
**FINAL REPORT
SUBGRADE EXPLORATION REPORT
CUY-77/90-14.96/16.33
CUYAHOGA COUNTY, OHIO
PID#: 82380**

Prepared For:

MICHAEL BAKER INTERNATIONAL
1228 Euclid Avenue, Suite 1050
Cleveland, OH 44115

Prepared by:

NATIONAL ENGINEERING AND ARCHITECTURAL SERVICES INC.
2800 Corporate Exchange Drive, Suite 240
Columbus, Ohio 43231

NEAS PROJECT 21-0011

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EXECUTIVE SUMMARY

The Ohio Department of Transportation (ODOT) as a part of Construction Contract Group 3 (CCG3), a division of ODOT's comprehensive strategy for rebuilding and modernizing the Cleveland Innerbelt corridor into downtown, has proposed improvements to portions of Interstate Route (IR) 90 and IR-77 located in the greater Cleveland, Ohio area. The CCG3 improvements include: 1) the reconstruction/rehabilitation of the mainline freeway segments, as well as 9 different sections of adjacent surface streets; 2) the removal of 11 existing bridges; and, 3) the construction/reconstruction of 16 bridges, 23 retaining walls, and 14 connecting ramps. The project limits extend west to east along IR-90 from approximately East 9th St (St) to Prospect Avenue (Ave) East, and south to north along IR-77 from approximately Croton Ave to the IR-77 / IR-90 interchange.

Barr Engineering, Inc. DBA National Engineering & Architectural Services, Inc. (NEAS) has been contracted to perform geotechnical engineering services for the project. The purpose of the geotechnical engineering services was to perform geotechnical explorations within the project limits to obtain information concerning the subsurface soil and groundwater conditions relevant to the design and construction of the project. Between October 21, 2014 and April 15, 2015, NEAS performed project site reconnaissance and the subsurface exploration program. NEAS advanced a total of 138 borings of which 107 were utilized for subgrade characterization purposes. The subgrade borings were performed in general accordance with the guidelines contained in the ODOT's Specifications for Geotechnical Explorations (SGE) (ODOT [1], 2015). Subgrade borings were typically located along the proposed roadway alignment at locations that were not restricted by maintenance of traffic, underground utilities or dictated by terrain (i.e., steep embankment slopes). In general, borings that were not able to be performed at their proposed location were relocated in an attempt to obtain representative subgrade soil information for characterization purposes.

The existing pavement sections encountered varied throughout the project limits, and generally consisted of an asphalt layer overlying concrete and/or an aggregate base. Project asphalt thicknesses ranged from 2 to 12 inches while concrete thicknesses ranged from 6 to 24 inches. The aggregate base layer ranged from 2 to 20 inches thick. The overall thickness of the pavement sections ranged from 11 to 34 inches. In general, the subgrade conditions encountered below the pavement were relatively consistent and comprised of either fill soils (i.e., embankment fill, historical/urban fill, etc.) or natural soils both consisting of coarse and fine sand and/or gravel with varying amounts of silt and clay. Although coarse-grained, non-cohesive soils were encountered throughout the majority of the site, fine grained, silt and clay mixtures were encountered at various isolated locations within the project limits. With respect to sulfate content of the subgrade soil, based on the project laboratory testing program, one (1) sample obtained along a portion of the IR-90 and Ramp B5 alignments had sulfate content results greater than 5,000 parts per million (PPM) (i.e., greater than the level which ODOT considers high and may prevent the use of chemical stabilization).

Groundwater was observed during the subsurface exploration in 60 of the 107 borings utilized for subgrade characterization between elevations 623.1 and 687.8 ft above mean sea level (amsl). In general, groundwater was observed between elevations 645 and 665 ft amsl (90% of referenced borings). Along the section of IR-90 that passes beneath East 22nd St and near Carnegie Ave, groundwater was encountered between elevations 639.9 and 654.4 ft amsl or between 12 ft above and 1.5 ft below the proposed subgrade elevation. These groundwater observations may indicate a perched water system in this area and may or may not be representative of the regional groundwater table; however, special considerations should be made to the subgrade drainage conditions along this segment of IR-90 based on the conditions encountered during the subgrade exploration.

Based on our evaluation of the subsurface conditions and our geotechnical engineering analysis of the proposed reconstruction/rehabilitation project, it is our opinion that the subgrade conditions are generally satisfactory and pavement can be designed without the need for extreme levels of remediation. In general,

the subgrade soils throughout the project may be stabilized by either global (chemical) stabilization or standard compaction practices.

In general, it is recommended that the subgrade soil of project interstate routes and connecting ramps be globally (chemically) stabilized to a depth of 12 inches utilizing cement as the stabilization chemical, unless otherwise indicated within Section 4.2. of this report. With respect to project surface streets, as 99% of the subgrade soils encountered along the surface streets consists of suitable coarse-grained material or exhibits favorable strength properties, it is recommended that the subgrade of the surface streets be "reworked" and prepared in accordance with typical Subgrade Compaction and Proof Rolling (Item 204) procedures and specifications, unless otherwise indicated within Section 4.2. of this report. The subgrade stabilization recommendations for the project including recommended treatment, extent and depth per roadway segment are provided in the table below.

Summary of Stabilization for Project Subgrade

Segment	Recommended Treatment	Estimated Depth Below Subgrade
IR-77 (Entire Project Portion)	Chemically Stabilize (Cement) (Item 206)	12 inches
IR-90 (Entire Project Portion)	Chemically Stabilize (Cement) (Item 206)	12 inches
Ramps A1, A2, A3, B5, B6, H1, H2, H3, H4, H5, H6, J2, J3 and J4 (Entire Project Portions)	Chemically Stabilize (Cement) (Item 206)	12 inches
East 14th Street (STA 32+50 to STA 34+00 of BL E. 14th St SB)	Excavate and Replace (Item 204 w/ Geotextile)	12 inches
East 14th Street (Begin to STA 32+50 and STA 34+00 to End of BL E. 14th St SB)	Subgrade Compaction and Proof Rolling (Item 204)	12 inches
Carnegie Ave, E. 22nd St, E. 30th St, Orange Ave, and Woodland Ave	Subgrade Compaction and Proof Rolling (Item 204)	12 inches

Per conversations with the design team, the above recommendations are to be limited to project interstates, ramps, and roadways where the subgrade material is planned to receive less than 3 ft of new Item 203 embankment fill. A supplemental geotechnical design memo was developed for project CCG3A (CUY-90-16.28, PID 82382) in which limits are established based on the noted areas of less than 3 ft of fill.

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1. INTRODUCTION

1.1. General

National Engineering & Architectural Services, Inc. (NEAS) presents our Subgrade Exploration Report for CCG3 (CUY-77/90-14.96/16.33), part of the Cleveland Innerbelt Modernization Plan, for the improvement of the IR-77 / IR-90 interchange located approximately one mile south of the Cleveland, Ohio city center. This report presents a summary of the project encountered surficial and subsurface conditions and our recommendations for subgrade stabilization and pavement design in accordance with ODOT's *Geotechnical Bulletin 1* (GB1) (ODOT [1], 2019) and *Pavement Design Manual* (PDM) (ODOT, 2020). With respect to the proposed roadway/subgrade improvements, this project involves the rehabilitation, reconstruction, and/or construction of IR-90 Eastbound (EB) and Westbound (WB) between approximately East 9th St and Prospect Ave East, IR-77 Northbound (NB) and Southbound (SB) between approximately Croton Ave and the IR-77 / IR-90 interchange, as well as 8 surface streets and 14 connecting ramps which include the following:

- Orange Avenue / Ontario Street
- Woodland Avenue
- Carnegie Avenue
- East 30th Street
- East 22nd Street
- East 14th Street
- East 18th Street
- Central Avenue
- Ramps A1, A2, A3, B5, B6, H1, H2, H3, H4, H5, H6, J2, J3, and J4

The exploration was performed in general accordance with Barr Engineering, Inc. DBA National Engineering & Architectural Services, Inc.'s (formerly Barr & Prevost) proposal to Michael Baker International dated June 11, 2014 and with the provisions of ODOT's SGE (ODOT, 2015).

The scope of work performed by NEAS as part of the CCG3 project included: 1) a review of published geotechnical information; 2) performing 138 total test soil borings (107 utilized within this report as a part of the subgrade exploration); 3) laboratory testing of soil samples in accordance with the SGE; 4) performing geotechnical engineering analysis to assess subgrade stabilization requirements and pavement design parameters; and, 5) development of this summary report

2. GEOLOGY AND OBSERVATIONS OF THE PROJECT

2.1. Geology and Physiography

The project site is relatively flat with the topography gradually sloping downwards to the northwest towards Lake Erie and to the southwest towards the Cuyahoga River. The existing ground elevations throughout the project site range from approximately 643 to 704 ft amsl. The mainline IR-77 is supported by 20 to 30 ft of embankment, gradually sloping upward from east to west with existing grade elevations ranging from about 695 to 700 ft amsl. The mainline IR-90 is supported by 20 to 30 ft of embankment, sloping downward to the east gradually transitioning into a cut section just west of the East 22nd St bridge over IR-90 and continues to the east end of the project limits. The existing grade elevations for IR-90 range from approximately 704 to 643 ft amsl generally sloping downward from west to east.

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The project site lies in the Erie Lake Plain physiographic region of Ohio where predominantly fine grained lake deposits accumulated up to several hundred feet in thickness during post glacial periods (ODGS, 1998). In this region, pleistocene-age lacustrine sand, silt, and clay are present, as well as wave planed till overlying Devonian and Mississippian age shale and sandstone. The surficial geology in this area is mapped as late Wisconsinan lacustrine sand deposited in glacial lakes as shallow-water deltas or near shore bars and sheets with the majority of mainline IR-77 underlain by beach ridges that were formed along shores of former glacial lakes and is comprised of fine sand to coarse gravel and cobble deposits and includes small areas of dunes and near shore sand (Pavey, et al., 1999).

The Wisconsinan age lacustrine deposits in this region overly the Wisconsinan age and possibly older till made up of a mix of clay, silt, sand, gravel and boulders directly deposited from the glacial ice of several separate advances filling the buried valley in this region. More recent surficial geology maps show approximately 10 to 40 ft of lacustrine sand to sand and gravel at the surface overlying lacustrine silt and clays ranging from 90 to 290 ft in thickness over glacial till up to 80 ft in thickness all underlain by sandstone and shale (Pavey, Schumacher, Larsen, Swinford, & Vorbau, 2000).

Bedrock beneath the project site has been mapped as sedimentary Devonian-age Ohio shale with carbonate and/or siderite concretions in the lowermost 50 ft. The carbonaceous to clayey, laminated to thin bedded bedrock is brownish black to greenish gray in color and can have a petroliferous odor (USGS & ODGS, 2005). The bedrock is anticipated to be encountered at approximate elevations ranging from 400 to 450 ft amsl (ODGS, 2003). This places bedrock at depths ranging from 220 to 300 ft below ground surface (bgs).

The USDA Natural Resources Conservation Service maps the soils immediately underneath the project as Udorthents, loamy (Ua) and Urban Land (Ub), soils that have been disturbed by cutting or filling, and does not rate them for local roads (USDA, 2019).

2.2. Hydrology/Hydrogeology

The local hydro-geologic system is dominated by the valley of the Cuyahoga River, located approximately a quarter to a half mile to the southwest, which flows northwestward to discharge in Lake Erie. The elevation of the Cuyahoga River and Lake Erie is about 570 to 575 ft amsl, and is likely to be representative of the regional groundwater table. As mentioned previously, the surficial geology consists of primarily granular soils underlain by a relatively impermeable lacustrine or glacial silt and clay layer. It is possible for groundwater to become trapped in granular soils above the regional groundwater level by an underlying impermeable layer forming a perched water table. The project site follows a similar geological model and therefore, could result in a groundwater elevation within the project limits that is likely above the regional groundwater table elevation.

The project site is not located within a special flood hazard area based on available mapping by the Federal Emergency Management Agency's (FEMA) National Flood Hazard mapping program (FEMA, 2019).

2.3. Mining and Oil/Gas Production

No abandoned mines are noted on ODNR's Abandoned Underground Mine Locator within the immediate vicinity of the project's boundaries (ODNR [1], 2016).

No oil or gas wells are noted on ODNR's Ohio Oil & Gas Locator within the immediate vicinity of the project's boundaries (ODNR [2], 2016).

2.4. Historical Records and Previous Phases of Project Exploration

Historical project information (i.e., construction plans, exploration reports, boring logs, etc.) was accessed via ODOT's Geotechnical Data Management System Database (GEOMS) and reviewed. Pertinent information was then reviewed and evaluated for use in analysis and design for this project. The following report/plans were available for review and evaluation for this report (ODOT, 2016):

- Construction Plans for Innerbelt Bridge Construction Contract Group 2 (CCG2) CUY-90-14.90 Project. Reference Documents: Appendices RFC-35, RFC-36, RFC-37, and RFC-38 Pavement Reports, prepared by Walsh Construction and HNTB, released 2011.
- The March 16, 2007 *Report of Subsurface Exploration for CUY-90-Innerbelt, Innerbelt Corridor Project - Retaining Walls*, PID 77510 & 25795. Prepared by DLZ Ohio, Inc.

Additional historical boring logs for various past projects were also accessed via GEOMS and reviewed and evaluated for use in the analysis and design for this project, however, the obtained logs are not suitable for use in the evaluation of the existing pavement subgrade.

2.5. Field Reconnaissance

Field reconnaissance visits for the overall project area were conducted between May 18, 2015 and July 10, 2015, along IR-77, IR-90, connecting ramps and surface streets. Site conditions, including the existing pavement conditions, were noted and photographed during the visit. Photographs of notable pavement distress are provided in Appendix A and a summary of the land use and pavement conditions by roadway segment is provided below.

2.5.1. Land Use and Cover

The land use of the majority of the project area consists of commercial property, including various shops, restaurants, educational/institutional facilities, as well as a large U.S. Post Office facility. Other land uses of the area surrounding the project include recreational (i.e., baseball stadium, sports fields, theatre, etc.), and small industrial areas consisting of small construction storage lots.

2.5.2. Interstate Routes

In general, the pavement condition along IR-77 and IR-90 was observed to be fair to good with marginal signs of weathering and surface wear. Low to moderate severity longitudinal and transverse cracking was common along these sections, as well as a few low severity potholes and pothole patching. Both sections of interstate appear to be well-drained to either storm drains, drainage swales, and/or along grassy/vegetated embankment slopes. Ponding water or obvious drainage deficiencies were not observed.

2.5.3. Connecting Ramps

Many of the proposed ramps, with the exception of Ramps H1, H3, H6 and J4, are planned to be vertically and/or horizontally realigned as part of the project and therefore new subgrades soil will be made up of soil in which cut into existing grade was performed or be made up mostly of new embankment fill constructed atop portions of old ramps, roadways, and commercial property.

The pavement condition along connecting Ramps H1 and J4 was generally observed to be in fair to good condition with some low severity longitudinal and transverse cracking and both appear to maintain adequate drainage. Conversely, the pavement condition along connecting Ramps H3 and H6 was observed to be in

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overall poor condition. The reconnaissance of Ramp H3 and H6 encountered: 1) very frequent, high severity transverse and longitudinal cracking; 2) very frequent, potholes and pothole patching; and, 3) very frequent, moderate severity alligator cracking. A large depression was also encountered on Ramp H3 that appeared to be a result of subgrade deficiency and/or failure. During the time of the reconnaissance, Ramp H3 and sections of the shoulder of Ramp H6 were closed to traffic. With respects to drainage, Ramp H6 was observed to be well drained while Ramp H3 appeared to have areas towards the bottom of the ramp that lacked adequate drainage with noted ponding on the shoulder/edge of the ramp.

