: Medium-stiff brown **SILT AND CLAY**, some fine to coarse sand, trace fine gravel, damp to moist. | 635.3 | 2 | | | | SS-1B | 0.5-1.0 | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| Stiff to very-stiff gray **CLAY**, "and" silt, little fine to coarse sand, trace fine gravel, damp to moist. | 630.8 | 3 4 | 3 4 4 | 11 | 67 | SS-2 | 1.5-2.5 | 1 | 3 | 13 | 39 | 44 | 45 | 23 | 22 | 26 | A-7-6 (14) | |
| Very-stiff gray **SILT AND CLAY**, "and" fine to coarse sand, little fine gravel, few shale fragments, moist. | 625.3 | 5 6 7 8 9 10 11 12 13 | 3 5 6 | 15 | 67 | SS-3 | 2.5-4.0 | - | - | - | - | - | - | - | - | 21 | A-7-6 (V) | |
| | | | 2 3 5 | 11 | 67 | SS-4 | 2.0-3.0 | - | - | - | - | - | - | - | - | 27 | A-6a (V) | |
| | | | 2 4 10 | 19 | 100 | SS-5 | 2.0-3.0 | 15 | 13 | 36 | 15 | 21 | 31 | 19 | 12 | 26 | A-6a (1) | |
| **SHALE**, gray, severely becoming highly weathered, very-weak to weak. | 620.0 | TR 14 15 16 17 18 EOB | 8 19 38 | 79 | 100 | SS-6 | - | - | - | - | - | - | - | - | - | 9 | Rock (V) | |
| | | | 22 38 50-4" | - | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 50-4" | - | 100 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:12 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 34

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 902+05, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 638.5 (MSL) EOB: 19.0 ft. |
| START: 5/23/23 END: 5/23/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.443869 N, 82.074731 W |

EXPLORATION ID **B-078-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 638.5 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FILL: Medium-dense brown **GRAVEL WITH SAND**, little silt, trace clay, damp. | 636.5 | 1 | 8 17 3 | 28 | 67 | SS-1 | - | - | - | - | - | - | - | - | - | 10 | A-1-b (V) | |
| Hard gray **SILT**, some fine to coarse sand, little clay, trace fine gravel, damp. | 630.5 | 2 3 4 5 | 4 8 8 | 22 | 67 | SS-2 | 4.5+ | - | - | - | - | - | - | - | - | 12 | A-4b (V) | |
| | | 6 7 | 6 9 13 | 31 | 100 | SS-3 | 4.5+ | 4 | 12 | 11 | 57 | 16 | 23 | 15 | 8 | 12 | A-4b (8) | |
| Very-stiff to hard gray mottled with brown **CLAY**, "and" silt, little fine to coarse sand, trace fine gravel, damp to moist. | 628.0 | 8 9 10 | 3 4 6 | 14 | 67 | SS-4 | 3.5-4.5 | - | - | - | - | - | - | - | - | 21 | A-7-6 (V) | |
| Very-stiff gray **SANDY SILT**, some fine gravel, little clay, few shale fragments, damp. | 625.5 | 11 12 | 4 5 9 | 19 | 100 | SS-5 | 2.0-2.5 | 21 | 20 | 19 | 29 | 11 | 22 | 17 | 5 | 11 | A-4a (1) | |
| **SHALE**, gray, highly to severely weathered, very-weak to weak. | 619.5 | TR 13 14 15 16 | 8 17 50-5" | - | 82 | SS-6 | - | - | - | - | - | - | - | - | - | 7 | Rock (V) | |
| | | | 50-4" | - | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | EOB | 17 18 19 | 50 | - | 100 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:12 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 35

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 904+13, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 638.1 (MSL) EOB: 18.7 ft. |
| START: 5/23/23 END: 5/23/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.444364 N, 82.074355 W |

EXPLORATION ID **B-078-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 638.1 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FILL: Medium-dense brown **GRAVEL WITH SAND**, little silt, trace clay, damp. | 636.4 | 1 | 22 6 4 | 14 | 83 | SS-1A | - | - | - | - | - | - | - | - | - | 9 | A-1-b (V) | |
| | | 2 | | | | SS-1B | 2.5-3.5 | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| FILL: Very-stiff to hard gray **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, damp. | 632.6 | 3 4 5 | 4 5 7 | 17 | 67 | SS-2 | 4.5+ | - | - | - | - | - | - | - | - | 11 | A-6a (V) | |
| PROBABLE FILL: Medium-dense gray **GRAVEL WITH SAND AND SILT**, little clay, damp. | 630.1 | 6 7 | 7 11 7 | 25 | 100 | SS-3 | - | 6 | 20 | 41 | 18 | 15 | 20 | 13 | 7 | 9 | A-2-4 (0) | |
| Hard gray mottled with brown **CLAY**, "and" silt, little fine to coarse sand, trace fine gravel, damp. | 627.6 | 8 9 | 3 6 8 | 19 | 67 | SS-4 | 4.0-4.5 | - | - | - | - | - | - | - | - | 20 | A-7-6 (V) | |
| Hard gray mottled with brown **SANDY SILT**, little to some clay, trace to little fine gravel, few shale fragments, damp. | 625.1 | 10 11 12 | 6 10 15 | 35 | 100 | SS-5 | 4.5 | - | - | - | - | - | - | - | - | 11 | A-4a (V) | |
| **SHALE**, gray, highly to severely weathered, very-weak to weak. | 619.4 TR | 13 14 | 23 50 | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 15 16 | 50 | - | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | EOB | 17 18 | 50-2" | - | 100 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:12 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 36

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 906+11, 77' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 637.4 (MSL) EOB: 23.6 ft. |
| START: 5/24/23 END: 5/24/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.444835 N, 82.074000 W |

EXPLORATION ID **B-079-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 14 INCHES | 637.4 | | | | | | | | | | | | | | | | | |
| | 636.2 | | | | | | | | | | | | | | | | | |
| FILL: Medium-stiff gray **SANDY SILT**, some fine gravel, little clay, few shale fragments, damp to moist. | | | 4 3 3 | 9 | 67 | SS-1 | 0.5 | - | - | - | - | - | - | - | - | 12 | A-4a (V) | |
| | 634.4 | | | | | | | | | | | | | | | | | |
| Stiff to hard gray mottled with brown **SILTY CLAY**, little fine to coarse sand, damp to moist. | | | 2 6 5 | 17 | 67 | SS-2 | 4.5+ | - | - | - | - | - | - | - | - | 14 | A-6b (V) | |
| | | | 4 3 5 | 12 | 50 | SS-3 | 2.0-4.0 | - | - | - | - | - | - | - | - | 23 | A-6b (V) | |
| | | | 2 3 3 | 9 | 100 | SS-4 | 1.5-3.0 | 23 | 3 | 10 | 32 | 32 | 35 | 18 | 17 | 21 | A-6b (9) | |
| | 626.9 | | | | | | | | | | | | | | | | | |
| Very-stiff to hard gray **SANDY SILT**, little clay, trace fine gravel, partly similar to very-weak and severely weathered shale (SS-5B), dry to damp. | | | 3 7 20 | 41 | 100 | SS-5A | 3.0-4.5+ | - | - | - | - | - | - | - | - | 13 | A-4a (V) | |
| | | | | | | SS-5B | - | - | - | - | - | - | - | - | - | 3 | A-4a (V) | |
| | | | 5 7 22 | 44 | 100 | SS-6 | 4.0 | 2 | 23 | 15 | 49 | 11 | 24 | 17 | 7 | 8 | A-4a (5) | |
| | | | 13 21 50 | 107 | 100 | SS-7 | 3.0-4.5 | - | - | - | - | - | - | - | - | 12 | A-4a (V) | |
| | 619.4 | TR | | | | | | | | | | | | | | | | |
| **SHALE**, gray, highly to severely weathered, very-weak to weak. | | | 50 | - | 100 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 50-2" | - | 100 | SS-9 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | 613.8 | EOB | 50-1" | - | 100 | SS-10 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:12 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 37

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 908+08, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 636.6 (MSL) EOB: 23.8 ft. |
| START: 5/24/23 END: 6/27/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.445304 N, 82.073639 W |

EXPLORATION ID **B-079-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 636.6 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 12 INCHES | 635.6 | | | | | | | | | | | | | | | | | |
| POSSIBLE FILL: Hard brown and gray **SANDY SILT**, little to some clay, trace fine gravel, damp. | 631.1 | 1 | 3 5 6 | 17 | 78 | SS-1 | 4.5+ | - | - | - | - | - | - | - | - | 9 | A-4a (V) | |
| | | 2 | | | | | | | | | | | | | | | | |
| | | 3 | 2 4 4 | 12 | 78 | SS-2 | 4.5+ | - | - | - | - | - | - | - | - | 10 | A-4a (V) | |
| | | 4 | | | | | | | | | | | | | | | | |
| | | 5 | | | | | | | | | | | | | | | | |
| Stiff to very-stiff gray and dark-gray **CLAY**, "and" silt, little fine to coarse sand, damp to moist. | 626.1 | 6 | 2 3 5 | 12 | 100 | SS-3 | 3.0-3.5 | - | - | - | - | - | - | - | - | 24 | A-7-6 (V) | |
| | | 7 | | | | | | | | | | | | | | | | |
| | | 8 | | | | | | | | | | | | | | | | |
| | | 9 | 2 3 5 | 12 | 100 | SS-4 | 1.5-2.5 | 0 | 3 | 10 | 43 | 44 | 52 | 26 | 26 | 20 | A-7-6 (17) | |
| | | 10 | | | | | | | | | | | | | | | | |
| Hard gray **SILT AND CLAY**, some fine to coarse sand, trace fine gravel, dry to damp. | 621.1 | 11 | 7 15 20 | 53 | 83 | SS-5 | 4.5+ | 8 | 6 | 16 | 41 | 29 | 26 | 14 | 12 | 12 | A-6a (8) | |
| | | 12 | | | | | | | | | | | | | | | | |
| | | 13 | | | | | | | | | | | | | | | | |
| | | 14 | 20 17 20 | 56 | 100 | SS-6 | 4.5+ | - | - | - | - | - | - | - | - | 7 | A-6a (V) | |
| | | 15 | | | | | | | | | | | | | | | | |
| **SHALE**, gray, severely becoming highly weathered, very-weak to weak. | 612.8 TR | 16 | 15 25 30 | 83 | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 17 | | | | | | | | | | | | | | | | |
| | | 18 | | | | | | | | | | | | | | | | |
| | | 19 | 50-3" | - | 100 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 20 | | | | | | | | | | | | | | | | |
| | | 21 | 50-1" | - | 100 | SS-9 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 22 | | | | | | | | | | | | | | | | |
| | | 23 | | | | | | | | | | | | | | | | |
| | EOB | | 50-3" | - | 100 | SS-10 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.
- Encountered auger refusal at 20' in the original boring on 5/24/23 drilled using the OTB Mobile B-57 rig. Using the S&ME D50 rig, the borehole was extended to obtain SS-9 and SS-10 on 6/27/23.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:12 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 38

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 910+13, 81' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 635.4 (MSL) EOB: 23.8 ft. |
| START: 5/24/23 END: 7/13/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.445788 N, 82.073258 W |

EXPLORATION ID **B-080-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 635.4 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 12 INCHES | 634.4 | | | | | | | | | | | | | | | | | |
| FILL: Hard brown and gray **SILT AND CLAY**, little to some fine to coarse sand, trace to little fine gravel, damp. | 629.9 | 1 | 3 4 5 | 14 | 67 | SS-1 | 4.5+ | - | - | - | - | - | - | - | - | 12 | A-6a (V) | |
| | | 2 | | | | | | | | | | | | | | | | |
| | | 3 | 2 5 3 | 12 | 100 | SS-2 | 4.5+ | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| | | 4 | | | | | | | | | | | | | | | | |
| | | 5 | | | | | | | | | | | | | | | | |
| Very-stiff gray mottled with brown **CLAY**, "and" silt, trace fine to coarse sand, damp to moist. | 624.9 | 6 | 1 2 5 | 11 | 100 | SS-3 | 2.5-3.5 | 0 | 1 | 7 | 39 | 53 | 56 | 26 | 30 | 30 | A-7-6 (19) | |
| | | 7 | | | | | | | | | | | | | | | | |
| | | 8 | | | | | | | | | | | | | | | | |
| | | 9 | 2 3 3 | 9 | 100 | SS-4 | 2.5-3.5 | - | - | - | - | - | - | - | - | 22 | A-7-6 (V) | |
| | | 10 | | | | | | | | | | | | | | | | |
| Dense to very-dense gray **SANDY SILT**, "and" fine to coarse gravel, trace clay, many shale fragments, damp. | 617.4 | 11 | 11 15 20 | 53 | 100 | SS-5 | - | - | - | - | - | - | - | - | - | 11 | A-4a (V) | |
| | | 12 | | | | | | | | | | | | | | | | |
| | | 13 | | | | | | | | | | | | | | | | |
| | | 14 | 11 14 19 | 50 | 100 | SS-6 | - | 36 | 16 | 12 | 28 | 8 | 18 | 15 | 3 | 11 | A-4a (0) | |
| | | 15 | | | | | | | | | | | | | | | | |
| | | 16 | | | | | | | | | | | | | | | | |
| | | 17 | 11 13 15 | 42 | 100 | SS-7 | - | - | - | - | - | - | - | - | - | 11 | A-4a (V) | |
| | | 18 | | | | | | | | | | | | | | | | |
| **SHALE**, gray, highly to severely weathered, weak. | 611.6 | TR | 50-3" | - | 100 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 19 | | | | | | | | | | | | | | | | |
| | | 20 | | | | | | | | | | | | | | | | |
| | | 21 | 15 50-1" | - | 29 | SS-9 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 22 | | | | | | | | | | | | | | | | |
| | | 23 | | | | | | | | | | | | | | | | |
| | | EOB | 50-3" | - | 67 | SS-10 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.
- Encountered auger refusal at 20' in the original boring on 5/24/23 drilled using the OTB Mobile B-57 rig. Using the S&ME D50 rig, the borehole was extended to obtain SS-9 and SS-10 on 7/13/23.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:12 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 39

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 912+14, 77' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 635.5 (MSL) EOB: 23.9 ft. |
| START: 5/24/23 END: 7/13/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.446272 N, 82.072906 W |

EXPLORATION ID **B-080-2-23**

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| MATERIAL DESCRIPTION AND NOTES | ELEV. 635.5 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 12 INCHES | 634.5 | | | | | | | | | | | | | | | | | |
| FILL: Hard brown **SANDY SILT**, little to some clay, trace fine gravel, damp. | 632.5 | | 2 3 4 | 11 | 67 | SS-1 | 4.5+ | - | - | - | - | - | - | - | - | 11 | A-4a (V) | |
| Hard gray and brown **SILT AND CLAY**, some fine to coarse sand, trace fine gravel, moist. | 627.5 | | 2 3 3 | 9 | 67 | SS-2 | 4.5+ | 4 | 9 | 13 | 42 | 32 | 28 | 16 | 12 | 20 | A-6a (9) | |
| | | | 2 5 5 | 15 | 100 | SS-3 | 4.5+ | - | - | - | - | - | - | - | - | 19 | A-6a (V) | |
| Very-stiff to hard brown **SANDY SILT**, some fine to coarse gravel, trace clay, damp. | 625.0 | | 8 5 5 | 15 | 22 | SS-4 | 2.5-4.5+ | 22 | 19 | 9 | 40 | 10 | 24 | 17 | 7 | 15 | A-4a (3) | |
| Hard brown and gray **SANDY SILT**, some fine to coarse gravel, trace clay, partly similar to severely weathered shale, dry. | 617.5 | | 8 13 17 | 45 | 100 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 5 | A-4a (V) | |
| | | | 9 19 25 | 66 | 100 | SS-6 | 4.5+ | - | - | - | - | - | - | - | - | 8 | A-4a (V) | |
| | | | 14 22 34 | 84 | 100 | SS-7 | 4.5+ | - | - | - | - | - | - | - | - | 8 | A-4a (V) | |
| **SHALE**, gray, highly to severely weathered, weak. | | TR | 50-3" | - | 100 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 35 50-1" | - | 14 | SS-9 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | 611.6 | EOB | 50-5" | - | 80 | SS-10 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.
- Groundwater measured at 14.1' inside HSA before removing augers in original boring on 5/24/23.
- Encountered auger refusal at 20' in the original boring on 5/24/23 drilled using the OTB Mobile B-57 rig. Using the S&ME D50 rig, the borehole was extended to obtain SS-9 and SS-10 on 7/13/23.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:12 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 40

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 914+13, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 635.2 (MSL) EOB: 23.6 ft. |
| START: 5/25/23 END: 5/25/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.446744 N, 82.072543 W |