2.5.4. Surface Streets

The pavement condition along the surface streets was generally observed to be in fair to good condition with very little distress in some areas and frequent low severity cracking in other areas. In general, the surface streets appear to be well drained to storm sewer inlets on both sides of the roadway (i.e., no areas observed with significant ponding water or obvious drainage deficiencies); however, small areas of ponding on the shoulder or in existing pavement ruts were observed at select locations.

Select surface streets where the pavement condition was observed to be poor or very poor included sections of: East 30th St, Woodland Ave, and East 22nd St. The section of East 30th St south of Orange Ave which consisted of concrete pavement appeared to be in poor condition with some areas of high severity divided slab and linear cracking, and frequent low severity corner breaks, potholes and utility patching. The section of Woodland Ave to the east of East 30th St also appeared to be in poor condition with frequent medium to high severity transverse, longitudinal, alligator and block cracking, as well as some medium severity potholes and utility patching. The section of East 22nd St north of Carnegie Ave appeared to be in very poor condition with high to very high severity transverse, longitudinal, alligator and block cracking, swelling, depressions, and medium to high severity pothole and utility patching. Some of these noted sections of poor to very poor pavement condition had small areas of observable ponding water due most in part to the encountered distress.

3. GEOTECHNICAL EXPLORATION

3.1. Subgrade Exploration Program

The subsurface exploration was conducted by NEAS between October 21, 2014 and April 15, 2015 and included 138 borings drilled to depths between 9 and 111.5 ft bgs. The boring locations were selected by NEAS in general accordance with the guidelines contained in the SGE with the intent to evaluate subgrade soils and groundwater conditions. Borings were typically located along/near the proposed roadway/ramp alignment and at appropriate spacing that were not restricted by maintenance of traffic, underground utilities or dictated by terrain (i.e., steep embankment slopes). A number of the borings were drilled for other project structures (i.e., bridges, retaining walls, etc.), but can serve as both structure and roadway borings. Each as-drilled project boring location and corresponding ground surface elevation was surveyed in the field by NEAS following drilling. Each individual project boring log (included within Appendix C) includes the recorded boring latitude and longitude location (based on the surveyed Ohio State Plane North, NAD83, location) and the corresponding ground surface elevation. The boring locations are depicted on the Boring Location Plan provided in Appendix B.

During the initial exploration, groundwater was encountered within the subgrade in four borings (B-085-0-14, B-162-0-14, B-167-0-14, and B-169-0-14) along the section of IR-90 that passes beneath East 22nd St and near Carnegie Ave. At these boring locations groundwater was encountered between elevations 639.9 and 654.4 ft amsl or between 12 ft above and 1.5 ft below the proposed subgrade elevation per IR-90

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profile sheets available at the time of this report. Based on the above information, it was recommended that NEAS developed an additional geotechnical exploration program to include the installation of vibrating wire (VW) piezometers to monitor groundwater fluctuations in this area. The additional subsurface exploration was conducted by NEAS between March 10, 2021 and April 19, 2021, and consisted of six (6) soil borings (B-085-1-20, B-085-3-20, B-085-4-20, B-086-1-20, B-169-4-20, and B-170-3-20) drilled to depths between 51.5 and 141.5 ft bgs for both subsurface identification purposes as well as to install the recommended VW piezometers.

Borings were drilled using either a Mobile B-58, CME 45B, CME 55 or CME 55X, truck-mounted or track-mounted drilling rig utilizing either 3.25-inch or 4.25-inch (inner diameter) hollow stem augers. Soil samples for roadway borings were typically recovered continuously to a depth of 9 ft bgs using an 18 inch split spoon sampler (AASHTO T-206 “Standard Method for Penetration Test and Split Barrel Sampling of Soils”). Samples from joint roadway structure borings were recovered at 2.5-ft intervals to a depth of 30 ft bgs and at 5.0-ft intervals below 30 ft bgs. The soil samples obtained from the exploration program were visually observed in the field by the NEAS field representative and preserved for review by a geologist and possible laboratory testing. Standard penetration tests (SPT) were conducted using CME auto hammers that have been calibrated to be between 68.4% and 92.2% efficient (depending on the specific rig used) as indicated on the boring logs.

Field boring logs were prepared by drilling personnel, and included pavement description (where present), lithological description, SPT results recorded as blows per 6-inch increment of penetration, and estimated unconfined shear strength values on specimens exhibiting cohesion (using a hand penetrometer). Groundwater level observations were recorded both during and after the completion of drilling. These groundwater level observations are included on the individual boring logs. After completing the borings, the boreholes were backfilled with either auger cuttings, grout, bentonite chips, or a combination of these materials.

3.2. Geotechnical Instrumentation

3.2.1. *Vibrating Wire Piezometers*

Vibrating wire (VW) piezometers are geotechnical instrumentation sensors that monitor in-situ pore water pressures and water levels. VW piezometers can be grouted-in using bentonite-cement grout or within a monitoring well standpipe and can be utilized to measure change in pore-pressure or groundwater level through automated readings.

At the site, VW Piezometers (Geokon 4500S) were installed within six (6) soil borings (B-085-1-20, B-085-3-20, B-085-4-20, B-086-1-20, B-169-4-20, and B-170-3-20) performed along the IR-90 corridor. Monitoring well standpipes we installed between March 10, 2021 and April 19, 2021 during drilling operations while the VW piezometer instrumentation was installed between March 10, 2021 and April 21, 2021 at which time initial groundwater readings were recorded. Subsequently, the piezometers are programmed to continually record groundwater readings about every 30 minutes. The piezometer data were then collected at approximately two to three-month intervals. The final project data collection was performed on August 11, 2022. Table 1 below presents VW piezometer instrumentation ID, location coordinates, elevations, as well as the maximum, minimum and average groundwater elevations based on the project VW piezometer readings.

Table 1: Vibrating Wire Piezometer Data Summary

Piezometer ID	Adjacent Boring ID	Latitude	Longitude	Top of Standpipe Elevation (NAVD 88) (ft)	Piezometer Sensor Depth (ft)	Piezometer Sensor Elevation (ft)	Initial Water Elevation (ft)	Piezometer Data Collection Period	Groundwater Readings (ft)		
									Maximum Elevation	Minimum Elevation	Average Elevation
P-001	B-085-3-20	41.497630	-81.674080	669.4	44.0	625.4	647.6	4/20/21 to 08/11/22	648.3	646.7	647.6
P-002	B-085-4-20	41.497956	-81.673732	670.6	43.0	627.6	646.9	3/10/21 to 08/11/22	647.1	645.5	646.4
P-003	B-085-1-20	41.498493	-81.674299	672.2	45.0	627.2	646.0	4/21/21 to 08/11/22	646.2	644.6	645.6
P-004	B-086-1-20	41.498510	-81.673720	670.0	40.0	630.0	643.5	4/21/21 to 08/11/22	644.7	642.8	643.7
P-005	B-169-4-20	41.499345	-81.672124	669.5	45.0	624.5	640.6	05/26/21 to 08/11/22	641.2	639.6	640.6
P-006	B-170-3-20	41.499796	-81.670194	656.7	35.0	621.7	645.3	4/20/21 to 08/11/22	645.8	644.0	645.1

Notes:
1. Instrumentation location and corresponding top of standpipe elevation were surveyed in the field by NEAS Inc.

3.3. Laboratory Testing Program

The laboratory testing program consisted of classification testing, moisture content determinations and sulfate content testing. Data from the laboratory-testing program was incorporated onto the boring logs (Appendix C). Soil samples are retained at the laboratory for 60 days following report submittal, after which time they will be discarded.

3.3.1. Classification Testing

Representative soil samples were selected for index property (Atterberg Limits) and gradation testing for classification purposes on approximately 30% of the samples. At each boring location, the upper two samples obtained below the proposed top of subgrade elevation were generally tested while additional samples were selected for testing with the intent of properly classifying the subsurface soil and groundwater conditions within the planned project limits. Soils not selected for testing were compared to laboratory tested samples/strata and classified visually. Moisture content testing was conducted on all samples. The laboratory testing was performed in general accordance with applicable AASHTO specifications.

Final classification of soil strata in accordance with AASHTO M-145 "Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes," as modified by ODOT "Classification of Soils" was made once laboratory test results became available. The results of the soil classification are presented on the boring logs (Appendix C).

3.3.2. Standard Penetration Test Results

SPTs and split-barrel (commonly known as split-spoon) sampling of soils were performed at varying intervals (i.e., continuous, 2.5-ft or 5.0-ft intervals) in the project borings performed. To account for the high efficiency (automatic) hammers used during SPT sampling, field SPT N-values were converted based on the calibrated efficiency (energy ratio) of the specific drill rig's hammer. Field N-values were converted to an equivalent rod energy of 60% (N_{60}) for use in analysis and/or for correlation purposes. The resulting N_{60} values are shown on the boring logs (Appendix C).

3.3.3. Sulfate Testing

Sulfate testing was generally performed on one sample for each boring performed for pavement/subgrade design purposes. The selected samples were tested in accordance with TEX-145-E, "Test Procedure for Determining Sulfate Content in Soils - Colorimetric Method" provided by the Texas Department of

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Transportation and dated February 2005. In general, the upper most sample (within 3 ft of the proposed subgrade elevation) from each boring was tested. Results are summarized in Table 2 below.

Table 2: Sulfate Test Summary by Boring

Boring ID	Latitude	Longitude	Depth (ft)	Reading 1	Reading 2	Reading 3	Average Sulfate Content (mg/kg)
B-002-0-14	41.488225	-81.664499	1.5 - 3.0	133	160	120	138
B-010-0-14	41.489954	-81.666544	2.5 - 4.0	40	40	53	<100
B-014-0-14	41.490823	-81.665493	2.5 - 4.0	280	320	280	293
B-016-0-14	41.489564	-81.669046	2.0 - 3.5	0	40	120	<100
B-021-0-14	41.49095	-81.66891	2.5 - 4.0	0	40	0	<100
B-023-0-14	41.49104	-81.66657	2.0 - 3.5	160	67	120	116
B-028-0-14	41.490738	-81.668655	2.5 - 4.0	53	0	40	<100
B-032-0-14	41.490314	-81.668932	0.5 - 2.0	80	0	0	<100
B-037-0-14	41.491784	-81.669296	0.5 - 2.0	0	40	67	<100
B-041-0-14	41.490798	-81.67023	3.0 - 4.5	80	160	227	156
B-044-0-14	41.491247	-81.670795	5.5 - 7.0	13	40	0	<100
B-047-0-14	41.491891	-81.670804	1.5 - 3.0	133	40	80	<100
B-050-0-14	41.491101	-81.672445	2.0 - 3.5	40	80	40	<100
B-051-0-14	41.49165	-81.672217	2.5 - 4.0	133	213	160	169
B-052-0-14	41.492292	-81.672346	2.0 - 3.5	40	40	40	<100
B-059-0-14	41.492483	-81.673336	1.5 - 3.0	200	200	160	187
B-061-0-14	41.491612	-81.674219	2.5 - 4.0	280	227	280	262
B-066-0-14	41.492293	-81.675076	2.5 - 4.0	240	240	240	240
B-070-0-14	41.492964	-81.675131	0.5 - 2.0	0	13	40	<100
B-071-0-14	41.491724	-81.675914	0.5 - 2.0	400	467	480	449
B-072-0-14	41.493452	-81.675216	2.0 - 3.5	173	67	160	133
B-074-0-14	41.492593	-81.675957	1.5 - 3.0	320	320	347	329
B-075-0-14	41.494711	-81.681139	1.0 - 1.5	6400	6080	7733	6738
B-076-0-14	41.495287	-81.680237	2.5 - 4.0	1680	1560	1760	1667
B-077-0-14	41.495631	-81.678618	2.5 - 4.0	0	0	40	<100
B-080-0-14	41.496459	-81.678286	0.0 - 1.5	0	0	0	<100
B-081-0-14	41.496578	-81.677243	2.5 - 4.0	107	80	240	142
B-083-0-14	41.497118	-81.676387	2.0 - 3.5	200	320	260	260
B-084-0-14	41.497464	-81.67492	2.5 - 4.0	0	40	0	<100
B-085-0-14	41.498146	-81.674208	2.7 - 4.2	0	40	0	<100
B-088-0-14	41.492213	-81.677246	1.5 - 3.0	40	80	27	<100
B-089-0-14	41.492649	-81.678837	1.5 - 3.0	0	80	0	<100
B-090-0-14	41.492879	-81.680269	2.0 - 3.5	240	280		260
B-092-0-14	41.496341	-81.683187	2.0 - 3.5	80	80	40	<100
B-093-0-14	41.49503	-81.683824	0.0 - 1.5	253	333	200	262
B-094-0-14	41.4947	-81.681719	2.0 - 3.5	400	360	360	373
B-095-0-14	41.49603	-81.681895	2.0 - 3.5	1000	880	893	924
B-096-0-14	41.496409	-81.681341	2.0 - 3.5	187	200	160	182
B-098-0-14	41.497667	-81.678786	2.0 - 3.5	40	40	40	<100
B-099-0-14	41.498096	-81.67733	2.0 - 3.5	80	40	0	<100
B-100-0-14	41.498385	-81.67617	2.0 - 3.5	240	240	240	240
B-101-0-14	41.499108	-81.675407	2.0 - 3.5	107	40	40	<100
B-103-0-14	41.494776	-81.677457	1.5 - 3.0	0	27	13	<100
B-104-0-14	41.493549	-81.677515	2.0 - 3.5	40	0	0	<100

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Boring ID	Latitude	Longitude	Depth (ft)	Reading 1	Reading 2	Reading 3	Average Sulfate Content (mg/kg)
B-105-0-14	41.49677	-81.673828	2.0 - 3.5	0	40	27	<100
B-106-0-14	41.497213	-81.673404	3.5 - 5.0	27	13	13	<100
B-107-0-14	41.497575	-81.673961	2.0 - 3.5	40	0	0	<100
B-108-0-14	41.499148	-81.673887	2.0 - 3.5	160	160	160	160
B-109-0-14	41.499682	-81.674243	2.0 - 3.5	320	40	40	133
B-158-0-14	41.495673	-81.677588	1.5 - 3.0	93	80	267	147

3.4. Findings

The subsurface conditions encountered during NEAS’s explorations are described in the following subsections and/or on each boring log presented in Appendix C. The boring logs represent NEAS’s interpretation of the subsurface conditions encountered at each boring location based on our site observations, field logs, visual review of the soil samples by NEAS’s geologist, and laboratory test results. The lines designating the interfaces between various soil strata on the boring logs represent the approximate interface location; the actual transition between strata may be gradual and indistinct. The subsurface soil and groundwater characterizations included herein, including summary test data, are based on the subsurface findings from the geotechnical explorations performed by NEAS as part of the referenced project. It should be noted that for the purposes of this report and our analysis the term 'subgrade' has been assumed to represent soils and/or soil conditions at a depth of 1.5 to 7.5 ft below the planned final pavement grades.

3.4.1. Existing Pavement

The pavement section thicknesses in terms of asphalt, concrete and base were measured at representative subgrade borings. Pavement section thicknesses were measured during the subsurface exploration and are recorded on the test boring logs provided in Appendix C. A summary of these measurements is provided in Table 3 below.

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Table 3: Pavement Thickness Summary

Boring ID	Asphalt Thickness (in)	Concrete Thickness (in)	Base Thickness (in)	Segment	Boring ID	Asphalt Thickness (in)	Concrete Thickness (in)	Base Thickness (in)	Segment
B-002-0-14	12	-	6	IR-77	B-081-0-14	4	14	6	IR-90
B-004-0-14	4	8	-	Ramp H1	B-083-0-14	10	-	14	IR-90
B-006-0-14	4	8	12	Ramp H1	B-084-0-14	6	12	6	IR-90
B-010-0-14	6	12	6	IR-77	B-085-0-14	5	9	-	IR-90
B-011-0-14	6	12	12	IR-77	B-088-0-14	4	8	-	Orange Ave
B-014-0-14	6	24	4	Woodland Ave	B-089-0-14	6	12	-	Ontario St
B-015-0-14	6	8	12	Ramp J4	B-090-0-14	6	12	6	Ontario St
B-016-0-14	-	10	14	E. 30th St	B-091-0-14	6	8	12	Carnegie Ave
B-021-0-14	6	12	6	IR-77	B-092-0-14	4	12	8	E. 9th St
B-023-0-14	5	18	4	Woodland Ave	B-093-0-14	6	12	6	Carnegie Ave
B-031-0-14	3	9	6	E. 30th St	B-094-0-14	3	6	15	E. 9th St
B-035-0-14	6	-	12	IR-77	B-095-0-14	6	12	6	Carnegie Ave
B-038-0-14	6	12	6	IR-77	B-096-0-14	6	12	6	Carnegie Ave
B-040-0-14	6	9	-	IR-77	B-097-0-14	6	12	6	Carnegie Ave
B-043-0-14	6	18	-	IR-77	B-098-0-14	4	8	12	Carnegie Ave
B-044-0-14	6	12	12	IR-77	B-099-0-14	4	12	12	Carnegie Ave
B-045-0-14	8	-	6	Woodland Ave	B-100-0-14	4	8	12	Carnegie Ave
B-046-0-14	12	-	-	Ramp H3	B-101-0-14	6	6	12	E. 22nd St
B-047-0-14	9	10	2	Woodland Ave	B-104-0-14	3	6	9	E. 14th St
B-048-0-14	7	11	-	IR-77	B-105-0-14	6	9	9	E. 22nd St
B-050-0-14	6	12	6	Orange Ave	B-106-0-14	3	9	10	Central Ave
B-051-0-14	6	18	6	IR-77	B-107-0-14	4	10	10	E. 22nd St
B-052-0-14	8	12	6	Woodland Ave	B-108-0-14	4	12	8	Carnegie Ave
B-054-0-14	2	12	-	IR-77	B-109-0-14	8	-	16	E. 22nd St
B-056-0-14	4	14	4	IR-77	B-111-0-14	11.5	-	-	Ramp H6
B-057-0-14	6	18	-	IR-77	B-115-0-14	4	14	-	Ramp H6
B-058-0-14	4	9	6	Orange Ave	B-116-0-14	6	12	-	Ramp H6
B-059-0-14	8	10	6	Woodland Ave	B-123-0-14	6	12	8	Ramp H4
B-060-0-14	6.5	11.5	-	IR-77	B-125-0-14	2.5	12	12	Ramp A2
B-061-0-14	4	9	6	Orange Ave	B-131-0-14	6	12	6	Orange Ave
B-062-0-14	6	18	6	Orange Ave	B-132-0-14	4	10	-	Ramp A2/J3
B-063-0-14	6	12	6	IR-77	B-134-0-14	6	9	-	Ramp A2/J3
B-064-0-14	7	11	-	IR-77	B-142-0-14	-	16	2	Ramp A3
B-066-0-14	6	12	6	IR-77	B-148-0-14	5	9	-	E. 19th St
B-067-0-14	4	14	6	E. 22nd St	B-149-0-14	4	-	9	Parking
B-068-0-14	4	8	12	IR-77	B-159-0-14	4.5	-	7.5	Parking
B-072-0-14	5	11	8	E. 22nd St	B-164-0-14	-	18	6	Ramp A3
B-074-0-14	3	13	2	IR-77	B-165-0-14	-	13	-	Ramp A3
B-075-0-14	12	-	-	IR-90	B-166-0-14	-	12	12	Ramp A3
B-076-0-14	4	6	14	IR-90	B-169-0-14	3	-	-	Parking
B-077-0-14	4	9	2	IR-90	B-170-0-14	6	12	-	Ramp

3.4.2. *Subgrade Conditions*

The subgrade conditions in the project area are relatively consistent and are generally comprised of either fill soils (i.e., embankment fill, historical/urban fill, etc.) or natural soils both consisting of coarse and fine sand and/or gravel with varying amounts of silt and clay. The subgrade soils encountered within the project limits are generally classified as A-3a, A-3, A-1-b, A-4a, A-2-4 or A-1a with the exception of isolated areas in which subgrade soils consisted of fine-grained fill soils classified as A-6a and A-6b.

The following subsections present a brief summary of the subsurface conditions by roadway segment with problem areas highlighted where present.

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3.4.2.1. Interstate Routes

Seventy-five percent (75%) of the samples taken along the interstate routes were classified as coarse-grained, non-cohesive soils and were comprised of: 1) Coarse and Fine Sand (A-3a, 49% of samples); 2) Gravel and/or Stone Fragments with Sand (A-1-b, 16% of samples); 3) Gravel and/or Stone Fragments with Sand and Silt (A-2-4, 6% of samples); and, 4) Fine Sand (A-3, 3% of samples). With respect to the relative density of the coarse-grained soils, the descriptions varied from very loose to very dense, correlating to converted SPT-N values (N_{60}) that ranged from 3 blows per foot (bpf) to 92 bpf (50% falling between 25 and 54 bpf). Natural moisture contents of the coarse-grained soils ranged from 6 to 26 percent, with 75% of samples between 6 and 11 percent.

The remaining twenty-five percent (25%) of the samples taken along the interstate routes were classified as fine-grained, cohesive soils and were comprised of: 1) Sandy Silt (A-4a, 11% of samples); 2) Silt and Clay (A-6a, 10% of samples); and, 3) Silty Clay (A-6b, 5% of samples). The consistency of the fine-grained soils ranged from soft to hard with corresponding N_{60} values between 4 and 38 bpf (50% falling between 9 and 16 bpf). Natural moisture contents ranged from 7 to 35 percent, with 50% of samples between 10 and 17 percent. Based on Atterberg Limit tests performed on representative samples of the fine-grained subgrade soils obtained along the interstate routes, the liquid and plastic limits ranged from 16 to 39 percent and from 13 to 19 percent, respectively.

Groundwater was encountered at or near the planned subgrade pavement elevation in a number of borings near the eastern limit of IR-90. These groundwater conditions encountered will be discussed in detail in Section 3.3.3. of this report.

3.4.2.1. Connecting Ramps

Ninety-three percent (93%) of the samples taken along the proposed ramps were classified as coarse-grained, non-cohesive soils and were comprised of: 1) Coarse and Fine Sand (A-3a, 47% of samples); 2) Fine Sand (A-3, 24% of samples); 3) Gravel and/or Stone Fragments with Sand (A-1-b, 17% of samples); 4) Gravel and/or Stone Fragments (A-1-a, 3 samples); and, 5) Gravel and/or Stone Fragments with Sand and Silt (A-2-4, 3 samples). With respect to the relative density of the coarse-grained soils, the descriptions varied from very loose to very dense correlating to N_{60} values between 0 (weight of hammer [WOH]) to 91 bpf (50% falling between 8 and 19 bpf). Natural moisture contents ranged from 5 to 24 percent, with over 80% of samples between 5 and 11 percent.

The remaining seven percent (7%) of the samples taken along the proposed ramps were classified as fine-grained, cohesive soils and were comprised of: 1) Silt and Clay (A-6a, 5% of samples); 2) Sandy Silt (A-4a, 2 samples); and, 3) Silty Clay (A-6b, 1 sample). The consistency of the fine-grained soils ranged from medium stiff to hard with corresponding N_{60} values between 7 and 95 bpf (50% falling between 12 and 19 bpf). Natural moisture contents ranged from 12 to 22 percent, with more than 50% of samples between 14 and 15 percent. Based on Atterberg Limit tests performed on representative samples of the fine-grained subgrade soils obtained along the proposed ramps, the liquid and plastic limits ranged from 15 to 19 percent and 10 to 14 percent, respectively.

One (1) sample taken along the proposed ramps was classified as Silt (A-4b). This soil type is prohibited within pavement subgrade per ODOT's GB1 Section H.1. The sample was obtained in project soil boring B-155-0-14 which was drilled for subgrade characterization purposes for Ramp B5.

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3.4.2.2. Surface Streets

Ninety-nine percent (99%) of the samples taken along the surface streets were classified as coarse-grained, non-cohesive soils and were comprised of: 1) Coarse and Fine Sand (A-3a, 55% of samples); 2) Fine Sand (A-3, 28% of samples); 3) Gravel and/or Stone Fragments with Sand (A-1-b, 14% of samples); 4) Gravel and/or Stone Fragments (A-1-a, 2 samples); and, 5) Gravel and/or Stone Fragments with Sand and Silt (A-2-4, 1 sample). With respect to the relative density of the coarse-grained soils, the descriptions varied from very loose to medium dense correlating to N_{60} values that ranged from 3 to 66 bpf (75% falling between 5 and 15 bpf). Natural moisture contents ranged from 4 to 24 percent, with over 80% of samples between 5 and 10 percent.

The remaining one percent (1%) of the samples (2 samples) taken along the surface streets were classified as fine-grained, cohesive soils. One sample was classified as Sandy Silt (A-4a) and one sample was classified as Silt and Clay (A-6a). The N_{60} values for the Sandy Silt and Silt and Clay samples were 8 and 5, respectively, and the natural moisture contents were 17 and 25 percent, respectively. Based on Atterberg Limit tests performed, the encountered Sandy Silt sample was determined to be not plastic while the liquid and plastic limit of the Silt and Clay sample was 32 and 18 percent, respectively.

3.4.3. Groundwater Conditions

Groundwater measurements were taken both during and after the completion of drilling at each borehole location. Groundwater was observed during and/or upon completion of drilling in 60 of the 107 borings utilized for subgrade characterization between elevations 623.1 and 687.8 ft amsl. In general, groundwater was observed between elevations 645 and 665 ft amsl (90% of referenced borings). The groundwater level throughout the project site is consistent with the natural topography of the area and follows the previously mentioned hydrologic model. In general, groundwater elevations were observed to decrease from southeast to northwest as the natural gradient lowers moving toward Lake Erie. It should be noted that groundwater is affected by many hydrologic characteristics in the area and may vary from those measured at the time of the exploration. The specific groundwater readings are included on the individual test boring logs (logs of borings) located within Appendix C.

Groundwater was encountered within the subgrade in 4 of the 107 borings utilized for subgrade characterization purposes. The borings (B-085-0-14, B-162-0-14, B-167-0-14, and B-169-0-14) in which groundwater was encountered at or near the proposed subgrade were located along the section of IR-90 that passes beneath East 22nd St and near Carnegie Ave. Based on the subsurface investigation, groundwater was encountered between elevations 639.9 and 654.4 ft amsl (between 12 ft above and 1.5 ft below the proposed subgrade elevation) along this section of IR-90 per IR-90 profile sheets available at the time of this report. These groundwater observations may indicate a perched water system in this area and may or may not be representative of the regional groundwater table; however, special considerations should be made to the subgrade drainage conditions along this segment of IR-90.

4. ANALYSES AND RECOMMENDATIONS

We understand that reconstruction/rehabilitation of IR-77 and IR-90 mainline freeway segments including connecting ramps and 9 different sections of adjacent surface streets is planned as part of the CCG3 project in Cuyahoga County, Ohio. For this purpose, a subgrade exploration and subsequent subgrade analysis was completed for the referenced project. The subgrade analysis was performed in accordance with ODOT's GB1 criteria utilizing the ODOT provided *GB1: Subgrade Analysis Spreadsheet* (GB1_SubgradeAnalysis.xls, Version 14.5 dated January 18, 2019). Input information for the spreadsheet

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was based on the soil characteristics gathered during the subgrade exploration (i.e., SPT results, laboratory test results, etc.) and our geotechnical experience. A GB1 analysis was performed for each interstate, ramp and surface street segment individually. Individual segments exhibiting similar subgrade conditions were generalized for recommendation purposes. The isolated locations that varied from the typical site conditions were highlighted and alternative recommendations were provided.

Based on our evaluation of the subsurface conditions and our geotechnical engineering analysis of the proposed reconstruction/rehabilitation project, it is our opinion that the subgrade conditions encountered are generally satisfactory and pavement can be designed without the need for extreme levels of remediation, especially with the use of global stabilization on interstate projects per the GB1. In general, the subgrade soils throughout the project will be stabilized by either global (chemical) stabilization or standard compaction (subgrade preparation) practices; however, isolated locations will require remediation beyond these methods. The following sections provide further detail about the analysis performed and the recommended remediation.

4.1. Subgrade Analysis

A GB1 analysis was performed to identify the method, location, and dimensions (including depth) of required subgrade stabilization for the project. In addition to identifying stabilization recommendations, pavement design parameters are also determined to aid in pavement section design. The subsections below present the results of our GB1 analysis including pavement design parameters and unsuitable subgrade conditions identified within the project limits. GB1 analysis spreadsheets for each roadway/ramp segment are provided in Appendix D.

Again, it should be noted that for the purposes of this report and our analysis, the term 'proposed subgrade' has been assumed to represent soils and/or soil conditions from 1.5 ft below proposed final pavement grades to a depth of 7.5 ft below the proposed pavement grades.

4.1.1. Pavement Design Recommendations

It is our understanding that pavement analyses and design is to be performed to determine the proposed reconstructed pavement section along IR-77 from approximately Croton Ave to the IR-77 / IR-90 interchange, along IR-90 from approximately East 9th Stet to Prospect Ave East, as well as for the referenced connecting ramps and adjacent surface streets within the project limits. GB1 analyses were performed using the subgrade soil data obtained for each of the individual roadway/ramp segments to evaluate the soil characteristics for use in pavement design. As previously indicated, individual segments exhibiting similar subgrade conditions were generalized for recommendation purposes. The subgrade analysis parameters recommended for use in pavement design for each of the individual roadway/ramp segments are presented in Table 4 below. Provided in the table is a range of maximum, minimum and average N_{60L} values for the indicated segments as well as the design CBR value recommended for use in pavement design.

Table 4: Pavement Design Values

Segment	Maximum N_{60L}	Minimum N_{60L}	Average N_{60L}	Average PI Values	Design CBR
IR-77	30	5	21	10	9
IR-90	30	3	17	2	12
Ramps A1, A3, B6, H1, H2, H6, J2 & J3	6 - 30	0 - 16	5 - 19	NP	13
Ramps B5, H4 & J4	30	3 - 8	14 - 19	NP - 14	12
Ramps A2, H3 & H5	17 - 30	5 - 13	11 - 21	NP - 12	10
Surface Streets	8 - 30	3 - 5	6 - 15	NP	13

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4.1.2. *Unsuitable Subgrade*

Per ODOT's GB1, the presence of select subgrade conditions are prohibited within the subgrade zone for new pavement construction. These prohibited subgrade conditions generally include the presence of rock and specific soil types. With respect to the proposed pavement construction and realignment project, these subgrade conditions are further discussed in the following subsections.

4.1.2.1. *Rock*

Rock was not encountered at or close to subgrade elevation at the boring locations performed within the project limits.