EXPLORATION ID **B-081-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 635.2 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 12 INCHES | 634.2 | | | | | | | | | | | | | | | | | |
| POSSIBLE FILL: Very-stiff to hard brown and gray **SILT AND CLAY**, "and" fine to coarse sand, trace fine gravel, damp. | 629.7 | | 2 4 4 | 11 | 67 | SS-1 | 2.0-4.5 | 5 | 8 | 28 | 25 | 34 | 29 | 18 | 11 | 11 | A-6a (5) | |
| | | | 3 3 4 | 10 | 67 | SS-2 | 4.5+ | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| Very-stiff to hard gray mottled with brown **SILT AND CLAY**, little fine to coarse sand, trace to little fine to coarse gravel, damp to moist. | 624.7 | | 3 6 9 | 21 | 67 | SS-3 | 3.0-4.5+ | - | - | - | - | - | - | - | - | 21 | A-6a (V) | |
| | | | 2 4 6 | 14 | 50 | SS-4 | 2.0-2.5 | 13 | 5 | 9 | 50 | 23 | 30 | 19 | 11 | 21 | A-6a (8) | |
| Hard gray **SANDY SILT**, little clay, little fine gravel, many shale fragments, partly similar to severely weathered shale, dry to damp. | 617.2 | | 11 26 30 | 78 | 100 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 9 | A-4a (V) | |
| | | | 17 50-5" | - | 82 | SS-6 | 4.5+ | - | - | - | - | - | - | - | - | 7 | A-4a (V) | |
| | | | 28 38 50 | 122 | 100 | SS-7 | 4.5+ | - | - | - | - | - | - | - | - | 8 | A-4a (V) | |
| **SHALE**, gray, severely weathered, very-weak, few zones of silty clay. | 612.7 | TR | 25 50-4" | - | 100 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 28 50-5" | - | 100 | SS-9 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| **SHALE**, gray, highly weathered, weak. | 611.6 | EOB | 50-1" | - | 100 | SS-10 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:12 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 41

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 916+14, 73' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 635.1 (MSL) EOB: 23.7 ft. |
| START: 5/25/23 END: 7/13/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.447231 N, 82.072197 W |

EXPLORATION ID **B-081-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 635.1 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASPHALT - 8 INCHES | 634.4 | | | | | | | | | | | | | | | | | |
| GRANULAR BASE - 9 INCHES | 633.7 | | | | | | | | | | | | | | | | | |
| POSSIBLE FILL: Very-stiff to hard brown and gray **SANDY SILT**, some clay, trace fine gravel, damp. | | | 7<br>2<br>4 | 8 | 78 | SS-1A | - | - | - | - | - | - | - | - | - | 6 | A-1-b (V) | |
| | | | | | | SS-1B | 2.0-4.5+ | - | - | - | - | - | - | - | - | 13 | A-4a (V) | |
| | 629.6 | | 3<br>3<br>4 | 10 | 50 | SS-2 | 2.0-3.0 | 9 | 7 | 12 | 40 | 32 | 29 | 19 | 10 | 14 | A-4a (7) | |
| Medium-dense gray and brown **SANDY SILT**, little clay, little fine gravel, damp to moist. | | | 3<br>5<br>6 | 15 | 83 | SS-3 | - | - | - | - | - | - | - | - | - | 18 | A-4a (V) | |
| | 624.6 | | 2<br>4<br>8 | 17 | 67 | SS-4 | - | 12 | 12 | 16 | 44 | 16 | 24 | 22 | 2 | 17 | A-4a (5) | |
| Hard gray **SANDY SILT**, little to some clay, little fine gravel, many shale fragments, partly similar to severely weathered shale, damp. | | | 13<br>26<br>30 | 78 | 100 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 10 | A-4a (V) | |
| | | | 21<br>28<br>31 | 82 | 100 | SS-6 | 4.5+ | - | - | - | - | - | - | - | - | 10 | A-4a (V) | |
| | 617.1 | | 27<br>34<br>50-3" | - | 100 | SS-7 | 4.5+ | - | - | - | - | - | - | - | - | 8 | A-4a (V) | |
| **SHALE**, gray, highly weathered, weak. | | TR | | | | | | | | | | | | | | | | |
| | | | 50-3" | - | 100 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 50-2" | - | 50 | SS-9 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | 611.4 | EOB | 50-2" | - | 50 | SS-10 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.
- Encountered auger refusal at 19.8' in the original boring on 5/25/23 drilled using the OTB SIMCO 2800 rig. Using the S&ME D50 rig, the borehole was extended to obtain SS-9 and SS-10 on 7/13/23.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:12 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 42

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 918+18, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 634.5 (MSL) EOB: 16.3 ft. |
| START: 5/25/23 END: 5/25/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.447709 N, 82.071810 W |

EXPLORATION ID **B-082-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GR | CS | FS | SI | CL | LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 9 INCHES | 634.5 | | | | | | | | | | | | | | | | | |
| | 633.7 | | | | | | | | | | | | | | | | | |
| FILL: Very-stiff brown **SILTY CLAY**, some fine to coarse sand, trace fine gravel, slightly organic, moist. | 633.0 | | 2 3 3 | 8 | 67 | SS-1A | 3.0-4.0 | - | - | - | - | - | - | - | - | 22 | A-6b (V) | |
| | | | | | | SS-1B | 3.0-3.5 | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| Very-stiff gray mottled with brown **SILT AND CLAY**, little to some fine to coarse sand, trace fine gravel, damp. | 631.5 | | | | | | | | | | | | | | | | | |
| Very-stiff to hard dark gray and gray mottled with brown **CLAY**, "and" silt, trace fine to coarse sand, damp to moist. | | | 2 2 5 | 10 | 100 | SS-2 | 3.5-4.5 | 0 | 2 | 8 | 45 | 45 | 54 | 29 | 25 | 25 | A-7-6 (17) | |
| | | | 3 5 6 | 15 | 78 | SS-3 | 4.5+ | - | - | - | - | - | - | - | - | 26 | A-7-6 (V) | |
| | 626.5 | | | | | | | | | | | | | | | | | |
| Hard gray **SILT AND CLAY**, trace fine to coarse sand, trace fine gravel, damp to moist. | | | 2 4 8 | 17 | 83 | SS-4 | 4.5+ | 6 | 5 | 5 | 51 | 33 | 31 | 20 | 11 | 20 | A-6a (8) | |
| | 623.5 | TR | | | | | | | | | | | | | | | | |
| **SHALE**, gray, severely becoming highly weathered, very-weak to weak. | | | 21 50 | - | 100 | SS-5 | - | - | - | - | - | - | - | - | - | 7 | Rock (V) | |
| | | ▽ 621.4 | | | | | | | | | | | | | | | | |
| | | | 29 50-4" | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | 618.2 | W 618.5 EOB | 50-4" | - | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- Water noted at 16.0' during drilling.
- Water measured at 13.1' inside HSA at completion.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:12 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\PROJECTS\217525A.GPJ

PLATE 43

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 920+06, 80' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 633.6 (MSL) EOB: 18.0 ft. |
| START: 5/25/23 END: 5/25/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.448155 N, 82.071464 W |

EXPLORATION ID **B-082-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 633.6 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 14 INCHES | 632.4 | | | | | | | | | | | | | | | | | |
| FILL: Very-stiff brown **SILTY CLAY**, little to some fine to coarse sand, trace fine gravel, damp to moist. | 629.6 | | 4 3 2 | 7 | 50 | SS-1 | 2.0-4.0 | - | - | - | - | - | - | - | - | 19 | A-6b (V) | |
| | | | 2 2 4 | 8 | 67 | SS-2A | 3.0-4.0 | - | - | - | - | - | - | - | - | 18 | A-6b (V) | |
| | | | | | | SS-2B | 1.5-2.5 | - | - | - | - | - | - | - | - | 32 | A-7-6 (V) | |
| Stiff to hard gray and dark-gray **CLAY**, "and" silt, trace fine to coarse sand, damp to moist. | 623.1 | | 2 4 5 | 12 | 67 | SS-3 | 2.5-3.5 | 0 | 2 | 6 | 39 | 53 | 48 | 20 | 28 | 23 | A-7-6 (17) | |
| | | | 2 4 7 | 15 | 83 | SS-4 | 1.5-4.5+ | 0 | 0 | 1 | 43 | 56 | 46 | 20 | 26 | 23 | A-7-6 (16) | |
| Hard gray **SANDY SILT**, little clay, little fine gravel, many shale fragments, partly similar to severely weathered shale, dry. | 620.6 | | 12 20 28 | 67 | 100 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | - | A-4a (V) | |
| **SHALE**, gray, highly weathered, weak. | 615.6 | TR | 50 | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | EOB | 50-3" | - | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.
- Encountered auger refusal at 18.0'.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:12 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 44

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 922+25, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 633.4 (MSL) EOB: 19.2 ft. |
| START: 6/12/23 END: 6/12/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.448679 N, 82.071075 W |

EXPLORATION ID **B-083-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 633.4 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 12 INCHES | 632.4 | | | | | | | | | | | | | | | | | |
| FILL: Very-stiff grayish-brown **SILT AND CLAY**, some fine to coarse sand, trace fine gravel, damp. | 630.4 | | 5 3 2 | 7 | 61 | SS-1 | 2.0-2.5 | - | - | - | - | - | - | - | - | 12 | A-6a (V) | |
| Medium-stiff to very-stiff dark-brown and gray **CLAY**, "and" silt, trace fine to coarse sand, trace fine gravel, slightly organic, damp to moist. | 625.4 | W 629.9 | 4 4 5 | 12 | 61 | SS-2 | 1.0-3.0 | - | - | - | - | - | - | - | - | 31 | A-7-6 (V) | |
| | | W 627.4 | 4 5 5 | 14 | 28 | SS-3 | 0.5-1.5 | 2 | 3 | 6 | 40 | 49 | 46 | 21 | 25 | 27 | A-7-6 (15) | |
| Hard brown and gray **SANDY SILT**, little to some clay, trace to little fine to coarse gravel, many shale fragments, becoming partly similar to very-weak shale below 13', damp. | 619.0 | | 11 16 25 | 57 | 67 | SS-4 | 4.5+ | - | - | - | - | - | - | - | - | 7 | A-4a (V) | |
| | | | 17 11 21 | 44 | 100 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 12 | A-4a (V) | |
| | | | 16 50-5" | - | 91 | SS-6 | 4.5+ | - | - | - | - | - | - | - | - | 9 | A-4a (V) | |
| **SHALE**, brown, highly to severely weathered, very-weak to weak. | 614.2 | TR | 44 50 | - | 75 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | EOB | 25 50-2" | - | 100 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- Seepage noted at 3.5'.
- Groundwater observed at 6.0' during drilling.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:12 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 45

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 923+97, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL F | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 634.0 (MSL) EOB: 16.3 ft. |
| START: 6/12/23 END: 6/12/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.449088 N, 82.070761 W |

EXPLORATION ID **B-083-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 634.0 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 12 INCHES | 633.0 | | | | | | | | | | | | | | | | | |
| FILL: Very-stiff brown **SILT AND CLAY**, little fine to coarse sand, trace fine to coarse gravel, damp. | 631.0 | 1 2 3 | 3 2 3 | 7 | 33 | SS-1 | 2.0-3.0 | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| Very-stiff to hard brownish-gray **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp. | | 4 5 | 3 4 5 | 12 | 78 | SS-2 | 2.5-4.5+ | 2 | 7 | 10 | 41 | 40 | 40 | 20 | 20 | 17 | A-6b (12) | |
| - From 6.0' to 7.5', stiff and moist. | | 6 7 8 | 3 4 5 | 12 | 67 | SS-3 | 1.0-2.0 | - | - | - | - | - | - | - | - | 22 | A-6b (V) | |
| | 624.0 | 9 10 | 4 5 8 | 18 | 100 | SS-4 | 2.0-3.0 | - | - | - | - | - | - | - | - | 18 | A-6b (V) | |
| **SHALE**, brown and gray, highly to severely weathered, very-weak to weak. | | TR 11 12 | 22 50-5" | - | 100 | SS-5 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 13 14 | 17 50-5" | - | 100 | SS-6 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | 617.7 | 15 16 EOB | 50-4" | - | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 8/24/23 17:12 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\PROJECTS\217525A.GPJ

PLATE 46

## Boring B-061-1-23


- From 18.9’ – 19.3’: Unconfined Compressive Strength Test = 1,371 psi.

- Unconfined Compressive Strength Test attempted from 18.4’ – 18.8’, but sample delaminated during test preparation.

* Width of core box = 2ft.

| Core Run #: | Depth | Recovery | | RQD | |
|---|---|---|---|---|---|
| NQ-7 | 15.0’ - 20.0’ | 60/60 | 100% | 20/60 | 33% |

**LOR-90-10.75 Widening and Noise Walls, Lorain Co., Ohio** | **PID 107714**

## Boring B-064-1-23


* Width of core box = 2ft.

| Core Run #: | Depth | Recovery | | RQD | |
|---|---|---|---|---|---|
| NQ-5 | 10.0' - 12.0' | 24/24 | 100% | 0/24 | 0% |
| NQ-6 | 12.0' - 15.0' | 36/36 | 100% | 0/36 | 0% |

**LOR-90-10.75 Widening and Noise Walls, Lorain Co., Ohio** | **PID 107714**

## Boring B-066-2-23


* Width of core box = 2ft.

| Core Run #: | Depth | Recovery | | RQD | |
|---|---|---|---|---|---|
| NQ-6 | 12.0’ - 17.0’ | 60/60 | 100% | 0/60 | 0% |

**LOR-90-10.75 Widening and Noise Walls, Lorain Co., Ohio** | **PID 107714**

## Boring B-068-2-23


- Section of core from 19.66’ - 20.0’ preserved for Unconfined Compressive Strength Test; however, sample delaminated during test

* Width of core box = 2ft.

| Core Run #: | Depth | Recovery | | RQD | |
|---|---|---|---|---|---|
| NQ-7 | 15.0’ - 20.0’ | 60/60 | 100% | 4/60 | 7% |

**LOR-90-10.75 Widening and Noise Walls, Lorain Co., Ohio** | **PID 107714**

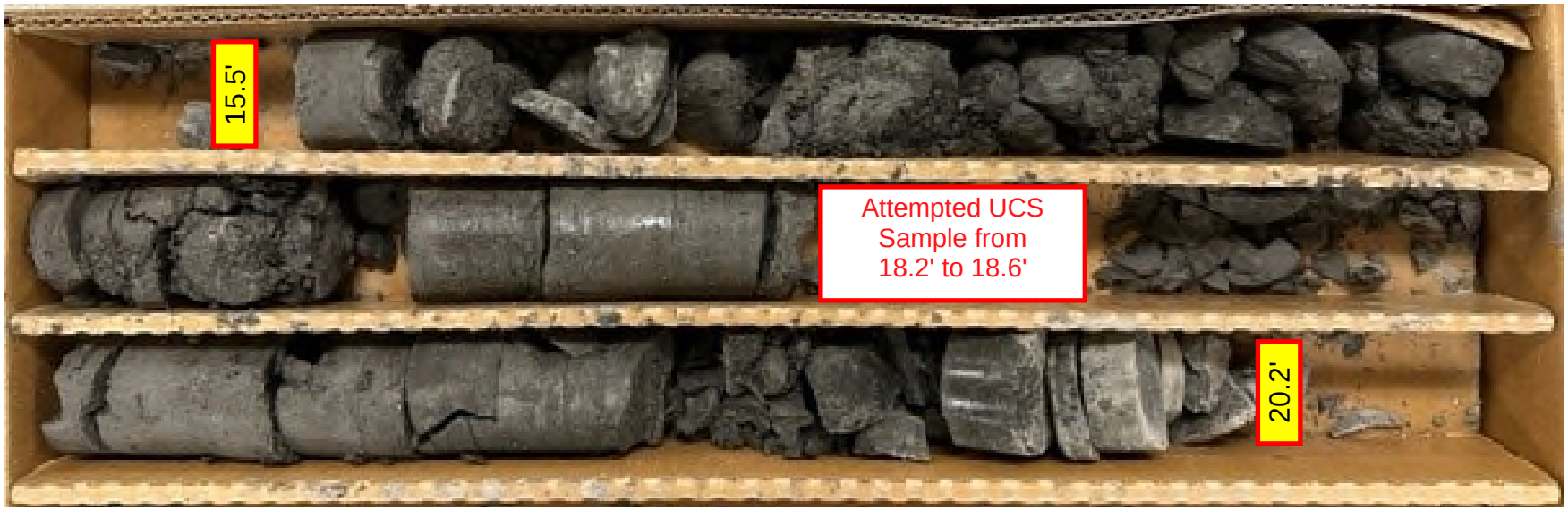
## Boring B-070-2-23


* Width of core box = 2ft.

| Core Run #: | Depth | Recovery | | RQD | |
|---|---|---|---|---|---|
| NQ-6 | 12.0' - 17.0' | 60/60 | 100% | 0/60 | 0% |

**LOR-90-10.75 Widening and Noise Walls, Lorain Co., Ohio** | **PID 107714**

## Boring B-073-2-23



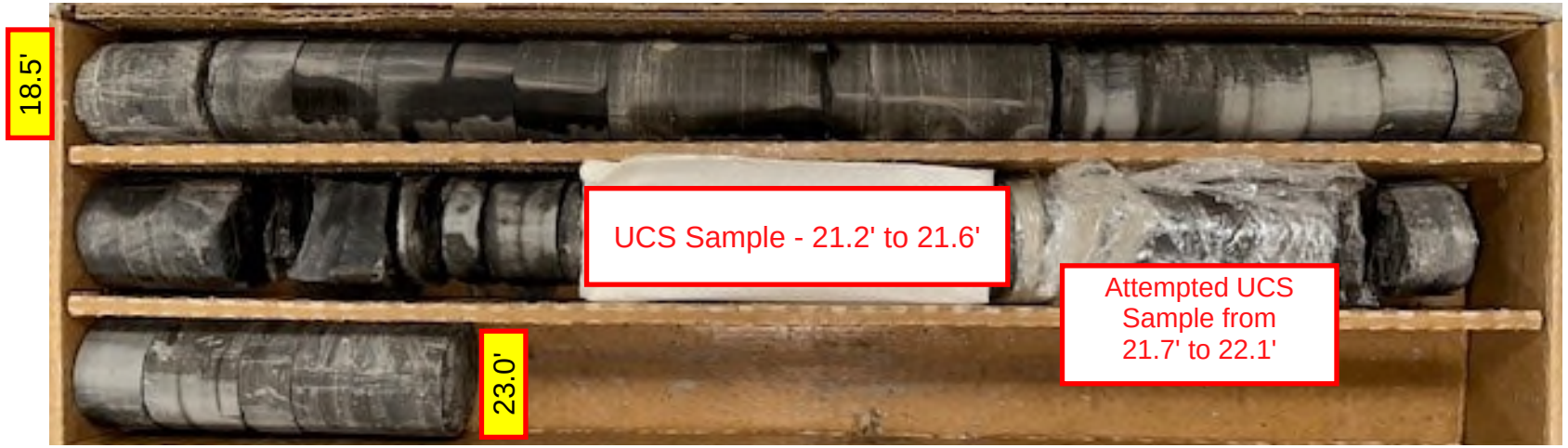

- Unconfined Compressive Strength Test attempted from 18.2’ – 18.6’, but sample delaminated during test preparation.