4.1.2.2. *Prohibited Soils*

Prohibited soil types per the GB1 which include A-4b, A-2-5, A-5, A-7-5, A-8a, A-8b and soils with liquid limits greater than 65, were encountered in one sample performed within the subgrade limits of borings drilled for this project. Soil type A-4b (Silt) was encountered within boring B-155-0-14 (STA 1522+36, 12' LT of the Ramp B5 alignment) at depths between 4.4 and 5.9 ft below the top of the proposed subgrade elevation. Per the GB1, soil type A-4b is *only* prohibited within the top 36 inches of the proposed subgrade; therefore, as the material encountered in B-155-0-14 was not encountered within the top 36 inches of the subgrade no specialized remediation efforts are required.

4.1.3. *Unstable Soils*

Soils for which the lowest N_{60} (N_{60L}) at the referenced boring location is less than 12 bpf and in some cases less than 15 bpf (i.e., where moisture content is greater than optimum plus 3 percent), subgrade stabilization depths are recommended per *Figure B - Subgrade Stabilization* within the GB1. For the purposes of this report the term 'unstable soils' has been assumed to represent subgrade soils of these conditions. It should be noted that although a soil sample's N_{60} value may meet the criteria to be considered an unstable soil, the depth in which the unstable soil is encountered in relation to the proposed subgrade is considered when each individual subgrade boring is analyzed. For example, if the GB1 recommends an excavate and replace of 12 inches within an unstable soil underlying 18 inches of stable material, it would be unreasonable to recommend the removal of both the stable and unstable material for a total of 30 inches of excavate and replace.

Based on N_{60L} values, our GB1 analysis suggests the need for 12 to 14 inches of either chemical treatment or excavate and replace at select locations. A summary of the boring locations where unstable soils were encountered, the roadway segment for which they were encountered, and associated GB1 recommended remediation depths are shown in Table 5 below.

Table 5: Unstable Soil Locations

Segment	Boring ID	Station/Offset	N_{60L}	Depth Below Subgrade (ft)	Remediation Depth (Inches)	
					Excavate and Replace w/ Geotextile	Chemical Stabilization
IR-77	B-035-0-14	56+93, 46' RT	5	0 - 3.0	21	14
Ramp H5	B-159-0-14	1613+21, 14' RT	12	0.1 - 2.6	12	12
Ramp A2	B-132-0-14	406+54, 4' RT	13	0.4 - 1.9	12	12
East 14th Street	B-158-0-14	1608+85, 38' RT (Ramp B6)	8	0 - 1.3	12	14

It should be noted that *Figure B - Subgrade Stabilization* does not apply to soil types A-1-a, A-1-b, A-3, or A-3a, nor to soils with N_{60L} values of 15 or more. Per GB1 guidance *These soils should be reworked to stabilize the subgrade.*

4.1.4. High Moisture Content Soils

High moisture content soils are defined by the GB1 as soils that exceed the estimated optimum moisture content (per *Figure A - Optimum Moisture Content* within the GB1) for a given classification by 3 percent or more. Per the GB1, soils determined to be above the identified moisture content levels are a likely indication of the presence of an unstable subgrade and may require some form of subgrade stabilization. Similar to our analysis of unstable soils, although a soil sample’s moisture content may meet the criteria to be considered high, the depth in which the high moisture soil is encountered in relation to the proposed subgrade is considered when each individual subgrade boring is analyzed for stabilization recommendations. Summaries of the boring locations where high moisture content conditions were encountered in the top 3 ft of the proposed subgrade within the limits of each proposed alignment are shown in Table 6 below.

Table 6: High Moisture Content Soils Location Summary

Segment	Boring ID	Station/Offset	Moisture Content (%)	Optimum Moisture Content (%)	Depth Below Subgrade (ft)
IR-90	B-169-0-14	56+24, 53' RT (Carnegie)	22	10	1.6 - 3.1
Ramp H3/Woodland Avenue	B-033-0-14	356+92, 15' LT (Ramp H2)	15	10	0.0 - 1.3

The above noted high moisture content soil per the GB1 spreadsheet and others (i.e., granular soils with moisture contents greater than optimum plus 3 percent) are considered in the development of the recommendations provided in Section 4.2 of this report.

4.2. Stabilization Recommendations

4.2.1. Interstate Routes and Connecting Ramps

Guidance from ODOT's GB1 states that *"For all Interstates and other divided highways with four or more lanes more than 1-mile in project length, the subgrade of the entire project shall be chemically stabilized (global stabilization), except where it is determined that soil is present where a majority of sulfate content values are found to be greater than 3,000 parts per million (ppm), or individual soil samples with sulfate contents greater than 5,000 ppm are present"* and therefore global chemical stabilization is required for the proposed pavement reconstruction and rehabilitation work for this project except where otherwise indicated in this report.

The global chemical stabilization of the identified interstates' and connecting ramps' subgrade soils included within this project, should be performed to a minimum depth of 12 inches utilizing cement as the stabilizing chemical. The subgrade stabilization recommendations for the project interstates and connecting ramps, including recommended treatment, extent, depth, justification and exceptions to the ODOT’s GB1 (if applicable) per roadway segment, are provided in Table 7 below.

Table 7: Summary of Stabilization for Interstate Route and Connecting Ramps

Segment	Recommended Treatment	Estimated Depth Below Subgrade	Justification	Exceptions
IR-77 (Entire Project Portion)	Chemically Stabilize (Cement) (Item 206)	12 inches	Per "GB1: Plan Subgrades" Section D.	B-035-0-14 N60L=5 bpf (14" recom.) Only unstable sample along IR-77
IR-90 (Entire Project Portion)	Chemically Stabilize (Cement) (Item 206)	12 inches	Per "GB1: Plan Subgrades" Section D.	-
Ramps A1, A2, A3, B5, B6, H1, H2, H3, H4, H5, H6, J2, J3 and J4 (Entire Project Portions)	Chemically Stabilize (Cement) (Item 206)	12 inches	Per "GB1: Plan Subgrades" Section D.	-

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Per conversations with the design team, the above recommendations are to be limited to project interstates, ramps, and roadways where the subgrade material is planned to receive less than 3 ft of new Item 203 embankment fill. A supplemental geotechnical design memo was developed for project CCG3A (CUY-90-16.28, PID 82382) in which limits are established based on the noted areas of less than 3 ft of fill. The stabilization efforts should extend a minimum of 18-inches beyond the edge of the paved roadway, shoulder or median. The mix design should be conducted in accordance with ODOT's CMS Supplement 1120 (Mixture Design for Chemically Stabilized Soils). For design purposes it may be assumed that the cement addition will be 5% using the following formula.

$$\text{Cement: } C = 0.75 \times T \times 115 \times 0.05$$

Where:

C = amount of chemical in pounds / square yard and

T = thickness of the treatment zone in inches

A dry density of 115-pounds per cubic foot (pcf) is assumed.

As presented in Section 3.2.3. of this report, high sulfate content soils (e.g., soils with a sulfate content greater than 5,000 ppm per GB1) were encountered along a portion of the IR-90 and Ramp B5 alignments. Based on our review of the boring and laboratory test data, soils considered to have a high sulfate content were identified to be present near the forward abutment of the East 9th St bridge (approximate STA 175+50 of IR-90 EB and STA 1506+49 of Ramp B5).

In addition to high sulfate content soils, unstable subgrade conditions that are prohibited within the subgrade per GB1 guidelines were encountered within the project limits of the interstates and connecting ramps, as previously indicated in Section 4.1.2. of this report. It is NEAS's opinion based on: 1) samples obtained from adjacent borings performed in close proximity; 2) the depth at which the unstable soils were encountered; 3) the relative density (compactness) of overlying soils; and, 4) the need for additional engineered fill to reach proposed subgrade grade elevations, that the recommended 12 inches of global chemical stabilization would be sufficient in stabilizing the subgrade at these locations.

It should be noted that per ODOT's GB1, *typical chemical stabilization equipment cannot stabilize areas less than 8 ft in width*. If it is anticipated that the project will require multiple maintenance of traffic phases, it is recommended that the roadway work is coordinated with the maintenance of traffic schemes in such a way that a 8-ft minimum width for chemical stabilization exists. If areas of less than 8 ft in width are anticipated, subgrade soils may be excavated out, mixed with stabilization chemical, and compacted in place, though this method is not practical for large areas.

4.2.2. Surface Streets

As mentioned in Section 3.3.2.2. of this report, the soils underlying the surface streets are predominantly made up of coarse-grained non-cohesive soils classifying as A-1-a, A-1-b, A-3, A-3a and A-2-4. Per ODOT's GB1, soil types A-1-a, A-1-b, A-3 and A-3a as well as soils with an N_{60L} of 15 or more do not require specialized remediation efforts and can be *reworked to stabilize the subgrade*. Because over 99% of the subgrade soils encountered along the surface streets consists of either the indicated soil types or have an N_{60L} greater than 15, it is recommended that the subgrade of the surface streets be "reworked" and prepared in accordance with typical Subgrade Compaction and Proof Rolling (Item 204) procedures and specifications.

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Unstable subgrade conditions that are prohibited within the subgrade per GB1 guidelines were encountered within isolated segments of project surface streets, as previously indicated in Section 4.1.2. of this report. These conditions were encountered within the subgrade of proposed East 14th St from approximate STA 32+50 extending 150 ft to approximate STA 34+00 (of East 14th St SB). Within these areas we recommend Excavate and Replace (Item 204) be performed.

Based on: 1) the results of our GB1 analysis; 2) the review of the unstable subgrade conditions as described in Section 4.1.2. of this report; and, 3) the subsequent conclusions regarding surface streets stabilization, Table 8 below presents our recommendations for subgrade stabilization including recommended treatment, extent, depth, justification and exceptions to the ODOT's GB1 (if applicable) per roadway segment.

Table 8: Summary of Stabilization for Surface Streets

Segment	Recommended Treatment	Estimated Depth Below Subgrade	Justification	Exceptions
East 14th Street (STA 32+50 to STA 34+00 of BL E. 14th St SB)	Excavate and Replace (Item 204 w/ Geotextile)	12 inches	A-4a material with N60L = 8 and MC > Optimum plus 3 percent	-
East 14th Street (Begin to STA 32+50 and STA 34+00 to End of BL E. 14th St SB)	Subgrade Compaction and Proof Rolling (Item 204)	12 inches	Per "GB1: Plan Subgrades" Figure B	-
Carnegie Ave, E. 22nd St, E. 30th St, Orange Ave, and Woodland Ave	Subgrade Compaction and Proof Rolling (Item 204)	12 inches	Per "GB1: Plan Subgrades" Figure B	-

Excavations are estimated to extend to the depths indicated within Table 8 with the excavated material being replaced with Item 204 - Granular Material Type B or C and underlain with Item 204 Geotextile Fabric. In areas where underdrains are to be provided, Item 204 - Granular Material Type B should be used as replacement material. Stabilization limits should extend 18-inches beyond the edge of the proposed paved roadway, shoulder or median.

4.3. Other Considerations

4.3.1. Interstate Route 90 Groundwater Conditions

As previously indicated, groundwater was encountered within the subgrade in four borings (B-085-0-14, B-162-0-14, B-167-0-14, and B-169-0-14) along the section of IR-90 that passes beneath East 22nd St and near Carnegie Ave. At these boring locations groundwater was encountered between elevations 639.9 and 654.4 ft amsl or between 12 ft above and 1.5 ft below the proposed subgrade elevation per IR-90 profile sheets available at the time of this report. These groundwater observations may indicate a perched water system in this area and may or may not be representative of the regional groundwater table; however, it is our opinion that special considerations for subgrade drainage should be made along this segment of IR-90. It is our opinion that if the observed groundwater levels are representative of the regional groundwater table, subgrade constructability and long-term pavement performance is a concern without a properly designed drainage system.

5. QUALIFICATIONS

This investigation was performed in accordance with accepted geotechnical engineering practice for the purpose of characterizing the subsurface conditions along the referenced portions of roadways. This report has been prepared for Michael Baker International, ODOT and their design consultants to be used solely in evaluating the roadway embankment and subgrade soils within the project limits and presenting geotechnical engineering recommendations specific to this project. The assessment of general site

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environmental conditions or the presence of pollutants in the soil, rock and groundwater of the site was beyond the scope of this geotechnical exploration. Our recommendations are based on the results of our field explorations, laboratory test results from representative soil samples, and geotechnical engineering analyses. The results of the field explorations and laboratory tests, which form the basis of our recommendations, are presented in the appendices as noted. This report does not reflect any variations that may occur between the borings or elsewhere on the site, or variations whose nature and extent may not become evident until a later stage of construction. In the event that any changes occur in the nature, design or location of the proposed pavement rehabilitation work, the conclusions and recommendations contained in this report should not be considered valid until they are reviewed, and have been modified or verified in writing by a geotechnical engineer.

It has been a pleasure to be of service to Michael Baker International in performing this geotechnical exploration for the CUY-77/90-14.96/16.33 project. Please contact the undersigned at 920.427.0671 if you have any questions or require any additional information regarding the geotechnical engineering services for this project.

Respectfully Submitted,

Jawdat Siddiqi, P.E.
Principal

Brendan P. Andrews, P.E.
Geotechnical Engineer

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Appendix A

Site Reconnaissance Photographs

Photograph 1: Ramp H3 Pavement Distress and Large Depression



Photograph 2: Ramp H3 Poorly Drained Shoulder



Photograph 3: Ramp H6 Pavement Distress



Photograph 4: Ramp H6 Pavement Distress Along Shoulder



Photograph 5: East 30th Street Pavement Distress



Photograph 6: East 30th Street Pavement Distress



Photograph 7: Woodland Avenue Pavement Distress



Photograph 8: East 22nd Street Pavement Distress



Photograph 9: East 22nd Street Pavement Distress



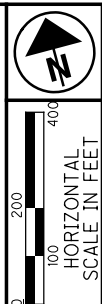
Appendix B
Soil Boring Location Plan



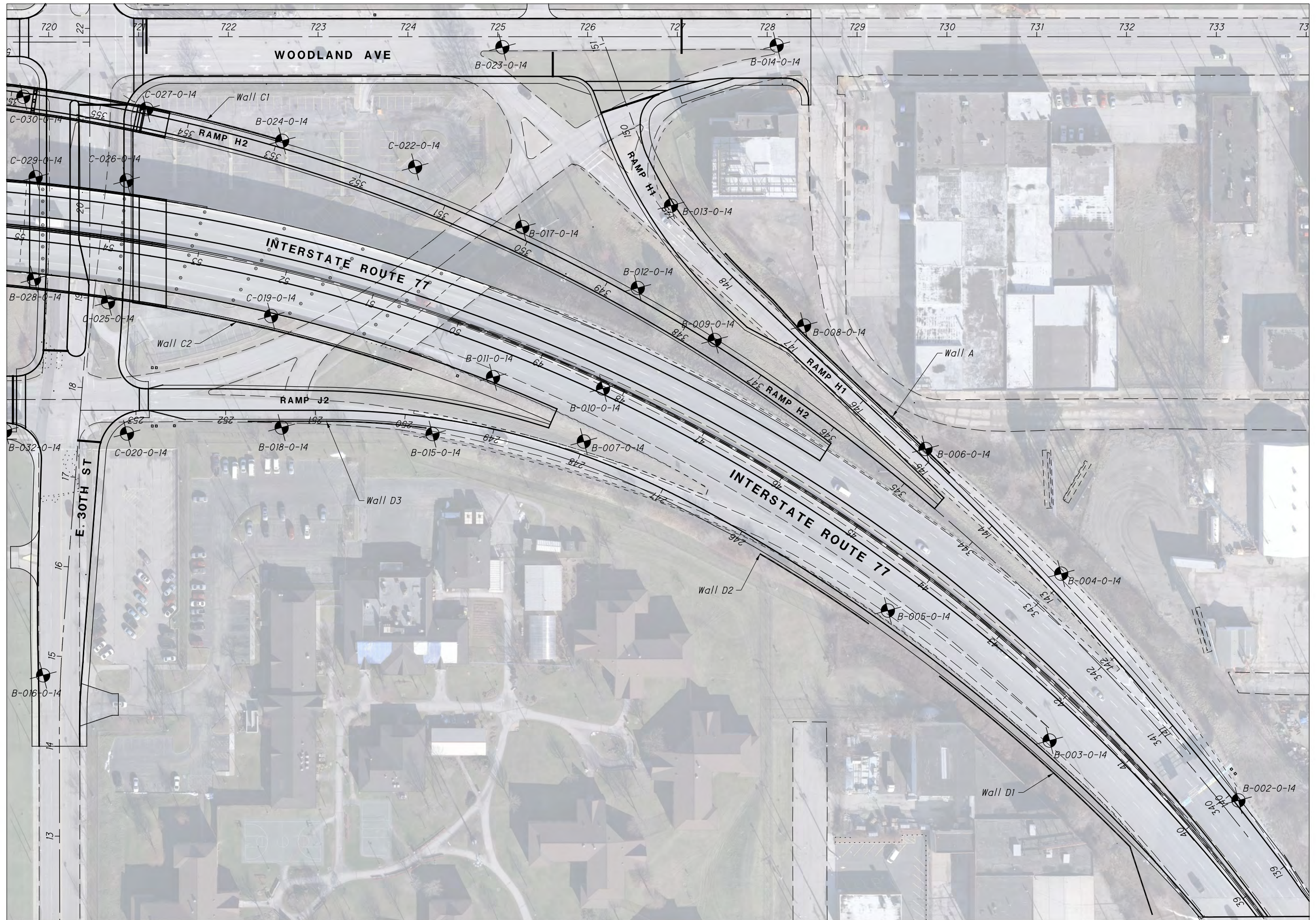
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SOIL BORING LOCATION PLAN INDEX