* Width of core box = 2ft.

| Core Run #: | Depth | Recovery | | RQD | |
|---|---|---|---|---|---|
| NQ-7 | 15.5 - 20.5’ | 56/60 | 93% | 14/60 | 24% |

**LOR-90-10.75 Widening and Noise Walls, Lorain Co., Ohio** | **PID 107714**

## Boring B-076-1-23




- From 21.2’ – 21.6’: Unconfined Compressive Strength Test = 6,789 psi.

- Unconfined Compressive Strength Test attempted from 21.7’ – 22.1’, but sample delaminated during test preparation.

* Width of core box = 2ft.

| Core Run #: | Depth | Recovery | | RQD | |
|---|---|---|---|---|---|
| NQ-8 | 18.5’ - 23.5’ | 54/60” | 90% | 42/60 | 70% |

**LOR-90-10.75 Widening and Noise Walls, Lorain Co., Ohio** | **PID 107714**

Form No. TR-D7012C-01
Revision No. 1
Revision Date: 07/14/17

# UNIAXIAL COMPRESSIVE STRENGTH OF ROCK

*ASTM D 7012 Method C*

*Quality Assurance*

**S&ME, Inc. - Columbus: 6190 Enterprise Court, Dublin, Ohio 43016**

| | | | |
|---|---|---|---|
| Project No.: | 217525A | Report Date: | 07/24/23 |
| Project Name: | LOR-90-10.76 Noise Wall | Test Date(s): | 07/18/23 |
| Client Name: | ODOT DISTRICT 3 | | |
| Client Address: | 906 Clark Avenue, Ashland, OH 44805 | | |
| Boring ID: | B-061-1-23, NQ-7 | Depth/Elev., ft: | 18.9-19.3 |
| Sample Description: | SHALE, gray | | |

Angle of load relative to lithology: Approximately perpendicular to bedding plane

***Test Results***

***Moisture Content*** ***3.5*** **%** ***Dry Unit Weight*** ***147.9*** **pcf**

***Compressive Strength*** ***1,371*** **psi**

**Before Test**

**After Test**

*Strain rate: 0.03 in/min.*

***Notes / Deviations / References:*** **Specimen end preparation was not done in accordance with ASTM D4543.**

**Specimen was capped using sulfur in accordance with ASTM C617, based on previous similar samples.**

**Test results for specimens not meeting this requirement may differ from test results obtained from specimens meeting this requirement.**

| Paula J. Manning | Paula J Manning | Laboratory Manager | 7/24/2023 |
|---|---|---|---|
| *Technical Responsibility* | *Signature* | *Position* | *Date* |

Form No. TR-D7012C-01
Revision No. 1
Revision Date: 07/14/17

# UNIAXIAL COMPRESSIVE STRENGTH OF ROCK

*ASTM D 7012 Method C*

*Quality Assurance*

**S&ME, Inc. - Columbus: 6190 Enterprise Court, Dublin, Ohio 43016**

| | | | |
|---|---|---|---|
| Project No.: | 217525A | Report Date: | 07/24/23 |
| Project Name: | LOR-90-10.76 Noise Wall | Test Date(s): | 07/18/23 |
| Client Name: | ODOT DISTRICT 3 | | |
| Client Address: | 906 Clark Avenue, Ashland, OH 44805 | | |
| Boring ID: | B-076-1-23, NQ-8 | Depth/Elev., ft: | 21.2-21.6 |
| Sample Description: | SHALE, gray | | |

Angle of load relative to lithology: Approximately perpendicular to bedding plane

***Test Results***

***Moisture Content*** ***2.4*** **%** ***Dry Unit Weight*** ***144.4*** **pcf**

***Compressive Strength*** ***6,789*** **psi**

**Before Test**

**After Test**

*Strain rate: 0.03 in/min.*

***Notes / Deviations / References:*** **Specimen end preparation was not done in accordance with ASTM D4543.**

**Specimen was capped using sulfur in accordance with ASTM C617, based on previous similar samples.**

**Test results for specimens not meeting this requirement may differ from test results obtained from specimens meeting this requirement.**

| Paula J. Manning | Paula J Manning | Laboratory Manager | 7/24/2023 |
|---|---|---|---|
| *Technical Responsibility* | *Signature* | *Position* | *Date* |

# Appendix F – Noise Barrier Wall G

B-094-0-22
B-094-1-23
B-093-2-23
B-093-1-23
B-093-0-22
B-092-2-23
B-092-0-22
B-092-1-23
B-091-2-23
B-091-1-23
B-091-0-22
B-090-2-23
B-090-0-22
B-090-1-23
B-089-2-23
B-089-1-23
B-089-0-22
B-088-2-23
B-088-0-22
B-088-1-23
B-087-2-23
B-087-0-22
B-087-1-23
B-086-1-23
B-086-0-22
B-085-0-22

INFORMATION FOR SUBGRADE BORINGS IS INCLUDED IN S&ME'S SUBGRADE EXPLORATION REPORT DATED JUNE 28, 2023.

LEGEND

B-001-0-22 BORING NUMBER AND LOCATION (SEE NOTE)

B-002-1-23 NOISE WALL BORING NUMBER AND LOCATION

N

0 300 600

GRAPHIC SCALE (IN FEET)

# PLAN OF BORINGS

LOR-90-10.76 THIRD LANE WIDENING
NOISE BARRIER WALL EXPLORATION - WALL G (1 OF 2)
LORAIN COUNTY, OHIO

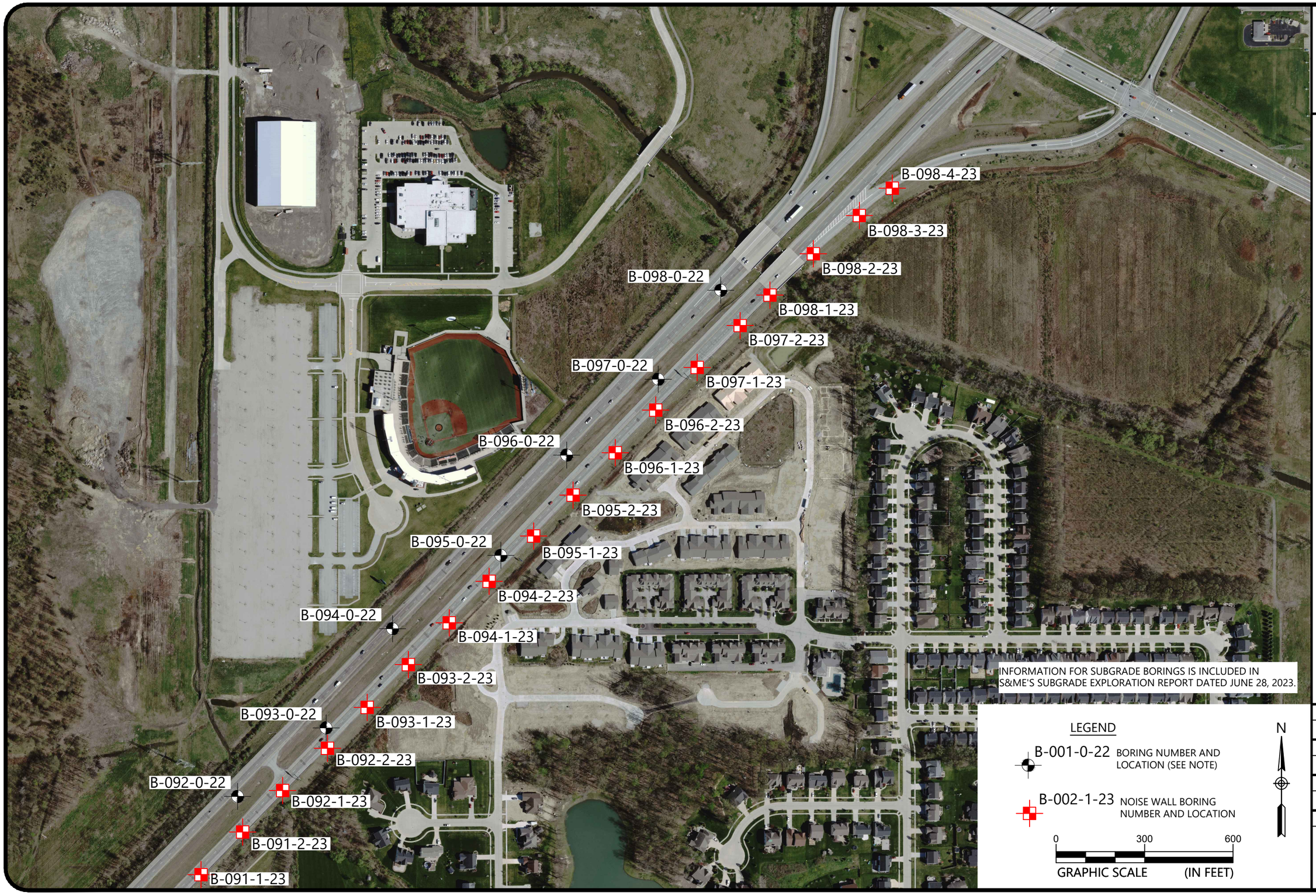
SCALE: SEE GRAPHIC

DATE: 08-29-2023

PROJECT NUMBER 217525A

FIGURE NO. 1A

Drawing path: T:\Columbus-1170\Projects\2021\217525A_ODOT D3_LOR-90-10.76 Noise Walls_Sheffield OH\GEO\CAD\Construction\Plan of Borings.dwg




INFORMATION FOR SUBGRADE BORINGS IS INCLUDED IN S&ME'S SUBGRADE EXPLORATION REPORT DATED JUNE 28, 2023.

LEGEND

B-001-0-22 BORING NUMBER AND LOCATION (SEE NOTE)

B-002-1-23 NOISE WALL BORING NUMBER AND LOCATION

N

0 300 600

GRAPHIC SCALE (IN FEET)

# PLAN OF BORINGS

LOR-90-10.76 THIRD LANE WIDENING
NOISE BARRIER WALL EXPLORATION - WALL G (2 OF 2)
LORAIN COUNTY, OHIO

| | |
|---|---|
| SCALE: | SEE GRAPHIC |
| DATE: | 08-29-2023 |
| PROJECT NUMBER | 217525A |
| FIGURE NO. | 1B |

Drawing path: T:\Columbus-1170\Projects\2021\217525A_ODOT D3_LOR-90-10.76 Noise Walls_Sheffield OH\GEO\CAD\Construction\Plan of Borings.dwg

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 934+45, 73' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 651.5 (MSL) EOB: 25.0 ft. |
| START: 6/12/23 END: 6/12/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.451576 N, 82.068867 W |

EXPLORATION ID **B-086-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 651.5 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASPHALT - 10 INCHES | 650.7 | | | | | | | | | | | | | | | | | |
| GRANULAR BASE - 9 INCHES | 649.9 | | | | | | | | | | | | | | | | | |
| FILL: Medium-dense brown **SANDY SILT**, little clay, trace fine gravel, dry. | 648.5 | 1 | 4 4 5 | 12 | 67 | SS-1 | - | - | - | - | - | - | - | - | - | 2 | A-4a (V) | |
| FILL: Very-stiff to hard gray and brown **SILTY CLAY**, little fine to coarse sand, trace fine gravel, moist. | | 2 3 | 3 3 4 | 10 | 67 | SS-2 | 2.0-4.0 | 7 | 6 | 10 | 34 | 43 | 37 | 17 | 20 | 20 | A-6b (12) | |
| | | 4 5 6 7 | 2 3 3 | 8 | 44 | SS-3 | 2.0-2.5 | - | - | - | - | - | - | - | - | 14 | A-6b (V) | |
| | | 8 9 10 | 3 3 7 | 14 | 56 | SS-4 | 3.0-3.5 | - | - | - | - | - | - | - | - | 22 | A-6b (V) | |
| | 636.0 | 11 12 | 4 7 7 | 19 | 67 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 17 | A-6b (V) | |
| FILL: Very-stiff gray and brown **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, damp. | 633.5 | 13 14 15 | 3 4 6 | 14 | 50 | SS-6 | 2.0-3.5 | - | - | - | - | - | - | - | - | 21 | A-6b (V) | |
| FILL: Very-stiff gray and brown **SILTY CLAY**, little fine to coarse sand, little fine gravel, damp to moist. | | 16 17 18 | 3 5 6 | 15 | 67 | SS-7 | 3.0-4.0 | 5 | 6 | 11 | 39 | 39 | 30 | 16 | 14 | 14 | A-6a (10) | |
| | | 19 20 | 4 6 7 | 18 | 67 | SS-8 | 2.0-3.5 | - | - | - | - | - | - | - | - | 22 | A-6b (V) | |
| | | 21 22 23 | 3 5 8 | 18 | 100 | SS-9 | 2.0-3.5 | - | - | - | - | - | - | - | - | 23 | A-6b (V) | |
| | 626.5 | EOB 24 25 | 6 8 10 | 25 | 78 | SS-10 | 2.0-2.5 | 13 | 7 | 13 | 32 | 35 | 38 | 19 | 19 | 19 | A-6b (10) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:44 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\PROJECTS\217525A.GPJ

PLATE 2

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 936+44, 72' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 654.9 (MSL) EOB: 25.0 ft. |
| START: 6/12/23 END: 6/12/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.452028 N, 82.068475 W |

EXPLORATION ID **B-087-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 654.9 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASPHALT - 11 INCHES | 654.0 | | | | | | | | | | | | | | | | | |
| GRANULAR BASE - 8 INCHES | 653.3 | | | | | | | | | | | | | | | | | |
| FILL: Hard gray **SANDY SILT**, little fine gravel, little clay, damp. | 651.9 | 2 | 4 7 7 | 19 | 67 | SS-1 | 4.5+ | - | - | - | - | - | - | - | - | 12 | A-4a (V) | |
| FILL: Very-stiff gray and brown **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp to moist. | | 4 | 3 3 5 | 11 | 56 | SS-2 | 2.5-3.5 | - | - | - | - | - | - | - | - | 18 | A-6b (V) | |
| | | 7 | 2 3 5 | 11 | 56 | SS-3 | 2.0-3.0 | 3 | 5 | 10 | 37 | 45 | 38 | 18 | 20 | 18 | A-6b (12) | |
| | | 9 | 2 4 4 | 11 | 67 | SS-4 | 2.0-4.0 | - | - | - | - | - | - | - | - | 16 | A-6b (V) | |
| | | 12 | 3 3 5 | 11 | 56 | SS-5 | 3.0-3.5 | - | - | - | - | - | - | - | - | 21 | A-6b (V) | |
| - @ 13.5', few stiff zones | | 14 | 2 4 7 | 15 | 78 | SS-6 | 1.0-3.0 | - | - | - | - | - | - | - | - | 18 | A-6b (V) | |
| | 639.4 | | | | | | | | | | | | | | | | | |
| FILL: Very-stiff to hard gray and brown **CLAY**, some to "and" silt, little fine to coarse sand, trace fine gravel, damp to moist. | | 17 | 3 4 7 | 15 | 67 | SS-7 | 2.0-4.0 | 1 | 3 | 10 | 31 | 55 | 46 | 20 | 26 | 23 | A-7-6 (16) | |
| | | 19 | 5 9 8 | 24 | 56 | SS-8 | 4.0-4.5+ | - | - | - | - | - | - | - | - | 20 | A-7-6 (V) | |
| | | 22 | 3 7 11 | 25 | 100 | SS-9 | 4.5+ | - | - | - | - | - | - | - | - | 20 | A-7-6 (V) | |
| | 629.9 | EOB 25 | 3 5 8 | 18 | 67 | SS-10 | 3.0-3.8 | - | - | - | - | - | - | - | - | 21 | A-7-6 (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:44 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 3

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 938+03, 73' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 656.8 (MSL) EOB: 25.0 ft. |
| START: 6/12/23 END: 6/12/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.452380 N, 82.068143 W |

EXPLORATION ID **B-087-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 656.8 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASPHALT - 13 INCHES | 655.7 | | | | | | | | | | | | | | | | | |
| GRANULAR BASE - 8-1/2 INCHES | 655.0 | | | | | SS-1A | - | - | - | - | - | - | - | - | - | - | A-1-b (V) | |
| FILL: Hard gray **SANDY SILT**, some fine gravel, little clay, few shale fragments, damp. | | | 3 7 9 | 22 | 100 | SS-1B | 4.5+ | - | - | - | - | - | - | - | - | 11 | A-4a (V) | |
| | 651.3 | | 6 4 3 | 10 | 56 | SS-2 | 4.5+ | 24 | 15 | 17 | 29 | 15 | 19 | 16 | 3 | 10 | A-4a (2) | |
| FILL: Very-stiff to hard gray and gray mottled with brown **SILTY CLAY**, little fine to coarse sand, trace fine gravel, few shale fragments, damp to moist. | | | 2 2 5 | 10 | 61 | SS-3 | 2.0-4.5+ | - | - | - | - | - | - | - | - | 21 | A-6b (V) | |
| | | | 2 4 4 | 11 | 67 | SS-4 | 3.0-3.5 | - | - | - | - | - | - | - | - | 18 | A-6b (V) | |
| | 643.8 | | 3 4 6 | 14 | 44 | SS-5 | 2.0-2.5 | - | - | - | - | - | - | - | - | 17 | A-6b (V) | |
| FILL: Hard gray **SANDY SILT**, little fine gravel, little clay, few brick fragments, damp. | 641.3 | | 5 6 6 | 17 | 61 | SS-6 | 4.5+ | - | - | - | - | - | - | - | - | 8 | A-4a (V) | |
| FILL: Hard gray and black **CLAY**, some to "and" silt, little fine to coarse sand, trace fine gravel, slightly organic, moist. | 638.8 | | 5 5 7 | 17 | 100 | SS-7 | 4.5+ | - | - | - | - | - | - | - | - | 37 | A-7-6 (V) | |
| FILL: Very-stiff to hard gray **SILT AND CLAY**, some fine to coarse sand, trace fine gravel, few brick fragments, damp. | | | 4 3 4 | 10 | 78 | SS-8 | 4.5+ | 7 | 10 | 12 | 43 | 28 | 26 | 15 | 11 | 12 | A-6a (8) | |
| | 633.8 | | 3 4 7 | 15 | 44 | SS-9 | 3.0-3.5 | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| FILL: Hard gray **CLAY**, "and" silt, little fine to coarse sand, trace fine gravel, damp. | 631.8 | EOB | 3 7 8 | 21 | 78 | SS-10 | 4.5+ | - | - | - | - | - | - | - | - | 20 | A-7-6 (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:44 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 4

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 940+55, 72' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 658.9 (MSL) EOB: 25.0 ft. |
| START: 6/13/23 END: 6/13/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.452925 N, 82.067596 W |

EXPLORATION ID **B-088-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 658.9 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASPHALT - 13 INCHES | 657.8 | | | | | | | | | | | | | | | | | |
| GRANULAR BASE - 6 INCHES | 657.3 | | | | | | | | | | | | | | | | | |
| FILL: Dense brown and gray **SANDY SILT**, little fine gravel, trace to little clay, few shale fragments, damp. | 655.4 | 1 | | | | | | | | | | | | | | | | |
| | | 2 | 4 13 12 | 35 | 50 | SS-1 | - | - | - | - | - | - | - | - | - | 8 | A-4a (V) | |
| | | 3 | | | | | | | | | | | | | | | | |
| FILL: Very-stiff to hard grayish-brown **SILT AND CLAY**, some fine to coarse sand, trace fine gravel, few shale fragments, damp. | | 4 | 4 7 17 | 33 | 44 | SS-2 | 2.5-4.5+ | - | - | - | - | - | - | - | - | 11 | A-6a (V) | |
| | | 5 | | | | | | | | | | | | | | | | |
| | | 6 | 4 5 5 | 14 | 22 | SS-3 | 3.5 | - | - | - | - | - | - | - | - | 12 | A-6a (V) | |
| | | 7 | | | | | | | | | | | | | | | | |
| - @ 8.5', few stiff zones | | 8 | | | | | | | | | | | | | | | | |
| | | 9 | 3 5 5 | 14 | 72 | SS-4 | 1.5-3.5 | 6 | 9 | 12 | 38 | 35 | 32 | 17 | 15 | 16 | A-6a (10) | |
| | | 10 | | | | | | | | | | | | | | | | |
| | | 11 | | | | | | | | | | | | | | | | |
| | | 12 | 3 5 5 | 14 | 67 | SS-5 | 3.5-4.5+ | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| | | 13 | | | | | | | | | | | | | | | | |
| | 643.4 | 14 | 3 5 7 | 17 | 67 | SS-6 | 4.5+ | - | - | - | - | - | - | - | - | 13 | A-6a (V) | |
| | | 15 | | | | | | | | | | | | | | | | |
| FILL: Very-stiff to hard gray mottled with brown **CLAY**, "and" silt, little fine to coarse sand, trace fine gravel, damp to moist. | | 16 | | | | | | | | | | | | | | | | |
| | | 17 | 3 3 7 | 14 | 83 | SS-7 | 2.5-4.5+ | - | - | - | - | - | - | - | - | 24 | A-7-6 (V) | |
| | | 18 | | | | | | | | | | | | | | | | |
| | | 19 | 3 6 6 | 17 | 67 | SS-8 | 3.0-4.0 | - | - | - | - | - | - | - | - | 20 | A-7-6 (V) | |
| | 638.4 | 20 | | | | | | | | | | | | | | | | |
| FILL: Very-stiff to hard gray **SILT AND CLAY**, some fine to coarse sand, trace fine gravel, damp. | | 21 | | | | | | | | | | | | | | | | |
| | | 22 | 5 5 8 | 18 | 100 | SS-9 | 2.0-4.5+ | 8 | 10 | 12 | 43 | 27 | 27 | 15 | 12 | 10 | A-6a (8) | |
| | | 23 | | | | | | | | | | | | | | | | |
| | 633.9 | 24 | 6 11 8 | 26 | 100 | SS-10 | 2.0-4.0 | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| | EOB | 25 | | | | | | | | | | | | | | | | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE



PLATE 5

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 943+68, 72' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 659.5 (MSL) EOB: 25.0 ft. |
| START: 6/13/23 END: 6/13/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.453575 N, 82.066871 W |

EXPLORATION ID **B-088-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 659.5 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASPHALT - 12 INCHES | 658.5 | | | | | | | | | | | | | | | | | |
| GRANULAR BASE - 6 INCHES | 658.0 | | | | | | | | | | | | | | | | | |
| FILL: Hard gray **SANDY SILT**, little clay, little fine gravel, damp. | 656.5 | 1–2 | 6 12 14 | 36 | 100 | SS-1 | 4.5+ | - | - | - | - | - | - | - | - | 9 | A-4a (V) | |
| FILL: Stiff gray **SANDY SILT**, little clay, little fine gravel, damp. | 654.0 | 3–4 | 5 4 3 | 10 | 67 | SS-2 | 1.5-2.0 | 12 | 14 | 20 | 36 | 18 | 19 | 13 | 6 | 12 | A-4a (4) | |
| FILL: Very-stiff gray mottled with brown **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp to moist. | 649.0 | 5–6 | 2 3 4 | 10 | 67 | SS-3 | 2.0-3.0 | - | - | - | - | - | - | - | - | 17 | A-6b (V) | |
| | | 7–8 | 2 4 6 | 14 | 61 | SS-4 | 2.0-3.5 | - | - | - | - | - | - | - | - | 22 | A-6b (V) | |
| FILL: Hard gray **SANDY SILT**, some fine gravel, little clay, many shale fragments, damp. | 641.5 | 9–10 | 3 4 6 | 14 | 67 | SS-5 | 4.5+ | 33 | 15 | 9 | 25 | 18 | 24 | 18 | 6 | 9 | A-4a (2) | |
| | | 11–12 | 3 4 6 | 14 | 33 | SS-6 | - | - | - | - | - | - | - | - | - | 9 | A-4a (V) | |
| | | 13–14 | 3 4 6 | 14 | 67 | SS-7 | 4.5+ | - | - | - | - | - | - | - | - | 9 | A-4a (V) | |
| FILL: Stiff to very-stiff gray mottled with brown **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp. | 636.5 | 15–16 | 4 4 4 | 11 | 78 | SS-8 | 2.0-3.0 | - | - | - | - | - | - | - | - | 13 | A-6b (V) | |
| | | 17–18 | 5 5 7 | 17 | 100 | SS-9 | 1.5-2.5 | - | - | - | - | - | - | - | - | 18 | A-6b (V) | |
| FILL: Hard gray **SILTY CLAY**, "and" fine to coarse gravel (shale fragments), little fine to coarse sand, damp. | 634.5 | 19–20 | 18 7 9 | 22 | 67 | SS-10 | 4.5+ | - | - | - | - | - | - | - | - | - | A-6b (V) | |
| EOB | | 21–22 | | | | | | | | | | | | | | | | |
| | | 23–24 | | | | | | | | | | | | | | | | |
| | | 25 | | | | | | | | | | | | | | | | |

NOTED
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE



PLATE 6

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 945+54, 72' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 659.2 (MSL) EOB: 25.0 ft. |
| START: 6/14/23 END: 6/14/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.453946 N, 82.066419 W |

EXPLORATION ID **B-089-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 659.2 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASPHALT - 12 INCHES | 658.2 | | | | | | | | | | | | | | | | | |
| GRANULAR BASE - 7 INCHES | 657.6 | | | | | | | | | | | | | | | | | |
| FILL: Very-stiff to hard gray **SILT AND CLAY**, little to some fine to coarse sand, trace to little fine gravel, few shale fragments, damp. | | 1–3 | 4 9 11 | 28 | 61 | SS-1 | 4.5+ | - | - | - | - | - | - | - | - | 11 | A-6a (V) | |
| | | 3–5 | 4 5 10 | 21 | 67 | SS-2 | 3.5-4.5+ | - | - | - | - | - | - | - | - | 12 | A-6a (V) | |
| | | 6–8 | 2 3 4 | 10 | 17 | SS-3 | - | - | - | - | - | - | - | - | - | 13 | A-6a (V) | |
| | 651.2 | | | | | | | | | | | | | | | | | |
| FILL: Very-stiff becoming hard brown mottled with gray **CLAY**, some silt, little fine to coarse sand, trace fine gravel, damp to moist. | | 8–10 | 2 5 6 | 15 | 72 | SS-4 | 2.0-3.0 | 4 | 3 | 8 | 28 | 57 | 45 | 18 | 27 | 22 | A-7-6 (16) | |
| | | 11–12 | 7 25 11 | 50 | 100 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 15 | A-7-6 (V) | |
| | 646.2 | | | | | | | | | | | | | | | | | |
| FILL: Hard gray **SANDY SILT**, some fine to coarse gravel, some clay, many shale fragments, damp. | | 13–15 | 8 10 8 | 25 | 17 | SS-6 | 4.5+ | - | - | - | - | - | - | - | - | 5 | A-4a (V) | |
| | | 16–18 | 6 9 9 | 25 | 100 | SS-7 | 4.5+ | - | - | - | - | - | - | - | - | 8 | A-4a (V) | |
| | 638.7 | | | | | | | | | | | | | | | | | |
| FILL: Very-stiff to hard brown mottled with gray **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, damp. | | 19–21 | 5 4 6 | 14 | 100 | SS-8 | 4.5+ | 29 | 11 | 10 | 29 | 21 | 23 | 15 | 8 | 11 | A-4a (3) | |
| | | 21–23 | 5 6 5 | 15 | 100 | SS-9 | 3.5-4.5+ | - | - | - | - | - | - | - | - | 13 | A-6a (V) | |
| | 634.2 | 24–25 | 3 7 8 | 21 | 78 | SS-10 | 3.5-4.5+ | - | - | - | - | - | - | - | - | 13 | A-6a (V) | |
| | | EOB | | | | | | | | | | | | | | | | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

PLATE 7

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 947+58, 71' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 658.2 (MSL) EOB: 25.0 ft. |
| START: 6/14/23 END: 6/14/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.454346 N, 82.065906 W |

EXPLORATION ID **B-089-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 658.2 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASPHALT - 12 INCHES | 657.2 | | | | | | | | | | | | | | | | | |
| GRANULAR BASE - 7 INCHES | 656.6 | | | | | | | | | | | | | | | | | |
| FILL: Hard gray **SANDY SILT**, little fine gravel, little clay, few shale fragments, damp. | 652.7 | 1 | 5 11 8 | 26 | 100 | SS-1 | 4.5+ | - | - | - | - | - | - | - | - | 9 | A-4a (V) | |
| | | 2 | | | | | | | | | | | | | | | | |
| | | 3 | | | | | | | | | | | | | | | | |
| | | 4 | 7 11 10 | 29 | 100 | SS-2 | 4.5+ | - | - | - | - | - | - | - | - | 9 | A-4a (V) | |
| | | 5 | | | | | | | | | | | | | | | | |
| FILL: Stiff to hard gray **CLAY**, some to "and" silt, little fine to coarse sand, trace fine gravel, few shale fragments, damp. | 645.2 | 6 | 2 2 3 | 7 | 67 | SS-3 | 1.0-1.5 | 2 | 3 | 10 | 31 | 54 | 44 | 19 | 25 | 24 | A-7-6 (15) | |
| | | 7 | | | | | | | | | | | | | | | | |
| | | 8 | | | | | | | | | | | | | | | | |
| | | 9 | 2 6 7 | 18 | 72 | SS-4 | 2.0-3.0 | - | - | - | - | - | - | - | - | 21 | A-7-6 (V) | |
| | | 10 | | | | | | | | | | | | | | | | |
| | | 11 | | | | | | | | | | | | | | | | |
| | | 12 | 3 6 9 | 21 | 100 | SS-5 | 4.0-4.5+ | - | - | - | - | - | - | - | - | 18 | A-7-6 (V) | |
| FILL: Hard gray mottled with brown **SANDY SILT**, some clay, little fine gravel, few shale fragments, damp. | 635.2 | 13 | | | | | | | | | | | | | | | | |
| | | 14 | 3 5 7 | 17 | 100 | SS-6 | 4.5+ | - | - | - | - | - | - | - | - | 10 | A-4a (V) | |
| | | 15 | | | | | | | | | | | | | | | | |
| | | 16 | | | | | | | | | | | | | | | | |
| | | 17 | 22 13 12 | 35 | 100 | SS-7 | 4.5+ | 19 | 12 | 11 | 35 | 23 | 24 | 15 | 9 | 9 | A-4a (5) | |
| | | 18 | | | | | | | | | | | | | | | | |
| | | 19 | 4 5 4 | 12 | 100 | SS-8 | 4.5+ | - | - | - | - | - | - | - | - | 13 | A-4a (V) | |
| | | 20 | | | | | | | | | | | | | | | | |
| | | 21 | | | | | | | | | | | | | | | | |
| | | 22 | 5 8 10 | 25 | 67 | SS-9 | 4.5+ | - | - | - | - | - | - | - | - | 11 | A-4a (V) | |
| FILL: Hard brown mottled with gray **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, damp to moist. | 633.2 | 23 | | | | | | | | | | | | | | | | |
| | | 24 | 4 6 6 | 17 | 100 | SS-10 | 4.0-4.5+ | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| | EOB | 25 | | | | | | | | | | | | | | | | |

NOTES
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:44 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINTW\PROJECTS\217525A.GPJ

PLATE 8

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 949+57, 70' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 655.9 (MSL) EOB: 25.0 ft. |
| START: 6/14/23 END: 6/14/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.454738 N, 82.065400 W |

EXPLORATION ID **B-090-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 655.9 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASPHALT - 12 INCHES | 654.9 | | | | | | | | | | | | | | | | | |
| GRANULAR BASE - 7 INCHES | 654.3 | | | | | | | | | | | | | | | | | |
| FILL: Very-stiff gray **SANDY SILT**, little fine gravel, little clay, many shale fragments, damp. | 650.4 | 2 | 8 5 6 | 15 | 67 | SS-1 | 2.5-3.5 | - | - | - | - | - | - | - | - | 10 | A-4a (V) | |
| | | 4 | 3 7 5 | 17 | 100 | SS-2 | 3.0-4.0 | - | - | - | - | - | - | - | - | 12 | A-4a (V) | |
| FILL: Hard brown mottled with gray **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp. | 645.4 | 7 | 3 5 6 | 15 | 72 | SS-3 | 4.5+ | - | - | - | - | - | - | - | - | 17 | A-6b (V) | |
| | | 9 | 2 4 7 | 15 | 67 | SS-4 | 4.5+ | - | - | - | - | - | - | - | - | 22 | A-6b (V) | |
| FILL: Very-stiff to hard gray and grayish-brown **SILT AND CLAY**, little to some fine to coarse sand, trace to little fine gravel, few shale fragments, damp to moist. | 630.9 | 12 | 6 9 9 | 25 | 67 | SS-5 | 4.5+ | 14 | 10 | 8 | 27 | 41 | 32 | 18 | 14 | 13 | A-6a (8) | |
| | | 14 | 6 11 13 | 33 | 100 | SS-6 | 4.5+ | - | - | - | - | - | - | - | - | 9 | A-6a (V) | |
| | | 17 | 6 7 7 | 19 | 100 | SS-7 | 3.0-4.5+ | - | - | - | - | - | - | - | - | 12 | A-6a (V) | |
| | | 19 | 9 11 7 | 25 | 78 | SS-8 | 4.5+ | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| | | 22 | 4 6 8 | 19 | 72 | SS-9 | 4.5+ | - | - | - | - | - | - | - | - | 17 | A-6a (V) | |
| EOB | | 25 | 3 6 9 | 21 | 72 | SS-10 | 2.5-3.0 | 9 | 9 | 12 | 32 | 38 | 32 | 18 | 14 | 14 | A-6a (9) | |