CUY-77 / 90-14.96 / 16.33



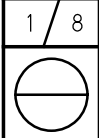
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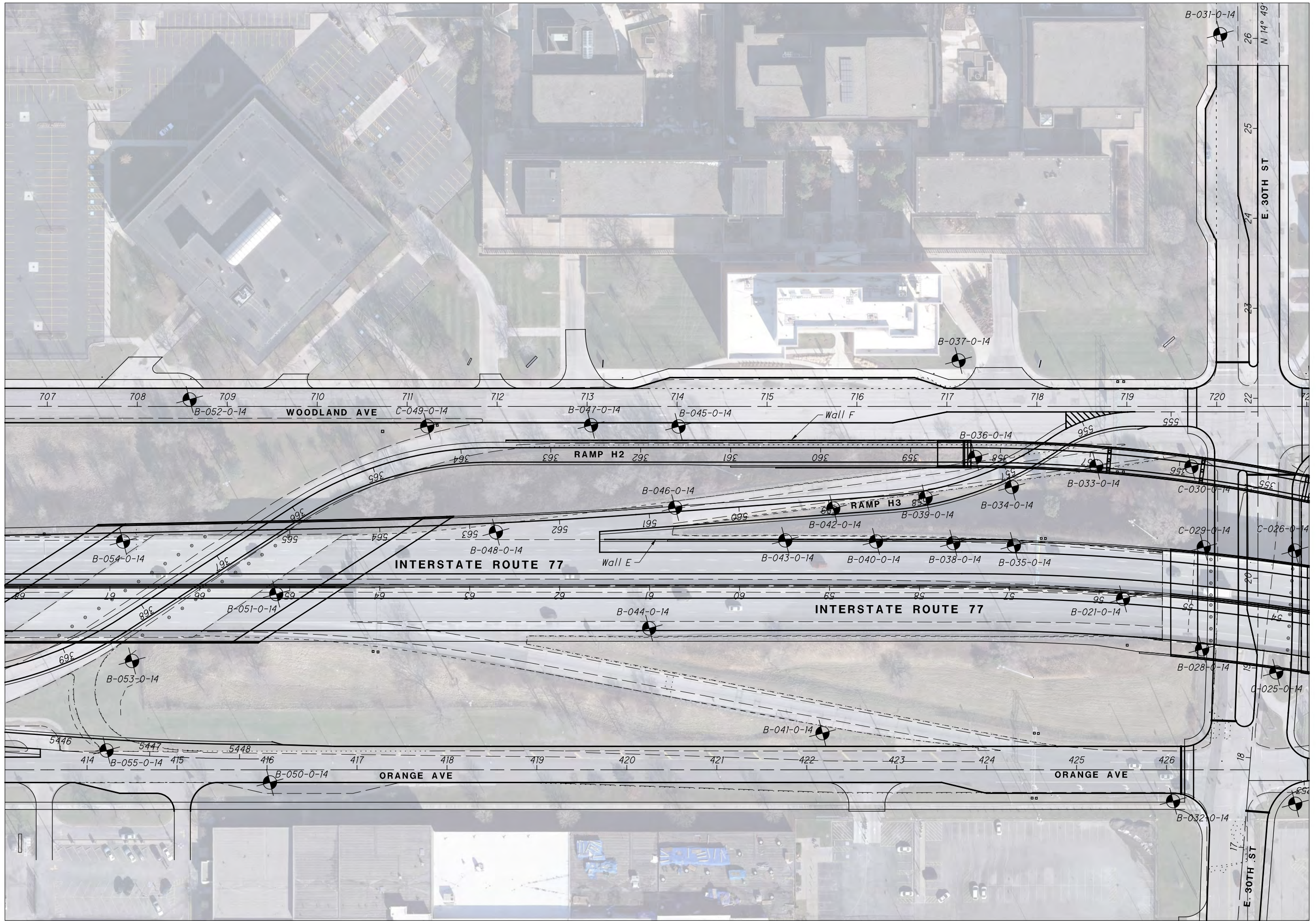


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25
HORIZONTAL
SCALE IN FEET
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SOIL BORING LOCATION PLAN

CUY-77 / 90-14.96 / 16.33



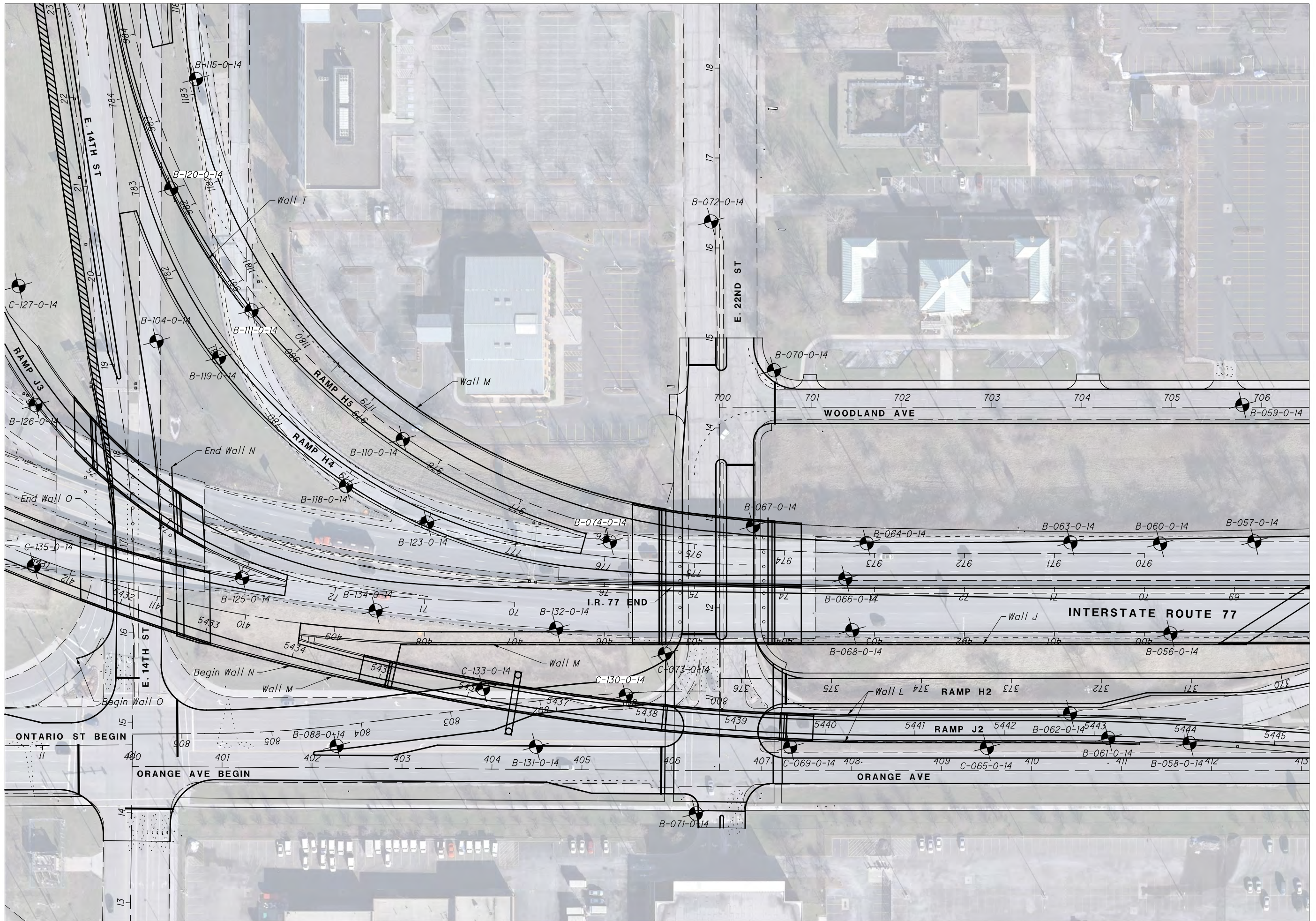


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SOIL BORING LOCATION PLAN

CUY-77 / 90-14.96 / 16.33

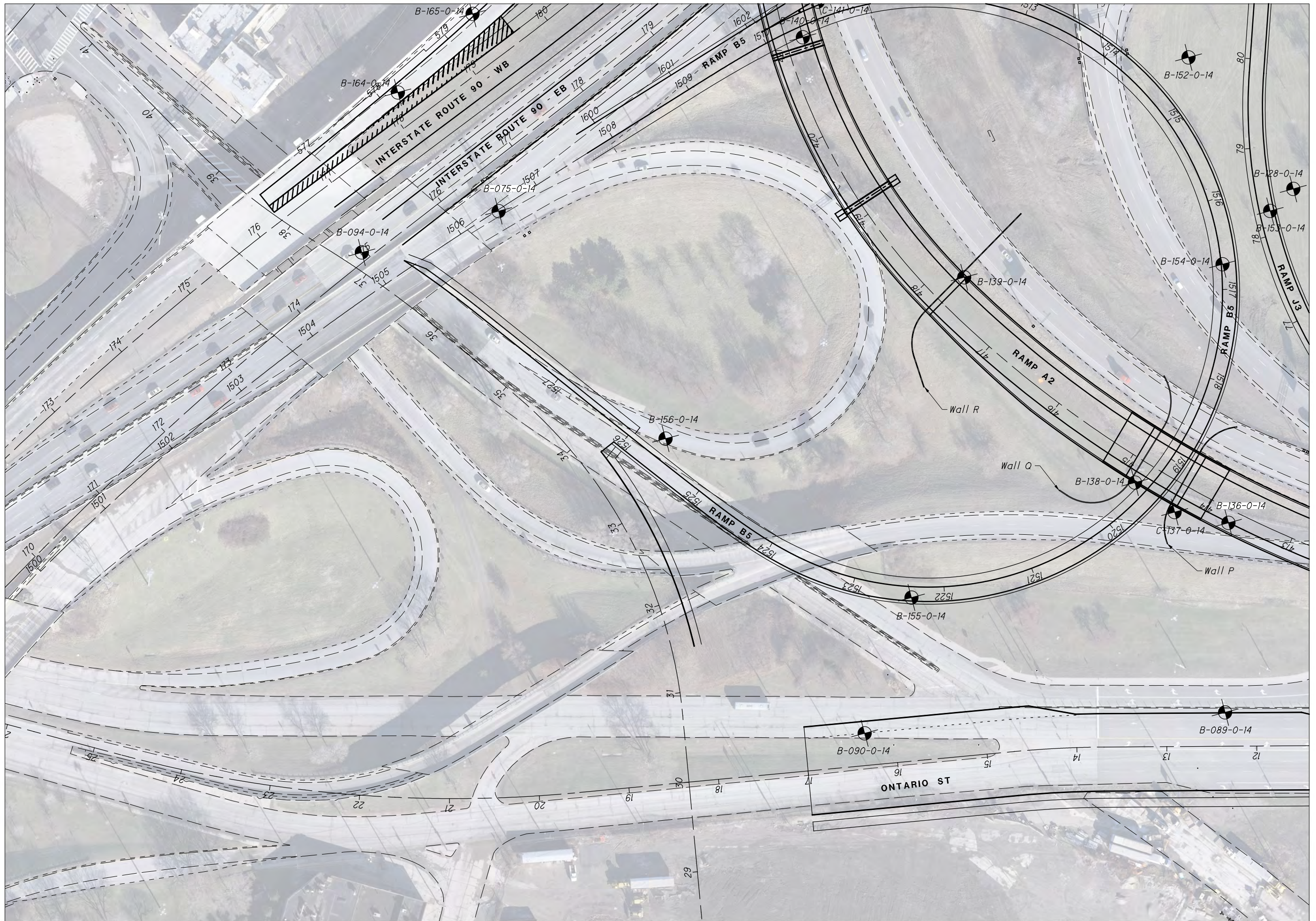




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
SOIL BORING LOCATION PLAN




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SOIL BORING LOCATION PLAN

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SOIL BORING LOCATION PLAN

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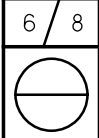