NOTES
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:44 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINTW\PROJECTS\217525A.GPJ

PLATE 9

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 951+57, 70' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 652.7 (MSL) EOB: 25.0 ft. |
| START: 6/14/23 END: 6/14/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.455128 N, 82.064887 W |

EXPLORATION ID **B-090-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 652.7 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASPHALT - 13 INCHES | 651.6 | | | | | | | | | | | | | | | | | |
| GRANULAR BASE - 7 INCHES | 651.0 | | | | | SS-1A | - | - | - | - | - | - | - | - | - | - | A-1-b (V) | |
| FILL: Hard gray **SANDY SILT**, some clay, trace fine to coarse gravel, few shale fragments, damp. | | 1 | 8 9 7 | 22 | 78 | SS-1B | 4.5+ | - | - | - | - | - | - | - | - | 11 | A-4a (V) | |
| | 647.2 | 2 | | | | | | | | | | | | | | | | |
| FILL: Very-stiff gray mottled with brown **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp. | | 3 | 3 6 3 | 12 | 56 | SS-2 | 4.0-4.5+ | 9 | 10 | 13 | 35 | 33 | 25 | 16 | 9 | 12 | A-4a (7) | |
| | 644.7 | 4 | | | | | | | | | | | | | | | | |
| FILL: Hard brown mottled with gray **SANDY SILT**, some clay, little fine to coarse gravel, few shale and brick fragments, damp. | | 5 | 4 6 8 | 19 | 72 | SS-3 | 3.0-4.0 | - | - | - | - | - | - | - | - | 17 | A-6b (V) | |
| | 637.2 | 6 | | | | | | | | | | | | | | | | |
| FILL: Hard grayish-brown **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp. | | 7 | 4 5 6 | 15 | 67 | SS-4 | 4.5+ | - | - | - | - | - | - | - | - | 12 | A-4a (V) | |
| | 629.7 | 8 | | | | | | | | | | | | | | | | |
| Very-stiff gray **CLAY**, "and" silt, little fine to coarse sand, trace fine gravel, moist. | 627.7 | 9 | 6 6 13 | 26 | 83 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 11 | A-4a (V) | |
| EOB | | 10 | | | | | | | | | | | | | | | | |
| | | 11 | 6 9 8 | 24 | 100 | SS-6 | 4.5+ | 11 | 11 | 15 | 37 | 26 | 22 | 15 | 7 | 10 | A-4a (6) | |
| | | 12 | | | | | | | | | | | | | | | | |
| | | 13 | 3 6 9 | 21 | 100 | SS-7 | 4.5+ | - | - | - | - | - | - | - | - | 16 | A-6b (V) | |
| | | 14 | | | | | | | | | | | | | | | | |
| | | 15 | 4 5 7 | 17 | 67 | SS-8 | 4.5+ | - | - | - | - | - | - | - | - | 17 | A-6b (V) | |
| | | 16 | | | | | | | | | | | | | | | | |
| | | 17 | 4 9 14 | 32 | 100 | SS-9 | 4.5+ | - | - | - | - | - | - | - | - | 17 | A-6b (V) | |
| | | 18 | | | | | | | | | | | | | | | | |
| | | 19 | 3 4 8 | 17 | 100 | SS-10 | 3.5 | - | - | - | - | - | - | - | - | 26 | A-7-6 (V) | |
| | | 20 | | | | | | | | | | | | | | | | |
| | | 21 | | | | | | | | | | | | | | | | |
| | | 22 | | | | | | | | | | | | | | | | |
| | | 23 | | | | | | | | | | | | | | | | |
| | | 24 | | | | | | | | | | | | | | | | |
| | | 25 | | | | | | | | | | | | | | | | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:44 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 10

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB SIMCO 2800 | STATION / OFFSET: 953+58, 70' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / N. SOKOLOWSKI | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 648.7 (MSL) EOB: 25.0 ft. |
| START: 6/14/23 END: 6/14/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 83.2 | COORD: 41.455523 N, 82.064375 W |

EXPLORATION ID **B-091-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 648.7 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASPHALT - 13 INCHES | 647.6 | | | | | | | | | | | | | | | | | |
| GRANULAR BASE - 7 INCHES | 647.0 | | | | | | | | | | | | | | | | | |
| FILL: Hard grayish-brown **SANDY SILT**, some clay, trace to little fine to coarse gravel, few shale fragments, damp. | | 1 | | | | SS-1A | - | - | - | - | - | - | - | - | - | - | A-1-b (V) | |
| | | 2 | 5 7 9 | 22 | 67 | SS-1B | 4.5+ | - | - | - | - | - | - | - | - | 14 | A-4a (V) | |
| | | 3 | | | | | | | | | | | | | | | | |
| | | 4 | 5 7 9 | 22 | 100 | SS-2 | 4.5+ | - | - | - | - | - | - | - | - | 12 | A-4a (V) | |
| | | 5 | | | | | | | | | | | | | | | | |
| | | 6 | 4 5 7 | 17 | 100 | SS-3 | 4.5+ | - | - | - | - | - | - | - | - | 11 | A-4a (V) | |
| | | 7 | | | | | | | | | | | | | | | | |
| | | 8 | | | | | | | | | | | | | | | | |
| | 638.2 | 9 | 6 10 11 | 29 | 100 | SS-4 | 4.5+ | - | - | - | - | - | - | - | - | 11 | A-4a (V) | |
| FILL: Very-stiff grayish-brown **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, damp. | | 10 | | | | | | | | | | | | | | | | |
| | | 11 | | | | | | | | | | | | | | | | |
| | | 12 | 4 6 7 | 18 | 78 | SS-5 | 3.0-3.5 | 6 | 8 | 12 | 36 | 38 | 28 | 15 | 13 | 15 | A-6a (9) | |
| | | 13 | | | | | | | | | | | | | | | | |
| | | 14 | 3 4 7 | 15 | 72 | SS-6 | 3.0-4.0 | - | - | - | - | - | - | - | - | 17 | A-6a (V) | |
| | 633.2 | 15 | | | | | | | | | | | | | | | | |
| FILL: Stiff to very-stiff gray mottled with brown **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp to moist. | | 16 | | | | | | | | | | | | | | | | |
| | | 17 | 5 4 8 | 17 | 83 | SS-7 | 3.0-3.5 | - | - | - | - | - | - | - | - | 20 | A-6b (V) | |
| | | 18 | | | | | | | | | | | | | | | | |
| | 628.2 | 19 | 2 5 7 | 17 | 67 | SS-8 | 1.5-3.0 | 3 | 6 | 11 | 34 | 46 | 37 | 17 | 20 | 20 | A-6b (12) | |
| Very-stiff to hard gray mottled with brown **CLAY**, some to "and" silt, little fine to coarse sand, trace fine gravel, damp. | | 20 | | | | | | | | | | | | | | | | |
| | | 21 | | | | | | | | | | | | | | | | |
| | | 22 | 5 7 11 | 25 | 67 | SS-9 | 4.0-4.5+ | - | - | - | - | - | - | - | - | 24 | A-7-6 (V) | |
| | | 23 | | | | | | | | | | | | | | | | |
| | 623.7 | 24 | 6 6 9 | 21 | 67 | SS-10 | 3.0-3.5 | - | - | - | - | - | - | - | - | 22 | A-7-6 (V) | |
| | EOB | 25 | | | | | | | | | | | | | | | | |

NOTES
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:44 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 11

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 955+60, 71' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / P. LEITER | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 644.7 (MSL) EOB: 25.0 ft. |
| START: 6/27/23 END: 6/27/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.455918 N, 82.063857 W |

EXPLORATION ID **B-091-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 644.7 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASPHALT - 15 INCHES | 643.4 | | | | | | | | | | | | | | | | | |
| GRANULAR BASE - 8 INCHES | 642.8 | | | | | | | | | | | | | | | | | |
| FILL: Hard dark-gray mottled with brown **SANDY SILT**, some clay, trace to little fine gravel, few shale fragments, damp. | 639.2 | 1 | 4 4 6 | 15 | 67 | SS-1 | 4.5 | - | - | - | - | - | - | - | - | 13 | A-4a (V) | |
| | | 2 | 2 3 2 | 8 | 72 | SS-2 | 4.0-4.5 | - | - | - | - | - | - | - | - | 15 | A-4a (V) | |
| FILL: Very-stiff brown **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp. | 636.7 | 3 | 3 5 6 | 17 | 89 | SS-3 | 3.5-4.0 | - | - | - | - | - | - | - | - | 20 | A-6b (V) | |
| FILL: Very-stiff to hard gray mottled with brown **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, damp. | 631.7 | 4 | 2 2 2 | 6 | 78 | SS-4 | 2.0-2.5 | 7 | 8 | 12 | 45 | 28 | 32 | 19 | 13 | 16 | A-6a (9) | |
| | | 5 | 2 4 6 | 15 | 100 | SS-5 | 3.5-4.5 | - | - | - | - | - | - | - | - | 18 | A-6a (V) | |
| Stiff to very-stiff gray mottled with brown **CLAY**, "and" silt, little fine to coarse sand, trace fine gravel, few hard zones, damp. | 624.2 | 6 | 2 2 4 | 9 | 67 | SS-6 | 2.0-3.5 | - | - | - | - | - | - | - | - | 21 | A-7-6 (V) | |
| | | 7 | 3 4 5 | 14 | 100 | SS-7 | 1.5-3.5 | 1 | 3 | 9 | 38 | 49 | 46 | 20 | 26 | 22 | A-7-6 (16) | |
| | | 8 | 2 4 5 | 14 | 83 | SS-8 | 3.5-4.5 | - | - | - | - | - | - | - | - | 22 | A-7-6 (V) | |
| Very-stiff to hard brown and dark brown **SANDY SILT**, little clay, trace fine gravel, damp. | 621.7 | 9 | 3 4 7 | 17 | 100 | SS-9 | 2.5-4.5 | 6 | 13 | 14 | 47 | 20 | 30 | 20 | 10 | 17 | A-4a (6) | |
| Very-stiff to hard brown **SANDY SILT**, little clay, little fine gravel, few shale fragments, partly similar to severely weathered, very-weak shale, damp. | 619.7 | 10 | 8 12 12 | 36 | 94 | SS-10 | 3.5-4.5 | - | - | - | - | - | - | - | - | 13 | A-4a (V) | |
| | | EOB | | | | | | | | | | | | | | | | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:44 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 12

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 957+55, 69' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / P. LEITER | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 640.8 (MSL) EOB: 25.0 ft. |
| START: 6/27/23 END: 6/27/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.456303 N, 82.063362 W |

EXPLORATION ID **B-092-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 640.8 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASPHALT - 17 INCHES | 639.4 | 1 | | | | | | | | | | | | | | | | |
| GRANULAR BASE - 7 INCHES | 638.8 | 2 | | | | | | | | | | | | | | | | |
| FILL: Hard dark-brown **SANDY SILT**, little clay, trace fine gravel, damp. | 637.3 | 3 | 6 7 4 | 17 | 78 | SS-1 | 4.5 | - | - | - | - | - | - | - | - | 13 | A-4a (V) | |
| FILL: Very-stiff to hard gray mottled with brown **SILT AND CLAY**, some fine to coarse sand, trace fine gravel, few shale fragments, few medium-stiff to stiff zones, damp. | | 4 5 | 5 3 2 | 8 | 72 | SS-2 | 2.5-4.5 | - | - | - | - | - | - | - | - | 11 | A-6a (V) | |
| | 632.8 | 6 7 | 2 3 2 | 8 | 72 | SS-3 | 0.5-4.5 | 7 | 10 | 13 | 12 | 58 | 29 | 15 | 14 | 15 | A-6a (9) | |
| FILL: Stiff brown and gray **CLAY**, "and" silt, trace to little fine to coarse sand, trace fine gravel, damp. | 630.3 | 8 9 | 1 2 2 | 6 | 72 | SS-4 | 1.0-1.5 | - | - | - | - | - | - | - | - | 25 | A-7-6 (V) | |
| FILL: Very-stiff to hard brown **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, damp. | 627.8 | 10 11 12 | 2 4 8 | 18 | 100 | SS-5 | 3.5-4.5 | - | - | - | - | - | - | - | - | 12 | A-6a (V) | |
| Very-stiff gray and dark-gray **CLAY**, "and" silt, trace to little fine to coarse sand, damp to moist. | 622.8 | 13 14 15 | 1 3 4 | 11 | 100 | SS-6 | 2.0-2.5 | 0 | 2 | 8 | 37 | 53 | 51 | 21 | 30 | 28 | A-7-6 (18) | |
| Hard gray mottled with brown **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp. | 620.3 | 16 17 18 | 2 3 5 | 12 | 94 | SS-7 | 2.5-4.0 | - | - | - | - | - | - | - | - | 23 | A-7-6 (V) | |
| Very-stiff to hard dark-gray **SANDY SILT**, some clay, little fine gravel, few shale fragments, partly similar to severely weathered, very-weak shale, damp. | 615.8 | 19 20 21 | 2 6 9 | 23 | 89 | SS-8 | 4.0-4.5 | - | - | - | - | - | - | - | - | 15 | A-6b (V) | |
| | | W 617.8 22 23 | 12 19 21 | 60 | 100 | SS-9 | 2.5-3.0 | - | - | - | - | - | - | - | - | 11 | A-4a (V) | |
| | | EOB 24 25 | 10 17 36 | 80 | 100 | SS-10 | 4.0-4.5 | - | - | - | - | - | - | - | - | 9 | A-4a (V) | |

NOTES:
- Seepage noted at 23.0'.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:44 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 13

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 959+64, 79' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / P. LEITER | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 636.4 (MSL) EOB: 25.0 ft. |
| START: 6/27/23 END: 6/27/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.456693 N, 82.062804 W |

EXPLORATION ID **B-092-2-23**

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| MATERIAL DESCRIPTION AND NOTES | ELEV. 636.4 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 18 INCHES | 634.9 | | | | | | | | | | | | | | | | | |
| FILL: Very-stiff to hard dark-brown and gray **SANDY SILT**, some clay, little fine gravel, damp. | 630.9 | | 4 4 3 | 11 | 83 | SS-1 | 3.5-4.5 | - | - | - | - | - | - | - | - | 13 | A-4a (V) | |
| | | | 2 3 4 | 11 | 100 | SS-2 | 2.0-4.5 | - | - | - | - | - | - | - | - | 11 | A-4a (V) | |
| Stiff to hard brown and gray **CLAY**, "and" silt, little fine to coarse sand, slightly organic, damp to moist. | 623.4 | | 2 2 3 | 8 | 67 | SS-3 | 4.0-4.5 | - | - | - | - | - | - | - | - | 19 | A-7-6 (V) | |
| | | | 1 2 3 | 8 | 67 | SS-4 | 1.0-3.5 | 0 | 2 | 10 | 36 | 52 | 56 | 23 | 33 | 32 | A-7-6 (19) | |
| | | | 2 3 2 | 8 | 72 | SS-5 | 2.0-2.5 | - | - | - | - | - | - | - | - | 26 | A-7-6 (V) | |
| Hard gray and brown **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp. | 620.9 | W 620.9 | 2 4 5 | 14 | 94 | SS-6 | 4.5 | - | - | - | - | - | - | - | - | 18 | A-6b (V) | |
| Hard gray and brown **SANDY SILT**, some fine to coarse gravel, little clay, few shale fragments, partly similar to severely weathered, very-weak shale, damp. | 616.4 | | 7 18 35 | 80 | 100 | SS-7 | 4.5 | - | - | - | - | - | - | - | - | 12 | A-4a (V) | |
| | | | 11 17 19 | 54 | 100 | SS-8 | 4.0-4.5 | 25 | 25 | 14 | 22 | 14 | 28 | 19 | 9 | 9 | A-4a (0) | |
| **SHALE**, gray, severely to highly weathered, very-weak to weak. | 611.4 | TR | 50-5" | - | 100 | SS-9 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | EOB | 25 44 33 | 116 | 100 | SS-10 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- Seeped noted at 15.5'.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:44 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 14

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 961+57, 79' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / P. LEITER | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 633.4 (MSL) EOB: 23.6 ft. |
| START: 6/28/23 END: 6/28/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.457071 N, 82.062310 W |