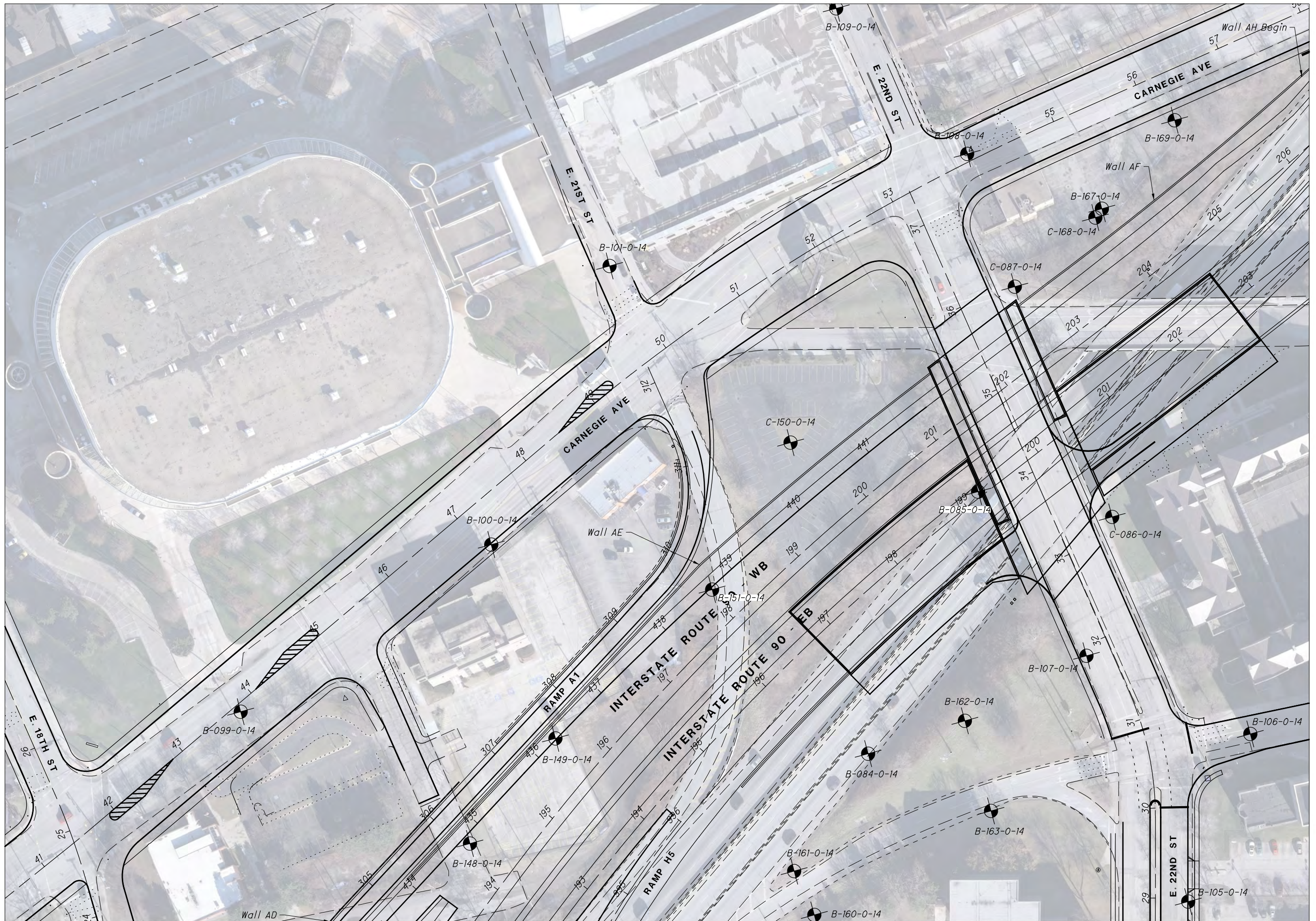
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SOIL BORING LOCATION PLAN

CUY-77 / 90-14.96 / 16.33



6 8







 HORIZONTAL SCALE IN FEET

DRAWN: KCA
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SOIL BORING LOCATION PLAN

CUY-77 / 90-14.96 / 16.33



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 HORIZONTAL SCALE IN FEET
 0 25 50 100

SOIL BORING LOCATION PLAN

CUY-77 / 90-14.96 / 16.33
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Appendix C

Boring Logs

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:06 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>39+87, 60' RT.</u>	EXPLORATION ID <u>B-002-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.LYON</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>IR-77</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>697.3 (MSL)</u> EOB: <u>9.0 ft.</u>	
START: <u>11/3/14</u> END: <u>11/3/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.488225, -81.664499</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI				
12.0", ASPHALT	697.3																		
6.0", GRANULAR BASE	696.3	1																	
DENSE, BROWN AND GRAY, COARSE AND FINE SAND , LITTLE TO SOME SILT, TRACE TO LITTLE CLAY, TRACE GRAVEL, DAMP (FILL)	695.8	2	7	13	32	100	SS-1	-	2	6	68	18	6	NP	NP	NP	10	A-3a (0)	
		3	11	12	34	67	SS-2	-	-	-	-	-	-	-	-	-	11	A-3a (V)	
		4	8	11	17	36	100	SS-3	-	6	18	43	21	12	NP	NP	NP	9	A-3a (0)
		5	12	17	45	100	SS-4	-	-	-	-	-	-	-	-	-	-	7	A-3a (V)
		6	22	16	40	100	SS-5	-	-	-	-	-	-	-	-	-	-	13	A-3a (V)
	688.3	9	15																
		EOB																	

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. CAVE DEPTH 6.1'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:07 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 42+93, 97' RT.		START: 12/1/14		END: 12/1/14		PG 2 OF 2		B-004-0-14							
MATERIAL DESCRIPTION AND NOTES			ELEV. 661.5	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
										GR	CS	FS	SI	CL	LL	PL	PI				
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , LITTLE SILT, TRACE TO LITTLE GRAVEL, TRACE CLAY, DAMP TO WET (continued)			661.5	31	5	17	89	SS-13	-	-	-	-	-	-	-	-	-	5	A-3a (V)	▽▽▽▽	
					6																7
					32																
					33																
					34																
					35																
					36																
					37																
					38																
					39																
@40.0'; SS-15 BECOMES DENSE			648.2	40	5	32	100	SS-15	-	0	0	81	15	4	NP	NP	NP	23	A-3a (0)	▽▽▽▽	
					11																14
					41																
					42																
					43																
					44																
					45																
					46																
					47																
					48																
MEDIUM DENSE, GRAYISH BROWN, SILT , LITTLE SAND, TRACE CLAY, TRACE GRAVEL, CONTAINS FEW DECAYED ROOTS, WET			644.2	45	7	21	100	SS-16	-	-	-	-	-	-	-	-	-	27	A-4b (V)	▽▽▽▽	
					7																9
					46																
					47																
					48																
					49																
					50																
					51																
					52																
					53																
SOFT, GRAY, SILT AND CLAY , LITTLE SAND, TRACE GRAVEL, MOIST @48.5'; UNIT WEIGHT: 134.0 PCF @ 19.0% MC			641.5	49		100	ST-17	0.25	0	1	13	52	34	29	17	12	19	A-6a (9)	▽▽▽▽		
					2															3	
					50																
					51																
					52																
					53																
					54																
					55																
					56																
					57																
LOOSE, GRAYISH BROWN, SILT , SOME SAND, TRACE CLAY, TRACE GRAVEL, WET			638.2	55	12	70	100	SS-19	-	0	0	52	43	5	NP	NP	NP	21	A-4a (3)	▽▽▽▽	
					22																32
					56																
					57																
					58																
					59																
					60																
					61																
					62																
					VERY DENSE, GRAYISH BROWN, SANDY SILT , TRACE CLAY, TRACE GRAVEL, WET TO MOIST																630.0
37	50/5"																				
61																					
62																					
63																					
64																					
65																					
66																					
67																					
68																					

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 34.2' DURING DRILLING. CAVE DEPTH 20.8'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:07 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 44+87, 114' RT.		START: 12/1/14		END: 12/1/14		PG 2 OF 2		B-006-0-14											
MATERIAL DESCRIPTION AND NOTES			ELEV. 653.7	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL					
										GR	CS	FS	SI	CL	LL	PL	PI								
MEDIUM DENSE TO VERY DENSE, BROWN, COARSE AND FINE SAND , TRACE TO LITTLE GRAVEL, TRACE TO LITTLE SILT, TRACE CLAY, MOIST (continued)			645.4	31	23 28 24	78	100	SS-12	-	-	-	-	-	-	-	-	-	14	A-3a (V)						
				32																					
				33																					
				34																					
				35	5																				
DENSE, GRAYISH BROWN, SANDY SILT , TRACE CLAY, TRACE GRAVEL, WET			640.4	36	10 20	45	100	SS-13	-	-	-	-	-	-	-	-	-	20	A-3a (V)						
				37																					
				38																					
				39																					
				40	6																				
MEDIUM STIFF TO STIFF, GRAYISH BROWN, SANDY SILT , SOME CLAY, TRACE GRAVEL, MOIST			640.4	41	10 14	36	100	SS-14	-	0	0	46	49	5	NP	NP	NP	26	A-4a (4)						
				42																					
				43																					
				44																					
				45	5																				
VERY STIFF, GRAY, SILTY CLAY , TRACE SAND, TRACE GRAVEL, MOIST			630.4	46	8 9	26	100	SS-15	1.25	1	0	26	48	25	22	15	7	18	A-4a (8)						
				47																					
				48																					
				49																					
				50	5																				
VERY DENSE, GRAY, SILT , "AND" FINE SAND, TRACE CLAY, TRACE GRAVEL, WET			625.4	51	20 28	72	100	SS-16	1.00	-	-	-	-	-	-	-	-	20	A-4a (V)						
				52																					
				53																					
				54																					
				55	7																				
VERY DENSE, GRAY, SILT , "AND" FINE SAND, TRACE CLAY, TRACE GRAVEL, WET			622.2	56	12 14	39	100	SS-17	3.75	0	0	3	45	52	35	19	16	20	A-6b (10)						
				57																					
				58																					
				59																					
				60	11																				
				61	15 18	50	100	SS-18	-	0	0	36	55	9	NP	NP	NP	20	A-4b (6)						

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 26.2' DURING DRILLING, DRY AFTER DRILLING. CAVE DEPTH 22.0'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:07 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 48+17, 70' LT.		START: 4/13/15		END: 4/14/15		PG 2 OF 2		B-007-0-14							
MATERIAL DESCRIPTION AND NOTES			ELEV. 659.2	DEPTHS		SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
											GR	CS	FS	SI	CL	LL	PL	PI			
LOOSE TO MEDIUM DENSE, LIGHT BROWN AND BROWN, COARSE AND FINE SAND , SOME SILT, TRACE CLAY, TRACE GRAVEL, MOIST TO WET (continued)			659.9	31	1	7	100	SS-13	-	1	0	74	20	5	NP	NP	NP	31	A-3a (0)	↖ ↗	
				32	4																
MEDIUM DENSE, GRAY, SILT , LITTLE CLAY, TRACE SAND, TRACE GRAVEL, DAMP TO WET			640.9	35	2	14	100	SS-14	-	-	-	-	-	-	-	-	-	29	A-4b (V)	↖ ↗	
				36	5	5															
MEDIUM DENSE, GRAY, COARSE AND FINE SAND , LITTLE TO SOME GRAVEL, LITTLE SILT, TRACE CLAY, MOIST			633.5	40	5	23	100	SS-15	-	0	2	6	77	15	25	23	2	20	A-4b (8)	↖ ↗	
				41	8	9															
VERY DENSE, GRAY, SANDY SILT , TRACE CLAY, TRACE GRAVEL, MOIST			630.9	45	3	16	100	SS-16	-	-	-	-	-	-	-	-	-	25	A-4b (V)	↖ ↗	
				46	6	6															
STIFF, GRAY, SILT AND CLAY , TRACE SAND, TRACE GRAVEL, MOIST			627.7	50	4	19	100	SS-17	-	-	-	-	-	-	-	-	-	14	A-3a (V)	↖ ↗	
				51	6	8															
				55	14	97	100	SS-18A	-	-	-	-	-	-	-	-	-	18	A-3a (V)	↖ ↗	
				56	29	43															19
				60	4	14	100	SS-19	1.60	1	0	2	57	40	29	17	12	24	A-6a (9)	↖ ↗	
				61	4	6															

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 27.5' DURING DRILLING. CAVE DEPTH 38.0'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / P.STROUD</u>	DRILL RIG: <u>MOBILE B-58</u>	STATION / OFFSET: <u>48+23, 8' LT.</u>	EXPLORATION ID <u>B-010-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / C. PIERCE</u>	HAMMER: <u>MOBILE AUTOMATIC</u>	ALIGNMENT: <u>IR-77</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>695.7 (MSL)</u> EOB: <u>9.0 ft.</u>	
START: <u>12/10/14</u> END: <u>12/10/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>90*</u>	LAT / LONG: <u>41.489954, -81.666544</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
6.0", ASPHALT	695.7																	
12.0", CONCRETE	695.2	1																
6.0", GRANULAR BASE	694.2	2																
DENSE, BROWN, COARSE AND FINE SAND, LITTLE SILT, TRACE CLAY, TRACE GRAVEL, SS-1 CONTAINS SILT SEAMS, DAMP	693.7	3	9	12	38	100	SS-1	-	3	13	63	16	5	NP	NP	NP	6	A-3a (0)
		4		15														
		5	10															
		6		15	42	100	SS-2	-	-	-	-	-	-	-	-	-	7	A-3a (V)
		7		13														
	686.7	8	11	14	48	100	SS-3	-	-	-	-	-	-	-	-	-	7	A-3a (V)
		9		18														
		EOB																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:07 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 49+42, 44' LT.		START: 12/3/14		END: 12/3/14		PG 2 OF 2		B-011-0-14									
MATERIAL DESCRIPTION AND NOTES			ELEV. 666.3	DEPTHS		SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL		
											GR	CS	FS	SI	CL	LL	PL	PI					
MEDIUM DENSE, BROWN, FINE SAND , LITTLE COARSE SAND, TRACE SILT, TRACE GRAVEL, TRACE CLAY, DAMP <i>(continued)</i>			663.0	31	4	4	12	100	SS-12	-	-	-	-	-	-	-	-	6	A-3 (V)	<>			
				32																<>			
MEDIUM DENSE, GRAYISH BROWN, SILT , LITTLE CLAY, LITTLE SAND, TRACE GRAVEL, MOIST TO WET			668.0	33																<>			
				34																	<>		
				35	2	9	17	100	SS-13	-	-	-	-	-	-	-	-	26	A-4b (V)	<>			
				36																	<>		
				37																	<>		
				38																		<>	
				39																		<>	
@40.0'; BECOMES GRAY				40	3	7	14	100	SS-14	-	-	-	-	-	-	-	-	23	A-4b (V)	<>			
				41																		<>	
				42																		<>	
			43																		<>		
			44																		<>		
			45	5	7	18	100	SS-15	-	0	1	11	74	14	NP	NP	NP	20	A-4b (8)	<>			
			46																		<>		
			47																		<>		
			48																		<>		
STIFF, GRAY, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, CONTAINS NO INTACT SOIL FOR HP READINGS, WET			648.0	49																	<>		
				50	3	5	12	100	SS-16	-	-	-	-	-	-	-	-	30	A-4b (V)	<>			
				51																		<>	
				52																		<>	
				53																		<>	
				54																			<>
				55	3	4	11	100	SS-17	-	0	1	5	71	23	28	20	8	29	A-4b (8)	<>		
				56																			<>
				57																			<>
				58																			<>
VERY DENSE, GRAYISH BROWN, COARSE AND FINE SAND , LITTLE GRAVEL, TRACE SILT, TRACE CLAY, MOIST			638.0	59																		<>	
			634.8	60	7	21	53	100	SS-18	-	-	-	-	-	-	-	-	15	A-3a (V)	<>			
				61																		<>	

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 31.9' DURING DRILLING. CAVE DEPTH 21.7'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:08 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>48+11, 420' RT.</u>	EXPLORATION ID <u>B-014-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>IR-77</u>	
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>678.4 (MSL)</u> EOB: <u>8.5 ft.</u>	PAGE 1 OF 1
START: <u>12/9/14</u> END: <u>12/9/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.490823, -81.665493</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
6.0", ASPHALT	678.4																	
24.0", CONCRETE	677.9	1																
	675.9	2																
4.0", GRANULAR BASE	675.6	3	4															
LOOSE, BROWN AND GRAY, COARSE AND FINE SAND , TRACE SILT, TRACE GRAVEL, TRACE CLAY, DAMP (FILL)	674.4	4	4	10	78	SS-1	-	8	33	43	10	6	NP	NP	NP	6	A-3a (0)	<L> >L>
VERY LOOSE TO LOOSE, BROWN, FINE SAND , LITTLE COARSE SAND, LITTLE GRAVEL, TRACE SILT, TRACE CLAY, DAMP (POSSIBLE TRENCH BACKFILL)		5	2	6	100	SS-2	-	11	15	67	4	3	NP	NP	NP	7	A-3 (0)	<L> >L>
		6	2	5	100	SS-3	-	-	-	-	-	-	-	-	-	6	A-3 (V)	<L> >L>
		7	1	3														<L> >L>
	669.9	8	1	4	100	SS-4	-	-	-	-	-	-	-	-	-	6	A-3 (V)	<L> >L>
		EOB	2															<L> >L>