EXPLORATION ID **B-093-1-23**

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| MATERIAL DESCRIPTION AND NOTES | ELEV. 633.4 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 18 INCHES | 631.9 | | | | | | | | | | | | | | | | | |
| FILL: Very-stiff to hard brown and dark-brown **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, damp. | 627.9 | | 3 3 1 | 6 | 56 | SS-1 | 3.5-4.5 | - | - | - | - | - | - | - | - | 18 | A-6a (V) | |
| | | | 2 2 3 | 8 | 89 | SS-2 | 2.0-3.0 | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| FILL: Stiff dark-brown and brown **CLAY**, "and" silt, little fine to coarse sand, trace fine gravel, slightly organic, moist. | 625.4 | | 1 3 3 | 9 | 83 | SS-3 | 1.5-2.0 | - | - | - | - | - | - | - | - | 35 | A-7-6 (V) | |
| Very-stiff brown and gray **SILTY CLAY**, little fine to coarse sand, trace fine gravel, moist. | 622.9 | | 2 3 3 | 9 | 100 | SS-4 | 2.0-3.0 | - | - | - | - | - | - | - | - | 23 | A-6b (V) | |
| Stiff to very-stiff brown and gray **SILT**, little clay, little fine to coarse sand, trace fine gravel, moist. | 620.4 | | 1 2 2 | 6 | 78 | SS-5 | 1.0-2.5 | 2 | 0 | 16 | 64 | 18 | 24 | 17 | 7 | 24 | A-4b (8) | |
| Medium-dense brown **COARSE AND FINE SAND**, little silt, trace to little clay, trace fine gravel, damp to moist. | 619.3 | | 5 8 9 | 26 | 83 | SS-6A | - | - | - | - | - | - | - | - | - | 10 | A-3a (V) | |
| Hard brownish-gray **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, damp. | 617.9 | W 617.9 | | | | SS-6B | 4.5 | - | - | - | - | - | - | - | - | 10 | A-6a (V) | |
| Very-dense gray **SANDY SILT**, little fine gravel, trace clay, moist. | 615.4 | | 11 23 18 | 62 | 89 | SS-7 | - | 11 | 12 | 32 | 39 | 6 | NP | NP | NP | 20 | A-4a (2) | |
| **SHALE**, dark-gray, highly to severely weathered, very-weak to weak, partly similar to hard soil above 20'. | 609.8 | TR<br>▽ 612.6<br>EOB | 8 19 30 | 74 | 89 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 28 50-1" | - | 100 | SS-9 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 50-1" | - | 0 | | | - | - | - | - | - | - | - | - | - | | |

NOTES:
- Seepage noted at 15.5'.
- Groundwater measured at 20.8' inside HSA after completion.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:44 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 15

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 963+58, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / P. LEITER | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 631.6 (MSL) EOB: 20.7 ft. |
| START: 6/28/23 END: 6/28/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.457467 N, 82.061799 W |

EXPLORATION ID **B-093-2-23**

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| MATERIAL DESCRIPTION AND NOTES | ELEV. 631.6 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 18 INCHES | 630.1 | | | | | | | | | | | | | | | | | |
| FILL: Very-stiff to hard dark-brown and gray **SILTY CLAY**, little fine to coarse sand, trace fine sand, damp. | 626.1 | | 3 3 2 | 8 | 78 | SS-1 | 2.5-4.5 | - | - | - | - | - | - | - | - | 22 | A-6b (V) | |
| | | | 3 3 2 | 8 | 67 | SS-2 | 2.5-4.5 | - | - | - | - | - | - | - | - | 21 | A-6b (V) | |
| Very-stiff to hard brown and gray **CLAY**, "and" silt, little fine to coarse sand, trace fine gravel, few stiff zones, damp. | 618.6 | ▽ 624.2 | 2 2 4 | 9 | 67 | SS-3 | 1.0-3.0 | 2 | 3 | 9 | 37 | 49 | 53 | 22 | 31 | 24 | A-7-6 (19) | |
| | | | 2 4 4 | 12 | 67 | SS-4 | 3.0-4.0 | - | - | - | - | - | - | - | - | 22 | A-7-6 (V) | |
| | | | 3 5 8 | 20 | 89 | SS-5 | 4.5 | - | - | - | - | - | - | - | - | 24 | A-7-6 (V) | |
| Hard gray **SANDY SILT**, little clay, little fine gravel, damp. | 616.1 | W 616.1 TR | 4 6 8 | 21 | 94 | SS-6 | 4.5 | 13 | 11 | 22 | 38 | 16 | 20 | 11 | 9 | 9 | A-4a (4) | |
| **SHALE**, dark-gray, highly to severely weathered, very-weak to weak. | 610.9 | | 9 10 14 | 36 | 100 | SS-7 | - | - | - | - | - | - | - | - | - | 7 | Rock (V) | |
| | | | 50-3" | - | 67 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | EOB | | | | | | | | | | | | | | | | |

NOTES:
- Seepage noted at 15.5'.
- Encountered auger refusal at 20.7'.
- After HSA removed, borehole caved at 12.1' and water was measured at 7.4'.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:44 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\PROJECTS\217525A.GPJ

PLATE 16

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 965+56, 79' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / P. LEITER | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 631.2 (MSL) EOB: 21.1 ft. |
| START: 6/28/23 END: 6/28/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.457854 N, 82.061291 W |

EXPLORATION ID **B-094-1-23**

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| MATERIAL DESCRIPTION AND NOTES | ELEV. 631.2 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 18 INCHES | 629.7 | | | | | | | | | | | | | | | | | |
| PROBABLE FILL: Hard dark-gray **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, damp. | 627.7 | | 5 5 2 | 11 | 89 | SS-1 | 4.5 | - | - | - | - | - | - | - | - | 7 | A-6a (V) | |
| Very-stiff to hard brown and gray **CLAY**, "and" silt, little fine to coarse sand, trace fine gravel, damp. | 623.2 | | 2 3 3 | 9 | 72 | SS-2 | 2.5-4.5 | - | - | - | - | - | - | - | - | 20 | A-7-6 (V) | |
| | | | 2 3 3 | 9 | 89 | SS-3 | 2.0-3.0 | 2 | 5 | 11 | 37 | 45 | 43 | 22 | 21 | 23 | A-7-6 (13) | |
| Stiff brown and gray **SILT AND CLAY**, some fine to coarse sand, trace fine gravel, damp to moist. | 620.7 | | 2 2 1 | 5 | 72 | SS-4 | 1.0-1.5 | 3 | 6 | 15 | 49 | 27 | 30 | 17 | 13 | 21 | A-6a (9) | |
| Very-stiff to hard gray and dark-gray **SILTY CLAY**, little fine to coarse sand, trace fine gravel, few shale fragments, dry to damp. | 615.7 | | 4 6 12 | 27 | 89 | SS-5 | 3.5-4.0 | - | - | - | - | - | - | - | - | 19 | A-6b (V) | |
| | | | 8 16 24 | 60 | 94 | SS-6 | 2.5-4.5 | - | - | - | - | - | - | - | - | 9 | A-6b (V) | |
| **SHALE**, dark gray, highly to severely weathered, weak. | | TR | 19 50-3" | - | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | W 613.2 | | | | | | | | | | | | | | | | | |
| | | | 50-5" | - | 100 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | 610.1 | EOB | 50-1" | - | 100 | SS-9 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- Seepage noted at 18.0'.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

PLATE 17

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 967+51, 78' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / P. LEITER | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 631.3 (MSL) EOB: 23.9 ft. |
| START: 6/28/23 END: 6/28/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.458237 N, 82.060795 W |

EXPLORATION ID **B-094-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 631.3 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 18 INCHES | 629.8 | | | | | | | | | | | | | | | | | |
| FILL: Stiff to very-stiff brownish-gray **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, damp. | 625.8 | | 2 3 3 | 9 | 72 | SS-1 | 1.5-4.0 | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| | | | 2 2 3 | 8 | 78 | SS-2 | 2.0-3.5 | 8 | 7 | 10 | 42 | 33 | 35 | 20 | 15 | 20 | A-6a (10) | |
| Stiff to very-stiff brown and gray **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp to moist. | 620.8 | | 2 3 4 | 11 | 78 | SS-3 | 2.5-4.0 | - | - | - | - | - | - | - | - | 26 | A-6b (V) | |
| | | | 1 3 6 | 14 | 89 | SS-4 | 1.5-3.0 | - | - | - | - | - | - | - | - | 21 | A-6b (V) | |
| Hard brown and gray **SILT AND CLAY**, little to some fine to coarse sand, trace fine gravel, damp. | 618.3 | | 7 13 17 | 45 | 100 | SS-5 | 4.5 | - | - | - | - | - | - | - | - | 12 | A-6a (V) | |
| Stiff to very-stiff brownish-gray **SILT**, some fine to coarse sand, little clay, trace fine gravel, damp. | 613.3 | | 9 25 26 | 77 | 100 | SS-6 | 2.0-2.5 | - | - | - | - | - | - | - | - | 8 | A-4b (V) | |
| | | | 9 14 18 | 48 | 100 | SS-7 | 1.5-2.0 | 3 | 6 | 17 | 60 | 14 | 20 | 13 | 7 | 13 | A-4b (8) | |
| **SHALE**, dark-gray, highly to severely weathered, very-weak to weak, partly similar to hard soil above 23'. | 607.4 | TR | 24 32 40 | 108 | 100 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 16 20 29 | 74 | 100 | SS-9 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | EOB | 50-5" | - | 100 | SS-10 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:44 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 18

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: OTB / C. SVITAK | DRILL RIG: OTB MOBILE B-57 | STATION / OFFSET: 969+67, 79' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / P. LEITER | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 3.25" HSA | CALIBRATION DATE: 12/22/22 | ELEVATION: 631.6 (MSL) EOB: 21.3 ft. |
| START: 6/28/23 END: 6/28/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 90* | COORD: 41.458657 N, 82.060242 W |

EXPLORATION ID **B-095-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 631.6 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 18 INCHES | 630.1 | | | | | | | | | | | | | | | | | |
| FILL: Stiff to very-stiff brown and gray **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp. | 626.1 | | 2 3 2 | 8 | 78 | SS-1 | 2.0-4.0 | - | - | - | - | - | - | - | - | 17 | A-6b (V) | |
| | | | 1 3 2 | 8 | 89 | SS-2 | 1.0-4.0 | - | - | - | - | - | - | - | - | 15 | A-6b (V) | |
| Very-stiff to hard gray and brown **CLAY**, "and" silt, little fine to coarse sand, trace fine gravel, damp. | 621.1 | | 2 3 4 | 11 | 61 | SS-3 | 2.5-3.0 | 1 | 3 | 8 | 38 | 50 | 52 | 22 | 30 | 22 | A-7-6 (18) | |
| | | | 2 4 6 | 15 | 100 | SS-4 | 4.0-4.5 | - | - | - | - | - | - | - | - | 14 | A-7-6 (V) | |
| Hard gray and brown **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, damp. | 616.1 | | 6 13 20 | 50 | 89 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 12 | A-6a (V) | |
| | | | 7 11 10 | 32 | 100 | SS-6 | 4.0-4.5+ | - | - | - | - | - | - | - | - | 10 | A-6a (V) | |
| **SHALE**, dark-gray, highly to severely weathered, very-weak to weak. | 610.3 | TR | 25 23 26 | 74 | 100 | SS-7 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | | 13 26 39 | 98 | 100 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | EOB | 50-4" | - | 75 | SS-9 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE



PLATE 19

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 971+59, 79' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 6/6/22 | ELEVATION: 632.1 (MSL) EOB: 24.2 ft. |
| START: 7/11/23 END: 7/11/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 85.4 | COORD: 41.459035 N, 82.059752 W |

EXPLORATION ID **B-095-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 632.1 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRANULAR SHOULDER FILL - 6 INCHES | 631.6 | | | | | | | | | | | | | | | | | |
| FILL: Very-stiff dark gray **SILTY CLAY**, little fine to coarse sand, trace fine gravel, few wood fragments, iron oxide staining, damp. | | 1 | 4 3 4 | 10 | 100 | SS-1 | 2.5-3.0 | - | - | - | - | - | - | - | - | 17 | A-6b (V) | |
| | | 2 | | | | | | | | | | | | | | | | |
| | | 3 | | | | | | | | | | | | | | | | |
| | | 4 | 3 3 4 | 10 | 100 | SS-2 | 3.0-3.5 | - | - | - | - | - | - | - | - | 15 | A-6b (V) | |
| | 626.6 | 5 | | | | | | | | | | | | | | | | |
| Very-stiff gray and brown **CLAY**, "and" silt, little fine to coarse sand, trace fine gravel, damp. | | 6 | | | | | | | | | | | | | | | | |
| | | 7 | 3 5 7 | 17 | 44 | SS-3 | 2.0-2.5 | 5 | 5 | 9 | 36 | 45 | 44 | 22 | 22 | 19 | A-7-6 (14) | |
| | | 8 | | | | | | | | | | | | | | | | |
| | | 9 | 3 4 7 | 16 | 100 | SS-4 | 3.0-3.5 | - | - | - | - | - | - | - | - | 18 | A-7-6 (V) | |
| | 621.6 | 10 | | | | | | | | | | | | | | | | |
| Hard dark gray **SANDY SILT**, little clay, trace to little fine gravel, damp. | | 11 | | | | | | | | | | | | | | | | |
| | | 12 | 9 18 22 | 57 | 100 | SS-5 | 4.5 | - | - | - | - | - | - | - | - | 12 | A-4a (V) | |
| | | 13 | | | | | | | | | | | | | | | | |
| | | 14 | 18 40 44 | 120 | 100 | SS-6 | 4.5 | - | - | - | - | - | - | - | - | 11 | A-4a (V) | |
| | | 15 | | | | | | | | | | | | | | | | |
| | | 16 | | | | | | | | | | | | | | | | |
| | 614.1 | 17 | 17 23 23 | 65 | 100 | SS-7 | 4.5 | - | - | - | - | - | - | - | - | 10 | A-4a (V) | |
| Dense to very-dense dark-gray **SILT**, little clay, trace fine to coarse sand, trace fine to coarse gravel, few shale fragments, damp. | | 18 | | | | | | | | | | | | | | | | |
| | | 19 | 8 12 20 | 46 | 100 | SS-8 | - | 5 | 3 | 5 | 67 | 20 | 23 | 17 | 6 | 16 | A-4b (8) | |
| | | 20 | | | | | | | | | | | | | | | | |
| | | 21 | | | | | | | | | | | | | | | | |
| | 610.1 | 22 | 10 18 50 | 97 | 100 | SS-9 | - | - | - | - | - | - | - | - | - | 4 | A-4b (V) | |
| | | TR | | | | | | | | | | | | | | | | |
| **SHALE**, dark-gray, highly to severely weathered, weak. | | 23 | | | | | | | | | | | | | | | | |
| | 607.9 | 24 | 49 50-2" | - | 100 | SS-10 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | EOB | | | | | | | | | | | | | | | | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:44 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\PROJECTS\217525A.GPJ

PLATE 20

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 973+61, 82' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 6/6/22 | ELEVATION: 632.8 (MSL) EOB: 24.0 ft. |
| START: 7/5/23 END: 7/5/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 85.4 | COORD: 41.459427 N, 82.059228 W |

EXPLORATION ID **B-096-1-23**

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| MATERIAL DESCRIPTION AND NOTES | ELEV. 632.8 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 2 INCHES | 632.6 | | | | | | | | | | | | | | | | | |
| FILL: Very-stiff gray and dark-gray **SILTY CLAY**, little fine to coarse sand, trace fine gravel, slightly organic, damp. | 629.8 | 1 | 4 4 4 | 11 | 89 | SS-1 | 2.5-3.0 | - | - | - | - | - | - | - | - | 17 | A-6b (V) | |
| FILL: Very-stiff dark-gray **CLAY**, some to "and" silt, little fine to coarse sand, trace fine gravel, slight hydrocarbon odor, damp. | 627.3 | 2 3 4 | 3 4 4 | 11 | 100 | SS-2 | 3.5-4.0 | - | - | - | - | - | - | - | - | 24 | A-7-6 (V) | |
| Very-stiff hard gray and brown **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp. | 622.3 | 5 6 7 8 | 3 5 7 | 17 | 100 | SS-3 | 3.0-3.5 | 9 | 5 | 9 | 35 | 42 | 38 | 20 | 18 | 14 | A-6b (11) | |
| Hard gray and dark-gray **SANDY SILT**, some fine gravel, trace clay, dry to damp. | 610.8 | 9 10 11 12 13 14 15 16 17 18 19 20 21 | 5 10 10 | 28 | 89 | SS-4 | 4.5+ | - | - | - | - | - | - | - | - | 12 | A-6b (V) | |
| | | | 4 14 22 | 51 | 89 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 12 | A-4a (V) | |
| | | | 19 30 40 | 100 | 100 | SS-6 | 4.5+ | - | - | - | - | - | - | - | - | 9 | A-4a (V) | |
| | | | 14 19 22 | 58 | 100 | SS-7 | 4.5+ | - | - | - | - | - | - | - | - | 8 | A-4a (V) | |
| | | | 12 15 24 | 56 | 100 | SS-8 | 4.5+ | - | - | - | - | - | - | - | - | 13 | A-4a (V) | |
| | | | 33 50-5" | - | 100 | SS-9 | 4.5+ | 23 | 22 | 15 | 32 | 8 | 23 | 16 | 7 | 8 | A-4a (1) | |
| **SHALE**, dark-gray, severely weathered, very-weak. | 608.8 | TR 22 23 EOB 24 | 50 | - | 100 | SS-10 | - | - | - | - | - | - | - | - | - | 9 | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:44 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\PROJECTS\217525A.GPJ

PLATE 21

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 975+61, 79' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 6/6/22 | ELEVATION: 633.2 (MSL) EOB: 23.6 ft. |
| START: 7/5/23 END: 7/5/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 85.4 | COORD: 41.459822 N, 82.058725 W |