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:08 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>54+08, 493' LT.</u>	EXPLORATION ID <u>B-016-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>IR-77</u>	
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>668.4 (MSL)</u> EOB: <u>8.0 ft.</u>	PAGE 1 OF 1
START: <u>1/28/15</u> END: <u>1/28/15</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.489564, -81.669046</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
10.0", CONCRETE	668.4																	
14.0", GRANULAR BASE	667.6	1																
MEDIUM DENSE, BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, DAMP	666.4	2	5															
	664.9	3	4	13	100	SS-1	-	49	16	26	6	3	NP	NP	NP	5	A-1-b (0)	↖ ↗
MEDIUM DENSE, LIGHT BROWN, FINE SAND , SOME GRAVEL, LITTLE COARSE SAND, TRACE SILT, TRACE CLAY, DRY	663.4	4	9															
	663.4	5	10	30	100	SS-2	-	35	12	43	7	3	NP	NP	NP	4	A-3 (0)	↖ ↗
	663.4	6	10	13														
MEDIUM DENSE, BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, DAMP	660.4	7	8	22	100	SS-3	-	56	13	22	7	2	NP	NP	NP	4	A-1-b (0)	↖ ↗
	660.4	8	7	9	23	100	SS-4	-	-	-	-	-	-	-	-	5	A-1-b (V)	↖ ↗
		8	9															

EOB

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:08 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>51+61, 170' LT.</u>	EXPLORATION ID <u>B-018-0-14</u>
TYPE: <u>RETAINING WALL</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>IR-77</u>	PAGE 1 OF 2
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>680.3 (MSL)</u> EOB: <u>61.5 ft.</u>	
START: <u>12/18/14</u> END: <u>12/18/14</u>	SAMPLING METHOD: <u>SPT / ST</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.490100, -81.667845</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
6.0", TOPSOIL	679.8	1	3															
VERY DENSE, BROWN, GRAVEL WITH SAND , LITTLE SILT, TRACE CLAY, CONTAINS SLAG, MOIST (FILL)	678.3	2	15 50/5"															
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , LITTLE GRAVEL, TRACE SILT, TRACE CLAY, DAMP	675.8	3	15 10 5	19	100	SS-2	-	15	30	43	8	4	NP	NP	NP	5	A-3a (0)	
LOOSE, BROWN, FINE SAND , LITTLE COARSE SAND, TRACE SILT, TRACE CLAY, TRACE GRAVEL, DAMP	675.8	4																
	675.8	5	2															
	675.8	6	2 4	8	100	SS-3	-	2	11	82	3	2	NP	NP	NP	7	A-3 (0)	
	675.8	7																
	675.8	8	3															
	675.8	9	3 4	9	100	SS-4	-	-	-	-	-	-	-	-	-	7	A-3 (V)	
	675.8	10																
	675.8	11	2 3	6	100	SS-5	-	-	-	-	-	-	-	-	-	7	A-3 (V)	
	675.8	12																
	675.8	13	2 3	8	100	SS-6	-	-	-	-	-	-	-	-	-	5	A-3 (V)	
	675.8	14																
VERY LOOSE TO LOOSE, BROWN, COARSE AND FINE SAND , LITTLE SILT, TRACE CLAY, TRACE GRAVEL, CONTAINS SILT SEAM, WET	665.8	15	3															
	665.8	16	2 2	5	89	SS-7	-	1	1	83	11	4	NP	NP	NP	12	A-3a (0)	
@17.5'; SS-8 NO RECOVERY	665.8	17																
	665.8	18	2 1	3	0	SS-8	-	-	-	-	-	-	-	-	-	-		
	665.8	19																
LOOSE TO MEDIUM DENSE, GRAYISH BROWN, SILT , SOME SAND, TRACE CLAY, TRACE GRAVEL, MOIST TO WET	660.8	20	3															
	660.8	21	4 5	12	100	SS-9	-	1	0	28	63	8	NP	NP	NP	25	A-4b (7)	
@22.5'; SS-10 TO SS-15 BECOME GRAY	660.8	22																
	660.8	23	2 3	6	100	SS-10	-	1	0	25	67	7	NP	NP	NP	30	A-4b (8)	
	660.8	24																
@25.0'; SS-11 TO SS-15 BECOME LITTLE TO SOME CLAY, TRACE SAND	660.8	25	2															
	660.8	26	3 4	9	100	SS-11	-	-	-	-	-	-	-	-	-	22	A-4b (V)	
	660.8	27																
	660.8	28																
@29.3'; UNIT WEIGHT: 125.8 PCF @ 29.4% MC	660.8	29			100	ST-12	-	1	3	6	71	19	24	20	4	29	A-4b (8)	

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:08 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 51+61, 170' LT.		START: 12/18/14		END: 12/18/14		PG 2 OF 2		B-018-0-14												
MATERIAL DESCRIPTION AND NOTES				ELEV. 650.3	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL					
											GR	CS	FS	SI	CL	LL	PL	PI								
LOOSE TO MEDIUM DENSE, GRAYISH BROWN, SILT, SOME SAND, TRACE CLAY, TRACE GRAVEL, MOIST TO WET <i>(continued)</i>				650.3	31	2 3	6	100	SS-13	-	-	-	-	-	-	-	-	-	33	A-4b (V)						
					32																					
					33																					
					34																					
					35																					
					36		3 4	9	100	SS-14	-	-	-	-	-	-	-	-	-	-		-	29	A-4b (V)		
					37																					
					38																					
					39																					
					40		3 3	8	100	SS-15	-	0	1	5	70	24	28	21	7	23		A-4b (8)				
DENSE, GRAY, GRAVEL WITH SAND, TRACE SILT, TRACE CLAY, DAMP TO MOIST				637.0	41																					
					42																					
					43																					
					44																					
					45		6 12 15	35	100	SS-16	-	-	-	-	-	-	-	-	-	-	10	A-1-b (V)				
					46																					
					47																					
					48																					
					49																					
					50		11 12 18	39	100	SS-17A	-	48	31	14	5	2	NP	NP	NP	6	A-1-b (0)					
MEDIUM DENSE TO DENSE, GRAY, SILT, SOME CLAY, LITTLE SAND, TRACE GRAVEL, SS-17B AND SS-18 (INTERBEDDED WITH "SILT AND CLAY"), WET				629.5	51													23	A-4b (V)							
					52																					
					53																					
					54																					
					55		5 6 8	18	100	SS-18	-	-	-	-	-	-	-	-	-	31	A-4b (V)					
					56																					
					57																					
					58																					
					59																					
					60		4 13 21	44	100	SS-19	-	0	1	19	73	7	NP	NP	NP	22	A-4b (8)					
@60.0'; SS-19 BECOMES TRACE CLAY				618.8	61																					
					EOB																					

NOTES: GROUNDWATER ENCOUNTERED AT 17.5' DURING DRILLING, 32.8' UPON COMPLETION. CAVE DEPTH 7.0'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / P.STROUD</u>	DRILL RIG: <u>MOBILE B-58</u>	STATION / OFFSET: <u>55+73, 8' LT.</u>	EXPLORATION ID <u>B-021-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / C. PIERCE</u>	HAMMER: <u>MOBILE AUTOMATIC</u>	ALIGNMENT: <u>IR-77</u>	
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>699.0 (MSL)</u> EOB: <u>9.0 ft.</u>	PAGE 1 OF 1
START: <u>12/10/14</u> END: <u>12/10/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>90*</u>	LAT / LONG: <u>41.490950, -81.668910</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI	WC			
6.0", ASPHALT	698.5																		
12.0", CONCRETE	697.5	1																	
6.0", GRANULAR BASE	697.0	2																	
MEDIUM DENSE, BROWN, SANDY SILT , LITTLE CLAY, LITTLE GRAVEL, CONTAINS FEW BRICK FRAGMENTS, DAMP (FILL)	694.5	3	4	5	6	17	100	SS-1	-	11	20	24	32	13	22	15	7	11	A-4a (2)
LOOSE, BROWN, GRAVEL WITH SAND AND SILT , LITTLE CLAY, CONTAIN BRICK FRAGMENTS, DAMP (FILL)	692.0	5	4	2	3	8	22	SS-2	-	21	20	24	24	11	22	16	6	14	A-2-4 (0)
DENSE, BROWN, SANDY SILT , SOME GRAVEL, TRACE CLAY, DAMP (FILL)	690.0	7	9	13	17	45	100	SS-3	-	-	-	-	-	-	-	-	-	9	A-4a (V)
		8																	
		9																	
		EOB																	

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:08 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>50+49, 305' RT.</u>	EXPLORATION ID <u>B-023-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>IR-77</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>678.9 (MSL)</u> EOB: <u>8.0 ft.</u>	
START: <u>12/9/14</u> END: <u>12/9/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.491040, -81.666570</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
5.0", ASPHALT	678.9																	
18.0", CONCRETE	678.5	1																X
4.0", GRANULAR BASE	677.0	2	3															X
MEDIUM DENSE, BROWN AND BLACK, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, SS-1 CONTAINS ASPHALT FRAGMENTS, DAMP	676.7	3	4	12	100	SS-1	-	26	25	35	10	4	NP	NP	NP	6	A-1-b (0)	<L> >L>
(FILL) @3.5'; SS-2 CONTAINS CONCRETE FRAGMENTS	673.9	4	9	17	56	SS-2	-	48	24	16	9	3	NP	NP	NP	6	A-1-b (0)	<L> >L>
LOOSE, BROWN AND GRAY, COARSE AND FINE SAND , LITTLE GRAVEL, LITTLE SILT, TRACE CLAY, DAMP	672.4	5	3	8	89	SS-3	-	-	-	-	-	-	-	-	-	7	A-3a (V)	<L> >L>
(FILL) LOOSE, BROWN, COARSE AND FINE SAND , LITTLE GRAVEL, TRACE SILT, TRACE CLAY, DAMP	670.9	6	2	5	100	SS-4	-	-	-	-	-	-	-	-	-	6	A-3a (V)	<L> >L>
		7																
		8																
		EOB																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 54+79, 56' LT.		START: 11/17/14		END: 11/18/14		PG 2 OF 4		B-028-0-14										
MATERIAL DESCRIPTION AND NOTES			ELEV. 648.9	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL				
										GR	CS	FS	SI	CL	LL	PL	PI							
LOOSE TO MEDIUM DENSE, BROWN, SILT, SOME SAND, TRACE CLAY, TRACE GRAVEL, WET (continued) @30.0'; ST-13 NO RECOVERY @35.0'; SS-14 BECOMES LITTLE CLAY, TRACE SAND, TRACE GRAVEL			648.9	31			0	ST-13	-	-	-	-	-	-	-	-	-	A-4b (V)						
				32																				
				33																				
				34																				
				35	4																			
				36	4	4	11	100	SS-14	-	1	1	6	77	15	27	22	5		27	A-4b (8)			
				37																				
				38																				
				39																				
				40	3																			
DENSE, GRAYISH BROWN, GRAVEL WITH SAND, TRACE SILT, TRACE CLAY, WET			633.4	41	5	6	14	100	SS-15	-	-	-	-	-	-	-	-	28	A-4b (V)					
				42																				
				43																				
				44																				
				45	11							SS-16A	-	-	-	-	-	-	-		-	29	A-4b (V)	
				46	12	13	33	100	SS-16B	-	-	-	-	-	-	-	-	-	-		13	A-1-b (V)		
				47																				
				48																				
				49																				
				MEDIUM DENSE TO VERY DENSE, GRAYISH BROWN, SILT, LITTLE TO SOME CLAY, TRACE TO LITTLE SAND, TRACE GRAVEL, WET @51.5'; UNIT WEIGHT: 131.3 PCF @ 24.7% MC @55.0'; SS-18 CONTAINS A 2.0" SEAM OF "SILT AND CLAY"			630.4	50																
51								67	ST-17	-	0	1	10	74	15	24	21	3	25	A-4b (8)				
52																								
53																								
54																								
55	5																							
56	6	8	18					100	SS-18	-	-	-	-	-	-	-	-	-	-	23	A-4b (V)			
57																								
58																								
59																								
			630.4	60	5																			
				61	6	9	20	100	SS-19	-	-	-	-	-	-	-	-	-	24	A-4b (V)				

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:08 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 54+79, 56' LT.		START: 11/17/14		END: 11/18/14		PG 3 OF 4		B-028-0-14									
MATERIAL DESCRIPTION AND NOTES			ELEV. 616.8	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL			
										GR	CS	FS	SI	CL	LL	PL	PI						
MEDIUM DENSE TO VERY DENSE, GRAYISH BROWN, SILT, LITTLE TO SOME CLAY, TRACE TO LITTLE SAND, TRACE GRAVEL, WET (continued)				63																			
				64																			
				65	13																		
				66	17 22	51	100	SS-20	-	-	-	-	-	-	-	-	-	-	24	A-4b (V)			
				67																			
				68																			
				69																			
				70	13																		
				71	21 24	59	100	SS-21	-	-	-	-	-	-	-	-	-	-	16	A-4b (V)			
				72																			
				73																			
				74																			
				75																			
				76			100	ST-22	-	0	0	5	74	21	NP	18	NP	21	A-4b (8)				
				77																			
				78																			
				79																			
				80	23																		
				81	24 22	60	100	SS-23	-	-	-	-	-	-	-	-	-	-	18	A-4b (V)			
				82																			
83																							
84																							
85	9																						
86	11 12	30	100	SS-24	-	0	0	1	77	22	27	20	7	20	A-4b (8)								
87																							
88																							
89																							
90	9																						
91	11 14	33	100	SS-25	-	-	-	-	-	-	-	-	-	-	23	A-4b (V)							
92																							
93																							
94																							

@76.3'; UNIT WEIGHT: 136.6 PCF @ 20.6% MC

585.6

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:08 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380	SFN: _____	PROJECT: CUY-CCG3	STATION / OFFSET: 54+79, 56' LT.	START: 11/17/14	END: 11/18/14	PG 4 OF 4	B-028-0-14																		
MATERIAL DESCRIPTION AND NOTES		ELEV. 584.7	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL						
									GR	CS	FS	SI	CL	LL	PL	PI									
STIFF, GRAYISH BROWN, SILT AND CLAY, TRACE SAND, TRACE GRAVEL, MOIST (continued)		582.4	95	3	11	30	100	SS-26	1.75	2	1	3	55	39	29	18	11	23	A-6a (8)	<	L	>	<	L	>
			96																	12	<	L	>	<	L