EXPLORATION ID **B-096-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 633.2 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ROOTMAT - 2 INCHES | 633.0 | | | | | | | | | | | | | | | | | |
| FILL: Stiff to very-stiff gray and brown **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, slightly organic, few brick fragments, damp. | | | 4 5 5 | 14 | 100 | SS-1 | 1.5 | - | - | - | - | - | - | - | - | 13 | A-6a (V) | |
| | | | 3 3 3 | 9 | 100 | SS-2 | 3.0-3.5 | - | - | - | - | - | - | - | - | 13 | A-6a (V) | |
| | 627.7 | | | | | | | | | | | | | | | | | |
| Very-stiff brown and gray **CLAY**, "and" silt, little fine to coarse sand, trace fine gravel, damp. | | | 3 5 9 | 20 | 100 | SS-3 | 3.0-4.0 | 6 | 5 | 9 | 38 | 42 | 43 | 22 | 21 | 17 | A-7-6 (13) | |
| | 622.7 | | 5 7 10 | 24 | 89 | SS-4 | 3.5-4.0 | - | - | - | - | - | - | - | - | 16 | A-7-6 (V) | |
| Hard gray and dark-gray **SANDY SILT**, little to some clay, trace fine gravel, few shale fragments, becoming partly similar to severely weathered, very-weak shale, dry to damp. | | | 2 12 14 | 37 | 89 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 12 | A-4a (V) | |
| | | | 18 50-4" | - | 100 | SS-6 | 4.5+ | 8 | 14 | 14 | 45 | 19 | 28 | 18 | 10 | 10 | A-4a (6) | |
| | | | 18 21 30 | 73 | 100 | SS-7 | 4.5+ | - | - | - | - | - | - | - | - | 9 | A-4a (V) | |
| | 612.7 | | 17 23 40 | 90 | 89 | SS-8 | 4.5+ | - | - | - | - | - | - | - | - | 8 | A-4a (V) | |
| | | TR | | | | | | | | | | | | | | | | |
| **SHALE**, dark-gray, highly to severely weathered, very-weak to weak. | | | 25 33 50-4" | - | 100 | SS-9 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | 609.6 | EOB | 50-1" | - | 100 | SS-10 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SOIL CUTTINGS MIXED WITH BENTONITE

S&ME ODOT LOG (8.5X11) - SGE 01/2019 - OH DOT.GDT - 11/17/23 12:44 - R:\SERVICE LINES\CS-2557\CLEVELAND\01 - LABORATORY\02 - GINT\WPROJECTS\217525A.GPJ

PLATE 22

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 977+62, 80' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 6/6/22 | ELEVATION: 634.0 (MSL) EOB: 24.4 ft. |
| START: 7/6/23 END: 7/6/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 85.4 | COORD: 41.460216 N, 82.058209 W |

EXPLORATION ID **B-097-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 634.0 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASPHALT - 4 INCHES | 633.7 | | | | | | | | | | | | | | | | | |
| GRANULAR BASE - 6 INCHES | 633.2 | | | | | | | | | | | | | | | | | |
| FILL: Medium-dense dark gray **COARSE AND FINE SAND**, little fine gravel, trace to little clay, few brick fragments, slight hydrocarbon odor, damp. | 631.0 | 1 | 18 8 3 | 16 | 89 | SS-1 | - | - | - | - | - | - | - | - | - | 8 | A-3a (V) | |
| FILL: Very-stiff dark-gray and brown **SILT AND CLAY**, some fine to coarse sand, little fine gravel, few shale fragments, damp. | 628.5 | 4 | 4 3 3 | 9 | 89 | SS-2 | 3.0-4.0 | 17 | 16 | 17 | 34 | 16 | 26 | 13 | 13 | 13 | A-6a (4) | |
| Very-stiff gray **CLAY**, "and" silt, little fine to coarse sand, trace fine gravel, moist. | 626.0 | 7 | 3 3 4 | 10 | 100 | SS-3 | 2.5-3.5 | - | - | - | - | - | - | - | - | 26 | A-7-6 (V) | |
| Very-stiff to hard gray and brown **SILT AND CLAY**, some fine to coarse sand, trace fine to coarse gravel, damp. | 616.0 | 9 | 4 6 7 | 19 | 100 | SS-4 | 3.0-4.0 | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| | | 12 | 5 9 13 | 31 | 100 | SS-5 | 3.5-4.5 | 8 | 8 | 15 | 38 | 31 | 35 | 20 | 15 | 16 | A-6a (9) | |
| | | 14 | 11 13 25 | 54 | 100 | SS-6 | 4.0-4.5 | - | - | - | - | - | - | - | - | 12 | A-6a (V) | |
| | | 17 | 11 13 16 | 41 | 89 | SS-7 | 4.5 | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| **SHALE**, dark-gray, highly to severely weathered, very-weak to weak, similar to hard soil above 20'. | 609.6 | TR 18 | | | | | | | | | | | | | | | | |
| | | 19 | 11 16 16 | 46 | 89 | SS-8 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | 21 | 50-4" | - | 100 | SS-9 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |
| | | EOB 24 | 40 50-5" | - | 100 | SS-10 | - | - | - | - | - | - | - | - | - | - | Rock (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

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PLATE 23

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 979+65, 85' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 6/6/22 | ELEVATION: 634.2 (MSL) EOB: 25.0 ft. |
| START: 7/6/23 END: 7/6/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 85.4 | COORD: 41.460603 N, 82.057677 W |

EXPLORATION ID **B-097-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 634.2 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASPHALT - 4 INCHES | 633.9 | | | | | | | | | | | | | | | | | |
| GRANULAR BASE - 6 INCHES | 633.4 | | | | | | | | | | | | | | | | | |
| FILL: Very-stiff dark-gray and brown **SILTY CLAY**, little fine to coarse sand, trace to little fine gravel, few asphalt fragments, damp. | | 1 | 18 7 7 | 20 | 89 | SS-1 | 2.5 | - | - | - | - | - | - | - | - | 11 | A-6b (V) | |
| | | 2 | | | | | | | | | | | | | | | | |
| | | 3 | | | | | | | | | | | | | | | | |
| | | 4 | 5 6 6 | 17 | 100 | SS-2 | 3.5-4.0 | - | - | - | - | - | - | - | - | 15 | A-6b (V) | |
| | 628.7 | 5 | | | | | | | | | | | | | | | | |
| FILL: Very-stiff dark-gray and brown **CLAY**, "and" silt, little fine to coarse sand, trace fine gravel, few wood fragments, damp. | | 6 | | | | | | | | | | | | | | | | |
| | | 7 | 2 3 4 | 10 | 100 | SS-3 | 2.5-3.3 | 1 | 2 | 9 | 44 | 44 | 44 | 22 | 22 | 27 | A-7-6 (14) | |
| | 626.2 | 8 | | | | | | | | | | | | | | | | |
| Very-stiff to hard brown **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, damp. | | 9 | 4 7 8 | 21 | 100 | SS-4 | 3.5-4.5+ | - | - | - | - | - | - | - | - | 10 | A-6a (V) | |
| | | 10 | | | | | | | | | | | | | | | | |
| | | 11 | 6 10 15 | 36 | 100 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 13 | A-6a (V) | |
| | | 12 | | | | | | | | | | | | | | | | |
| | | 13 | | | | | | | | | | | | | | | | |
| | | 14 | 10 18 20 | 54 | 100 | SS-6 | 4.5+ | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| | 618.7 | 15 | | | | | | | | | | | | | | | | |
| Very-dense dark-gray **SANDY SILT**, little clay, trace fine gravel, few shale fragments, partly similar to severely weathered, very-weak shale, dry to damp. | | 16 | 39 50-5" | - | 100 | SS-7 | - | 8 | 17 | 15 | 49 | 11 | 20 | 17 | 3 | 9 | A-4a (5) | |
| | | 17 | | | | | | | | | | | | | | | | |
| | | 18 | | | | | | | | | | | | | | | | |
| | | 19 | 33 50-5" | - | 100 | SS-8 | - | - | - | - | - | - | - | - | - | 8 | A-4a (V) | |
| | | 20 | | | | | | | | | | | | | | | | |
| | | 21 | 26 36 41 | 110 | 89 | SS-9 | - | - | - | - | - | - | - | - | - | 9 | A-4a (V) | |
| | 611.2 | 22 | | | | | | | | | | | | | | | | |
| Hard dark-gray **CLAY**, some silt, trace fine sand, damp. | | 23 | | | | | | | | | | | | | | | | |
| | | 24 | 21 24 31 | 78 | 100 | SS-10 | 4.5 | 0 | 0 | 1 | 29 | 70 | 45 | 22 | 23 | 21 | A-7-6 (14) | |
| | 609.2 | 25 | | | | | | | | | | | | | | | | |
| | | EOB | | | | | | | | | | | | | | | | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

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PLATE 24

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 981+10, 86' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 6/6/22 | ELEVATION: 634.3 (MSL) EOB: 23.6 ft. |
| START: 7/6/23 END: 7/6/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 85.4 | COORD: 41.460885 N, 82.057306 W |

EXPLORATION ID **B-098-1-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 634.3 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASPHALT - 4 INCHES | 634.0 | | | | | | | | | | | | | | | | | |
| GRANULAR BASE - 4 INCHES | 633.6 | | | | | | | | | | | | | | | | | |
| FILL: Medium-dense dark-gray **GRAVEL WITH SAND AND SILT**, little clay, few brick fragments, damp. | 631.3 | W 631.3 | 8 8 6 | 20 | 89 | SS-1 | - | - | - | - | - | - | - | - | - | 9 | A-2-4 (V) | |
| Very-stiff dark-gray and brown **CLAY**, "and" silt, little fine to coarse sand, trace fine sand, damp. | 623.8 | | 3 3 4 | 10 | 100 | SS-2 | 2.5-3.5 | - | - | - | - | - | - | - | - | 23 | A-7-6 (V) | |
| | | | 2 2 3 | 7 | 100 | SS-3 | 2.25 | 3 | 3 | 9 | 45 | 40 | 43 | 25 | 18 | 26 | A-7-6 (12) | |
| | | | 3 5 8 | 19 | 100 | SS-4 | 3.0-3.5 | - | - | - | - | - | - | - | - | 21 | A-7-6 (V) | |
| Hard brown mottled with gray **SANDY SILT**, some clay, trace fine gravel, damp. | 618.8 | | 5 7 15 | 31 | 100 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 13 | A-4a (V) | |
| | | | 14 18 18 | 51 | 100 | SS-6 | 4.5+ | 5 | 9 | 13 | 48 | 25 | 27 | 19 | 8 | 11 | A-4a (8) | |
| Very-dense gray **SANDY SILT**, some fine to coarse gravel, trace clay, few shale fragments, partly similar to severely weathered, very-weak shale, dry to damp. | 614.3 | | 25 50-3" | - | 100 | SS-7 | - | 24 | 15 | 14 | 37 | 10 | 21 | 15 | 6 | 8 | A-4a (2) | |
| | | | 32 50-4" | - | 100 | SS-8 | - | - | - | - | - | - | - | - | - | 8 | A-4a (V) | |
| **SHALE**, dark-gray, highly weathered, weak. | 610.7 | TR / EOB | 50-4" | - | 100 | SS-9 | - | - | - | - | - | - | - | - | - | 4 | Rock (V) | |
| | | | 50-1" | - | 100 | SS-10 | - | - | - | - | - | - | - | - | - | 4 | Rock (V) | |

NOTES:
- Seepage noted at 3.0'.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

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PLATE 25

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 983+13, 94' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 6/6/22 | ELEVATION: 634.8 (MSL) EOB: 24.4 ft. |
| START: 7/6/23 END: 7/6/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 85.4 | COORD: 41.461267 N, 82.056767 W |

EXPLORATION ID **B-098-2-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 634.8 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASPHALT - 4 INCHES | 634.5 | | | | | | | | | | | | | | | | | |
| GRANULAR BASE - 4 INCHES | 634.1 | | | | | | | | | | | | | | | | | |
| FILL: Very-dense dark-gray and black **GRAVEL WITH SAND AND SILT**, trace to little clay, slight hydrocarbon odor, damp. | 631.8 | W 632.8 | 18 25 25 | 71 | 100 | SS-1 | - | - | - | - | - | - | - | - | - | 6 | A-2-4 (V) | |
| FILL: Dense dark-gray **COARSE AND FINE SAND**, little silt, trace clay, trace fine gravel, moist. | 629.3 | | 18 26 4 | 43 | 100 | SS-2 | - | - | - | - | - | - | - | - | - | 12 | A-3a (V) | |
| Very-stiff grayish-brown **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, damp to moist. | 626.8 | | 3 4 4 | 11 | 100 | SS-3 | 2.0-3.0 | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| Very-stiff grayish-brown **CLAY**, "and" silt, little fine to coarse sand, trace fine gravel, damp to moist. | 621.8 | | 3 4 5 | 13 | 100 | SS-4 | 3.0-3.5 | 1 | 2 | 11 | 46 | 40 | 47 | 26 | 21 | 29 | A-7-6 (14) | |
| | | | 3 6 7 | 19 | 100 | SS-5 | 3.0 | - | - | - | - | - | - | - | - | 29 | A-7-6 (V) | |
| Very-stiff grayish-brown **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, damp to moist. | 616.8 | | 7 9 10 | 27 | 89 | SS-6 | 3.5-4.0 | - | - | - | - | - | - | - | - | 15 | A-6a (V) | |
| | | | 32 50-5" | - | 100 | SS-7 | 2.0-2.5 | - | - | - | - | - | - | - | - | 12 | A-6a (V) | |
| Hard dark-gray **SILTY CLAY**, trace fine to coarse sand, trace fine gravel, damp to moist. | 610.4 | | 11 13 15 | 40 | 89 | SS-8 | 4.0-4.5+ | 2 | 4 | 4 | 36 | 54 | 38 | 15 | 23 | 17 | A-6b (13) | |
| | | | 16 21 32 | 75 | 89 | SS-9 | 4.0-4.5 | - | - | - | - | - | - | - | - | 21 | A-6b (V) | |
| | | EOB | 32 50-5" | - | 100 | SS-10 | 4.0-4.5 | - | - | - | - | - | - | - | - | 16 | A-6b (V) | |

NOTES:
- Seepage noted at 2.0'.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

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PLATE 26

S&ME JOB: 217525A

| | | | |
|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 985+14, 115' RT |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 6/6/22 | ELEVATION: 634.9 (MSL) EOB: 23.5 ft. |
| START: 7/11/23 END: 7/11/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 85.4 | COORD: 41.461621 N, 82.056196 W |

EXPLORATION ID **B-098-3-23**

PAGE 1 OF 1

| MATERIAL DESCRIPTION AND NOTES | ELEV. 634.9 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASPHALT - 4 INCHES | 634.6 | | | | | | | | | | | | | | | | | |
| GRANULAR BASE - 4 INCHES | 634.2 | | | | | | | | | | | | | | | | | |
| FILL: Medium-dense dark-gray **GRAVEL WITH SAND AND SILT**, little clay, few asphalt fragments, damp. | 631.9 | | 7 9 4 | 19 | 100 | SS-1 | - | - | - | - | - | - | - | - | - | 10 | A-2-4 (V) | |
| Very-stiff dark-brown **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp. | 629.4 | W 630.9 | 3 4 6 | 14 | 89 | SS-2 | 2.5-3.5 | - | - | - | - | - | - | - | - | 15 | A-6b (V) | |
| Very-stiff grayish-brown **CLAY**, "and" silt, little fine to coarse sand, trace fine gravel, damp to moist. | 624.4 | | 2 4 9 | 19 | 89 | SS-3 | 2.0-3.5 | - | - | - | - | - | - | - | - | 28 | A-7-6 (V) | |
| | | | 4 4 6 | 14 | 89 | SS-4 | 2.0-3.0 | 4 | 5 | 10 | 45 | 36 | 45 | 26 | 19 | 25 | A-7-6 (13) | |
| Very-stiff grayish-brown **SILTY CLAY**, little fine to coarse sand, trace fine gravel, damp. | 619.4 | | 3 7 11 | 26 | 100 | SS-5 | 3.5 | - | - | - | - | - | - | - | - | 18 | A-6b (V) | |
| | | | 5 12 18 | 43 | 100 | SS-6 | 3.0-3.5 | - | - | - | - | - | - | - | - | 15 | A-6b (V) | |
| Hard gray mottled with dark-gray **SANDY SILT**, some clay, little fine gravel, few shale fragments, partly similar to severely weathered, very-weak shale, damp. | 611.4 | | 33 50-4" | - | 100 | SS-7 | 4.5+ | - | - | - | - | - | - | - | - | 17 | A-4a (V) | |
| | | | 23 33 50-5" | - | 100 | SS-8 | 4.5+ | - | - | - | - | - | - | - | - | 12 | A-4a (V) | |
| | | | 23 36 50-5" | - | 100 | SS-9 | 4.5+ | 13 | 11 | 11 | 39 | 26 | 25 | 16 | 9 | 15 | A-4a (6) | |
| | | EOB | 50-0" | - | 0 | | | - | - | - | - | - | - | - | - | - | | |

NOTES:
- Groundwater noted at 4.0'.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

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PLATE 27

S&ME JOB: 217525A

| | | | | |
|---|---|---|---|---|
| PROJECT: LOR-90-10.76 NOISE WALLS | DRILLING FIRM / OPERATOR: S&ME / T. FROST | DRILL RIG: S&ME ATV D50 (R80) | STATION / OFFSET: 986+58, 131' RT | EXPLORATION ID B-098-4-23 |
| TYPE: NOISE WALL | SAMPLING FIRM / LOGGER: S&ME / T. FROST | HAMMER: CME AUTOMATIC | ALIGNMENT: IR 90 CENTERLINE | |
| PID: 107714 BR ID: WALL G | DRILLING METHOD: 2.25" HSA | CALIBRATION DATE: 6/6/22 | ELEVATION: 635.3 (MSL) EOB: 25.0 ft. | PAGE 1 OF 1 |
| START: 7/11/23 END: 7/11/23 | SAMPLING METHOD: SPT | ENERGY RATIO (%): 85.4 | COORD: 41.461874 N, 82.055788 W | |

| MATERIAL DESCRIPTION AND NOTES | ELEV. 635.3 | DEPTHS | SPT/ RQD | $N_{60}$ | REC (%) | SAMPLE ID | HP (tsf) | GRADATION (%) GR | CS | FS | SI | CL | ATTERBERG LL | PL | PI | WC | ODOT CLASS (GI) | BACK FILL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASPHALT - 4 INCHES | 635.0 | | | | | | | | | | | | | | | | | |
| GRANULAR BASE - 4 INCHES | 634.6 | | | | | | | | | | | | | | | | | |
| FILL: Loose dark-gray **GRAVEL WITH SAND AND SILT**, little clay, damp. | 632.3 | 1 | 8 4 2 | 9 | 89 | SS-1 | - | - | - | - | - | - | - | - | - | 10 | A-2-4 (V) | |
| Very-stiff gray mottled brown **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, moist. | | 2 3 4 | 4 4 4 | 11 | 100 | SS-2 | 2.0-2.5 | - | - | - | - | - | - | - | - | 18 | A-6a (V) | |
| | | 5 6 7 | 3 5 7 | 17 | 100 | SS-3 | 3.0-3.5 | 7 | 8 | 11 | 42 | 32 | 33 | 18 | 15 | 18 | A-6a (10) | |
| | 624.8 | 8 9 10 | 3 6 6 | 17 | 100 | SS-4 | 3.5 | - | - | - | - | - | - | - | - | 20 | A-6a (V) | |
| Hard gray and dark-gray **SILT AND CLAY**, little fine to coarse sand, trace fine gravel, damp. | | 11 12 13 | 3 6 8 | 20 | 100 | SS-5 | 4.5+ | - | - | - | - | - | - | - | - | 14 | A-6a (V) | |
| | 619.8 | 14 15 16 | 5 10 15 | 36 | 100 | SS-6 | 4.5+ | - | - | - | - | - | - | - | - | 13 | A-6a (V) | |
| Hard dark-gray **CLAY**, some silt, trace fine to coarse sand, trace fine gravel, damp. | | 17 18 19 | 6 9 12 | 30 | 100 | SS-7 | 4.5+ | 2 | 3 | 5 | 34 | 56 | 43 | 22 | 21 | 18 | A-7-6 (13) | |
| | | 20 21 22 | 6 14 18 | 46 | 100 | SS-8 | 4.5+ | - | - | - | - | - | - | - | - | 19 | A-7-6 (V) | |
| | 612.3 | 23 24 25 | 12 14 14 | 40 | 100 | SS-9 | 4.5+ | - | - | - | - | - | - | - | - | 17 | A-7-6 (V) | |
| Hard dark-gray **SANDY SILT**, little to some clay, trace fine gravel, few shale fragments, damp. | 610.3 | EOB | 14 18 10 | 40 | 100 | SS-10 | 4.5+ | - | - | - | - | - | - | - | - | 10 | A-4a (V) | |

NOTES:
- No seepage noted.

NOTES: SEE ABOVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: ASPHALT PATCH; SOIL CUTTINGS MIXED WITH BENTONITE

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PLATE 28

# Appendix G – OGE Checklists

| I. Geotechnical Design Checklists | |
|---|---|
| **Project: LOR-90-10.76 (Noise Barrier Walls)** | **PDP Path:** |
| **PID: 107714** | **Review Stage: N/A** |

| Checklist | Included in This Submission |
|---|---|
| II. Reconnaissance and Planning | ✓ |
| III. A. Centerline Cuts<br>III. B. Embankments<br>III. C. Subgrade | |
| IV. A. Foundations of Structures<br>IV. B. Retaining Wall | ✓ |
| V. A. Landslide Remediation<br>V. B. Rockfall Remediation<br>V. C. Wetland or Peat Remediation<br>V. D. Underground Mine Remediation<br>V. E. Surface Mine Remediation<br>V. F. Karst Remediation | |
| VI. A. Geotechnical Profile<br>VI. D. Geotechnical Reports | ✓ |

## II. Reconnaissance and Planning Checklist

| C-R-S: | Walls) | PID: | 107714 | Reviewer: | BKS | Date: | 11/17/2023 |
|---|---|---|---|---|---|---|---|

| Reconnaissance | | (Y/N/X) | Notes: |
|---|---|---|---|
| 1 | Based on Section 302.1 in the SGE, have the necessary plans been developed in the following areas prior to the commencement of the subsurface exploration reconnaissance: | N | This project is to be completed via design-build. Proposed wall locations were provided by ODOT D3 to prepare exploration plan and reconnaissance. |
| | Roadway plans | | |
| | Structures plans | | |
| | Geohazards plans | | |
| 2 | Have the resources listed in Section 302.2.1 of the SGE been reviewed as part of the office reconnaissance? | Y | |
| 3 | Have all the features listed in Section 302.3 of the SGE been observed and evaluated during the field reconnaissance? | Y | |
| 4 | If notable features were discovered in the field reconnaissance, were the GPS coordinates of these features recorded? | X | |

| Planning - General | | (Y/N/X) | Notes: |
|---|---|---|---|
| 5 | In planning the geotechnical exploration program for the project, have the specific geologic conditions, the proposed work, and historic subsurface exploration work been considered? | Y | |
| 6 | Has the ODOT Transportation Information Mapping System (TIMS) been accessed to find all available historic boring information and inventoried geohazards? | Y | Historic borings were found within TIMS, however, the borings did not meet current SGE requirements for noise barrier walls. |
| 7 | Have the borings been located to develop the maximum subsurface information while using a minimum number of borings, utilizing historic geotechnical explorations to the fullest extent possible? | Y | |
| 8 | Have the topography, geologic origin of materials, surface manifestation of soil conditions, and any other special design considerations been utilized in determining the spacing and depth of borings? | Y | |
| 9 | Have the borings been located so as to provide adequate overhead clearance for the equipment, clearance of underground utilities, minimize damage to private property, and minimize disruption of traffic, without compromising the quality of the exploration? | Y | |

## II. Reconnaissance and Planning Checklist

| **Planning - General** | (Y/N/X) | Notes: |
|---|---|---|
| 10 Have the scaled boring plans, showing all project and historic borings, and a schedule of borings in tabular format, been submitted to the District Geotechnical Engineer? | Y | |
| The schedule of borings should present the following information for each boring: | | |
| a. exploration identification number | Y | |
| b. location by station and offset | Y | |
| c. estimated amount of rock and soil, including the total for each for the entire program. | Y | |
| | | |
| **Planning – Exploration Number** | (Y/N/X) | Notes: |
| 11 Have the coordinates, stations and offsets of all explorations (borings, soundings, test pits, etc.) been identified? | Y | |
| 12 Has each exploration been assigned a unique identification number, in the following format X-ZZZ-W-YY, as per Section 303.2 of the SGE? | Y | |
| 13 When referring to historic explorations that did not use the identification scheme in 12 above, have the historic explorations been assigned identification numbers according to Section 303.2 of the SGE? | X | |

## II. Reconnaissance and Planning Checklist

| **Planning – Boring Types** | | (Y/N/X) | Notes: |
|---|---|---|---|
| 14 | Based on Sections 303.3 to 303.7.6 of the SGE, have the location, depth, and sampling requirements for the following boring types been determined for the project? | Y | |
| | Check all boring types utilized for this project: | | |
| | Existing Subgrades (Type A) | | |
| | Roadway Borings (Type B) | | |
| | Embankment Foundations (Type B1) | | |
| | Cut Sections (Type B2) | | |
| | Sidehill Cut Sections (Type B3) | | |
| | Sidehill Cut-Fill Sections (Type B4) | | |
| | Sidehill Fill Sections on Unstable Slopes (Type B5) | | |
| | Geohazard Borings (Type C) | | |
| | Lakes, Ponds, and Low-Lying Areas (Type C1) | | |
| | Peat Deposits, Compressible Soils, and Low Strength Soils (Type C2) | | |
| | Uncontrolled Fills, Waste Pits, and Reclaimed Surface Mines (Type C3) | | |
| | Underground Mines (C4) | | |
| | Landslides (Type C5) | | |
| | Rock Slope (Type C6) | | |
| | Karst (Type C7) | | |
| | Proposed Underground Utilities (Type D) | | |
| | Structure Borings (Type E) | | |
| | Bridges (Type E1) | | |
| | Culverts (Type E2 a,b,c) | | |
| | Retaining Walls (Type E3 a and b) | | |
| | Noise Barrier (Type E4) | ✓ | |
| | CCTV & High Mast Lighting Towers (Type E5) | | |
| | Buildings and Salt Domes (Type E6) | | |

## IV.A Foundations of Structures Checklist

| C-R-S: | Walls) | PID: | 107714 | Reviewer: | BKS | Date: | 11/17/2023 |
|---|---|---|---|---|---|---|---|

***Use this Checklist in conjunction with the bridge foundation design guidance in GDM Section 1300***
***If you do not have such a foundation or structure on the project, you do not have to fill out this checklist.***

| | **Soil and Bedrock Strength Data** | (Y/N/X) | Notes: |
|---|---|---|---|
| 1 | Has the shear strength of the foundation soils been determined? | Y | |
| | Check method used: | | |
| | laboratory shear tests | | |
| | estimation from SPT or field tests | ✓ | |
| 2 | Have sufficient soil shear strength, consolidation, and other parameters been determined so that the required allowable loads for the foundation/structure can be designed? | Y | |
| 3 | Has the shear strength of the foundation bedrock been determined? | | |
| | Check method used: | | |
| | laboratory shear tests | ✓ | |
| | other (describe other methods) | | |
| | **Spread Footings** | (Y/N/X) | Notes: |
| 4 | Are there spread footings on the project? If no, go to Question 11 | N | |
| 5 | Have the recommended bottom of footing elevation and reason for this recommendation been provided? | | |
| a. | Has the recommended bottom of footing elevation taken scour from streams or other water flow into account? | | |
| 6 | Were representative sections analyzed for the entire length of the structure for the following: | | |
| a. | factored bearing resistance? | | |
| b. | factored sliding resistance? | | |
| c. | eccentric load limitations (overturning)? | | |
| d. | predicted settlement? | | |
| e. | overall (global) stability? | | |
| 7 | Has the need for a shear key been evaluated? | | |
| a. | If needed, have the details been included in the plans? | | |
| 8 | If special conditions exist (e.g. geometry, sloping rock, varying soil conditions), was the bottom of footing “stepped” to accommodate them? | | |
| 9 | Have the Service I and Maximum Strength Limit States for bearing pressure on soil or rock been provided? | | |

## IV.A Foundations of Structures Checklist

| **Spread Footings** | (Y/N/X) | Notes: |
|---|---|---|
| 10 If weak soil is present at the proposed foundation level, has the removal / treatment of this soil been developed and included in the plans? | | |
| a. Have the procedure and quantities related to this removal / treatment been included in the plans? | | |
| **Pile Structures** | (Y/N/X) | Notes: |
| 11 Are there piles on the project? If no, go to Question 17 | N | |
| 12 Has an appropriate pile type been selected? | | |
| Check the type selected: | | |
| H-pile (driven) | | |
| H-pile (prebored) | | |
| Cast In-place Reinforced Concrete Pipe | | |
| Micropile | | |
| Continuous Flight Auger (CFA) | | |
| other (describe other types) | | |
| 13 Have the estimated pile length or tip elevation and section (diameter) based on either the Ultimate Bearing Value (UBV) or the depth to top of bedrock been specified? Indicate method used. | | |
| 14 If scour is predicted, has pile resistance in the scour zone been neglected? | | |
| 15 Has a wave equation drivability analysis been performed as per BDM 305.3.1.2 to determine whether the pile can be driven to either the UBV, the pile tip elevation, or refusal on bedrock without overstressing the pile? | | |
| 16 If required for design, have sufficient soil parameters been provided and calculations performed to evaluate the: | | |
| a. Nominal unit tip resistance and maximum settlement of the piles? | | |
| b. Nominal unit side resistance for each contributing soil layer and maximum deflection of the piles? | | |
| c. Downdrag load on piles driven through new embankment or compressible soil layers, as per BDM 305.3.2.2? | | |
| d. Potential for and impact of lateral squeeze from soft foundation soils? | | |

## IV.A Foundations of Structures Checklist

| **Pile Structures** | | (Y/N/X) | Notes: |
|---|---|---|---|
| 17 | If piles are to be driven to strong bedrock ($Q_u$ >7.5 ksi) or through very dense granular soils or overburden containing boulders, have "pile points" been recommended in order to protect the tips of the steel piling, as per BDM 305.3.5.6? | | |
| 18 | If subsurface obstacles exist, has preboring been recommended to avoid these obstructions? | | |
| 19 | If piles will be driven through 15 feet or more of new embankment, has preboring been specified as per BDM 305.3.5.7? | | |

## IV.A Foundations of Structures Checklist

| **Drilled Shafts** | (Y/N/X) | Notes: |
|---|---|---|
| 20 Are there drilled shafts on the project? If no, go to the next checklist. | Y | Final design of drilled shaft foundations to support the proposed noise barrier walls to be performed by others (i.e., the design-build team selected for the project). |
| 21 Have the drilled shaft diameter and embedment length been specified? | X | |
| 22 Have the recommended drilled shaft diameter and embedment been developed based on the nominal unit side resistance and nominal unit tip resistance for vertical loading situations? | X | |
| 23 For shafts undergoing lateral loading, have the following been determined: | X | |
| a. total factored lateral shear? | X | |
| b. total factored bending moment? | X | |
| c. maximum deflection? | X | |
| d. reinforcement design? | X | |
| 24 If a bedrock socket is required, has a minimum rock socket length equal to 1.5 times the rock socket diameter been used, as per BDM 305.4.2? | X | |
| 25 Generally, bedrock sockets are 6" smaller in diameter than the soil embedment section of the drilled shaft. Has this factor been accounted for in the drilled shaft design? | X | |
| 26 If scour is predicted, has shaft resistance in the scour zone been neglected? | | |
| 27 Has the site been assessed for groundwater influence? | Y | |
| a. If yes, and if artesian flow is a potential concern, does the design address control of groundwater flow during construction? | X | |
| 28 Have all the proper items been included in the plans for integrity testing? | X | |
| 29 If special construction features (e.g., slurry, casing, load tests) are required, have all the proper items been included in the plans? | X | |
| 30 If necessary, have wet construction methods been specified? | X | |
| **General** | (Y/N/X) | Notes: |
| 31 Has the need for load testing of the foundations been evaluated? | X | |
| a. If needed, have details and plan notes for load testing been included in the plans? | X | |

## VI.B. Geotechnical Reports

| C-R-S: | Walls) | PID: | 107714 | Reviewer: | BKS | Date: | 11/17/2023 |
|---|---|---|---|---|---|---|---|

| General | | (Y/N/X) | Notes: |
|---|---|---|---|
| 1 | Has an electronic copy of all geotechnical submissions been provided to the District Geotechnical Engineer (DGE)? | Y | |
| 2 | Has the first complete version of a geotechnical report being submitted been labeled as 'Draft'? | Y | |
| 3 | Subsequent to ODOT's review and approval, has the complete version of the revised geotechnical report being submitted been labeled 'Final'? | Y | |
| 4 | Has the boring data been submitted in a native format that is DIGGS (Data Interchange for Geotechnical and Geoenvironmental) compatable? gINT files meet this demand? | Y | |
| 5 | Does the report cover format follow ODOT's Brand and Identity Guidelines Report Standards found at http://www.dot.state.oh.us/brand/Pages/default.aspx ? | Y | |
| 6 | Have all geotechnical reports being submitted been titled correctly as prescribed in Section 706.1 of the SGE? | Y | |
| **Report Body** | | (Y/N/X) | Notes: |
| 7 | Do all geotechnical reports being submitted contain the following: | Y | |
| a. | an Executive Summary as described in Section 706.2 of the SGE? | Y | |
| b. | an Introduction as described in Section 706.3 of the SGE? | Y | |
| c. | a section titled "Geology and Observations of the Project," as described in Section 706.4 of the SGE? | Y | |
| d. | a section titled "Exploration," as described in Section 706.5 of the SGE? | Y | |
| e. | a section titled "Findings," as described in Section 706.6 of the SGE? | Y | |
| f. | a section titled "Analyses and Recommendations," as described in Section 706.7 of the SGE? | X | No analyses have been performed. S&ME has entered available data into noise wall spreadsheets for others to complete once wall information is available. |
| **Appendices** | | (Y/N/X) | Notes: |
| 8 | Do all geotechnical reports being submitted contain all applicable Appendices as described in Section 706.8 of the SGE? | Y | |
| 9 | Do the Appendices present a site Boring Plan showing all boring locations as described in Section 706.8.1 of the SGE? | Y | |

## VI.B. Geotechnical Reports

| Appendices | | (Y/N/X) | Notes: |
|---|---|---|---|
| 10 | Do the Appendices include boring logs and color pictures of rock, if applicable, as described in Section 706.8.2 of the SGE? | Y | |
| 11 | Do the Appendices include reports of undisturbed test data as described in Section 706.8.3 of the SGE? | Y | |
| 12 | Do the Appendices include calculations in a logical format to support recommendations as described in Section 706.8.4 of the SGE? | X | No calculations included in appendices. Electronic versions of noise wall spreadsheets are provided. |