EOB

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. CAVE DEPTH 20.0'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>55+22, 626' RT.</u>	EXPLORATION ID <u>B-031-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>IR-77</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>682.6 (MSL)</u> EOB: <u>8.0 ft.</u>	
START: <u>2/11/15</u> END: <u>2/11/15</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.492531, -81.667921</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			ODOT CLASS (GI)	BACK FILL		
								GR	CS	FS	SI	CL	LL	PL	PI			WC	
3.0", ASPHALT	682.6																		
9.0", CONCRETE	682.3	1																	
6.0", GRANULAR BASE	681.6	2																	
DENSE TO VERY DENSE, BROWN, COARSE AND FINE SAND , LITTLE TO SOME GRAVEL, TRACE TO LITTLE SILT, TRACE CLAY, SS-1 CONTAINS BRICK FRAGMENTS, DAMP (FILL) @5.0'; SS-3 AND SS-4 CONTAIN IRON STAINING, GLASS AND BRICK FRAGMENTS	681.1	3	13	35	100	SS-1	-	21	21	39	11	8	NP	NP	NP	9	A-3a (0)		
		4	11	35	100	SS-2	-	11	17	57	9	6	NP	NP	NP	7	A-3a (0)		
		5	7	-	100	SS-3	-	-	-	-	-	-	-	-	-	-	8	A-3a (V)	
		6																	
		674.6	7	12	40	100	SS-4	-	-	-	-	-	-	-	-	-	8	A-3a (V)	
		8	15																
		EOB	16																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:08 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>54+95, 227' LT.</u>	EXPLORATION ID <u>B-032-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>IR-77</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>678.6 (MSL)</u> EOB: <u>8.0 ft.</u>	
START: <u>1/28/15</u> END: <u>1/28/15</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.490314, -81.668932</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
6.0", TOPSOIL	678.6																	
MEDIUM DENSE, BROWN, SANDY SILT , LITTLE CLAY, TRACE GRAVEL, CONTAINS BRICK FRAGMENTS, CINDERS, AND IRON STAINING, DAMP	678.1	1	3	17	100	SS-1	-	10	18	35	23	14	NP	NP	NP	11	A-4a (0)	
(FILL)	676.6	2	5	10	100	SS-2	-	-	-	-	-	-	-	-	-	7	A-3a (V)	
VERY LOOSE TO LOOSE, BROWN, COARSE AND FINE SAND , LITTLE GRAVEL, TRACE SILT, TRACE CLAY, DAMP		3	4	4	100	SS-3	-	-	-	-	-	-	-	-	-	7	A-3a (V)	
		4	1	4	100	SS-3	-	-	-	-	-	-	-	-	-	7	A-3a (V)	
		5	2	5	100	SS-4	-	11	20	58	6	5	NP	NP	NP	9	A-3a (0)	
		6	2	5	100	SS-4	-	11	20	58	6	5	NP	NP	NP	9	A-3a (0)	
		7	3	5	100	SS-5	-	-	-	-	-	-	-	-	-	8	A-3a (V)	
	670.6	8	2															
		EOB																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:09 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 57+00, 111' RT.		START: 10/29/14		END: 10/30/14		PG 2 OF 4		B-034-0-14									
MATERIAL DESCRIPTION AND NOTES			ELEV. 648.0	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL			
										GR	CS	FS	SI	CL	LL	PL	PI						
SOFT TO STIFF, GRAY, SILT, SOME CLAY, TRACE SAND, TRACE GRAVEL, WET			648.0	31	3 4	11	100	SS-13	0.50	-	-	-	-	-	-	-	-	28	A-4b (V)				
				32																			
				33																			
				34																			
				35	3 4	13	100	SS-14	0.75	-	-	-	-	-	-	-	-	-	-		29	A-4b (V)	
MEDIUM DENSE, GRAY, GRAVEL WITH SAND, LITTLE SILT, TRACE CLAY, MOIST			635.0	36	5 7	16	100	SS-15	1.25	0	1	6	69	24	30	20	10	29	A-4b (8)				
				37																			
				38																			
				39																			
				40	3 4	14	100	SS-16	-	-	-	-	-	-	-	-	-	-	-		12	A-1-b (V)	
DENSE, GRAY, SILT, LITTLE CLAY, LITTLE SAND, TRACE GRAVEL, CONTAINS SAND LENSES, MOIST			629.5	41																			
				42																			
				43																			
				44																			
				45	11 16 18	45	100	SS-17	-	-	-	-	-	-	-	-	-	-	-		22	A-4b (V)	
GRAY, COARSE AND FINE SAND, LITTLE SILT, TRACE GRAVEL, TRACE CLAY, WET			625.0	46																			
				47																			
				48																			
				49																			
				50																			
GRAY, SILT, SOME GRAVEL, LITTLE CLAY, LITTLE SAND, DAMP			622.2	51			80	ST-18A	-	6	17	59	16	2	NP	NP	NP	17	A-3a (0)				
				52																			
STIFF TO VERY STIFF, GRAY WITH RED MOTTLES, SILTY CLAY, TRACE SAND, TRACE GRAVEL, MOIST			620.5	53																			
				54																			
				55																			
				56																			
				57	9 13 14	35	100	SS-19	2.25	-	-	-	-	-	-	-	-	-	-		21	A-6b (V)	

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:09 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380 SFN: _____ PROJECT: CUY-CCG3 STATION / OFFSET: 57+00, 111' RT. START: 10/29/14 END: 10/30/14 PG 4 OF 4 B-034-0-14

MATERIAL DESCRIPTION AND NOTES	ELEV. 583.8	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
MEDIUM STIFF TO STIFF, GRAY MOTTLED WITH DARK GRAY, SILT AND CLAY , TRACE SAND, TRACE GRAVEL, MOIST (continued)	576.5	95	10	37	100	SS-27	1.75	0	1	2	56	41	29	17	12	20	A-6a (9)	< >
		96	12															< >
		97																< >
		98																< >
		99																< >
		100	10															< >
		101	12	33	100	SS-28	1.00	1	3	4	43	49	29	18	11	22	A-6a (8)	< >
		EOB	13															< >

NOTES: GROUNDWATER ENCOUNTERED AT 19.0' DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:09 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 56+96, 46' RT.		START: 11/3/14		END: 11/4/14		PG 2 OF 2		B-035-0-14											
MATERIAL DESCRIPTION AND NOTES			ELEV. 669.5	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL					
										GR	CS	FS	SI	CL	LL	PL	PI								
LOOSE TO MEDIUM DENSE, BROWN, FINE SAND , TRACE COARSE SAND, TRACE GRAVEL, TRACE SILT, TRACE CLAY, DAMP (continued)				664.5	W 664.2 ▼	31	3	9	100	SS-14	-	-	-	-	-	-	-	-	7	A-3 (V)					
						32	4																		
						33																			
						34																			
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , TRACE GRAVEL, TRACE SILT, TRACE CLAY, WET				661.2		35	3	14	100	SS-15	-	-	-	-	-	-	-	-	17	A-3a (V)					
						36	4	7																	
MEDIUM DENSE, GRAY, SANDY SILT , LITTLE CLAY, TRACE GRAVEL, WET				657.2		37																			
						38																			
LOOSE TO MEDIUM DENSE, GRAY, SILT , TRACE TO LITTLE SAND, LITTLE CLAY, TRACE GRAVEL, WET @43.0'; UNIT WEIGHT: 133.3 PCF @ 22.5% MC				638.0	EOB	39																			
						40	10																		
						41	5	15	100	SS-16	-	-	-	-	-	-	-	-	-		-	-	24	A-4a (V)	
						42	7																		
						43																			
						44			117	ST-17	-	0	0	9	79	12	NP	NP	NP				23	A-4b (8)	
						45	3																		
						46	5	14	100	SS-18	-	-	-	-	-	-	-	-	-		-	-	-	25	A-4b (V)
						47	6																		
						48																			
						49																			
50	4																								
51	7	18	100	SS-19	-	0	1	14	73	12	NP	NP	NP			22	A-4b (8)								
52	7																								
53																									
54																									
55	3																								
56	4	10	100	SS-20	-	-	-	-	-	-	-	-	-	-	-	-	27	A-4b (V)							
57	4																								
58																									
59																									
60	3																								
61	3	10	100	SS-21	-	-	-	-	-	-	-	-	-	-	-	-	33	A-4b (V)							
	5																								

NOTES: GROUNDWATER ENCOUNTERED AT 35.3' DURING DRILLING, 36.5' UPON COMPLETION. CAVE DEPTH 37.0'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:09 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>57+56, 251' RT.</u>	EXPLORATION ID <u>B-037-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>IR-77</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>676.7 (MSL)</u> EOB: <u>8.0 ft.</u>	
START: <u>12/9/14</u> END: <u>12/9/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.491784, -81.669296</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
6.0", TOPSOIL	676.7																	
LOOSE, DARK BROWN AND BROWN, COARSE AND FINE SAND , LITTLE GRAVEL, TRACE SILT, TRACE CLAY, ENCOUNTERED BRICK FRAGMENTS, DAMP TO MOIST (FILL)	676.2	1	3	9	100	SS-1	-	11	23	52	9	5	NP	NP	NP	10	A-3a (0)	<L> <V> <L>
		2	2	5	100	SS-2	-	-	-	-	-	-	-	-	-	12	A-3a (V)	<L> <V> <L>
@3.5'; SS-3 CHANGES TO DARK GRAY AND BROWN, SOME SILT, LITTLE CLAY, CONTAINS ASPHALT AND CONCRETE FRAGMENTS	671.7	3	3	6	100	SS-3	-	-	-	-	-	-	-	-	-	14	A-3a (V)	<L> <V> <L>
LOOSE, BROWN, FINE SAND , LITTLE GRAVEL, TRACE SILT, TRACE COARSE SAND, TRACE CLAY, DAMP		4	3	6	100	SS-4	-	15	4	74	6	1	NP	NP	NP	10	A-3 (0)	<L> <V> <L>
		5	3	6	100	SS-4	-	-	-	-	-	-	-	-	-	9	A-3 (V)	<L> <V> <L>
	668.7	6	3	6	100	SS-5	-	-	-	-	-	-	-	-	-	9	A-3 (V)	<L> <V> <L>
		7	3	6	100	SS-5	-	-	-	-	-	-	-	-	-	9	A-3 (V)	<L> <V> <L>
		8	2	6	100	SS-5	-	-	-	-	-	-	-	-	-	9	A-3 (V)	<L> <V> <L>
		EOB																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>57+62, 48' RT.</u>	EXPLORATION ID <u>B-038-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.LYON</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>IR-77</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>698.7 (MSL)</u> EOB: <u>9.0 ft.</u>	
START: <u>11/4/14</u> END: <u>11/4/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.491251, -81.669513</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	BACK FILL		
								GR	CS	FS	SI	CL	LL	PL	PI	WC				
6.0", ASPHALT	698.2																			
12.0", CONCRETE	697.2	1																		
6.0", GRANULAR BASE	696.7	2																		
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , SOME GRAVEL, TRACE SILT, TRACE CLAY, DAMP (FILL)	695.7	3	17	25	100	SS-1	-	-	-	-	-	-	-	-	-	6	A-3a (V)	<L>		
STIFF TO VERY STIFF, BROWN, GRAY AND DARK GRAY, SANDY SILT , LITTLE CLAY, TRACE GRAVEL, DAMP (FILL)	692.7	4	8	14	100	SS-2	2.00	10	19	28	30	13	22	16	6	13	A-4a (2)	<L>		
MEDIUM DENSE TO DENSE, BROWN AND GRAY, COARSE AND FINE SAND , TRACE TO LITTLE SILT, LITTLE GRAVEL, TRACE TO LITTLE CLAY, DAMP TO MOIST (FILL)	689.7	5	3	9	100	SS-3	3.00	-	-	-	-	-	-	-	-	12	A-4a (V)	<L>		
		6	5	6	14	26	100	SS-4	-	17	30	22	20	11	22	16	6	12	A-3a (0)	<L>
		7	9	14	35	100	SS-5	-	-	-	-	-	-	-	-	7	A-3a (V)	<L>		
		8																		
		9																		
		EOB																		

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. CAVE DEPTH 5.8'
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:09 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 57+93, 98' RT.		START: 10/28/14		END: 10/29/14		PG 2 OF 4		B-039-0-14														
MATERIAL DESCRIPTION AND NOTES				ELEV. 651.7	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL							
											GR	CS	FS	SI	CL	LL	PL	PI										
MEDIUM DENSE, GRAY, SANDY SILT , TRACE CLAY, TRACE GRAVEL, INTERBEDDED SILT AND FINE SAND, WET <i>(continued)</i> @31.5'; UNIT WEIGHT: 138.4 PCF @ 19.2% MC				651.7	31				83	ST-13	-	3	2	42	43	10	NP	NP	NP	19	A-4a (4)	<V>						
					32																				<V>			
					33	4		11	100	SS-14	-	-	-	-	-	-	-	-	-	-	-	-	26	A-4a (V)	<V>			
					34		4																			<V>		
					35	3																					<V>	
					36		4	5	12	100	SS-15	-	-	-	-	-	-	-	-	-	-	-	27	A-4a (V)	<V>			
					37																						<V>	
					38																							<V>
					39																							<V>
					40	4																						<V>
MEDIUM STIFF TO HARD, GRAY, SILT , LITTLE TO SOME CLAY, TRACE TO LITTLE SAND, TRACE GRAVEL, WET @50.0'; ST-18 , DOUBLE PUSHED, NOT TESTED @55.0'; BECOMES DAMP TO MOIST @56.0'; ENCOUNTERED HEAVING SAND DURING DRILLING				638.4	41	4	5	12	100	SS-16	-	-	-	-	-	-	-	-	-	29	A-4a (V)	<V>						
					42																					<V>		
					43																						<V>	
					44																						<V>	
					45	5																					<V>	
					46		6	7	17	100	SS-17	0.75	-	-	-	-	-	-	-	-	-	-	30	A-4b (V)	<V>			
					47																							<V>
					48																							<V>
					49																							<V>
					50																							<V>
MEDIUM STIFF TO HARD, GRAY, SILT , LITTLE TO SOME CLAY, TRACE TO LITTLE SAND, TRACE GRAVEL, WET @50.0'; ST-18 , DOUBLE PUSHED, NOT TESTED @55.0'; BECOMES DAMP TO MOIST @56.0'; ENCOUNTERED HEAVING SAND DURING DRILLING				638.4	51				100	ST-18	-	-	-	-	-	-	-	-	-			<V>						
					52																					<V>		
					53																						<V>	
					54																						<V>	
					55	8																					<V>	
					56		10	13	30	100	SS-19	3.50	1	7	11	61	20	24	17	7	17	A-4b (8)	<V>					
					57																							<V>
					58																							<V>
					59																							<V>
					60	8																					<V>	
61		9	11	26	100	SS-20	1.00	-	-	-	-	-	-	-	-	-	-	21	A-4b (V)	<V>								

PID: 82380	SFN: _____	PROJECT: CUY-CCG3	STATION / OFFSET: 57+93, 98' RT.	START: 10/28/14	END: 10/29/14	PG 4 OF 4	B-039-0-14												
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
									GR	CS	FS	SI	CL	LL	PL	PI			
MEDIUM STIFF TO HARD, GRAY, SILT, LITTLE TO SOME CLAY, TRACE TO LITTLE SAND, TRACE GRAVEL, WET <i>(continued)</i>		587.4																	
			95	22															<L> >L>
		585.2	96	35 39	97	100	SS-27	4.5+	-	-	-	-	-	-	-	-	17	A-4b (V)	<L> >L>
			EOB																

NOTES: GROUNDWATER ENCOUNTERED AT 19.0' DURING DRILLING, 21.0' UPON COMPLETION. CAVE DEPTH 22.0.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:10 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / P.STROUD</u>	DRILL RIG: <u>MOBILE B-58</u>	STATION / OFFSET: <u>58+48, 49' RT.</u>	EXPLORATION ID <u>B-040-0-14</u>
TYPE: <u>RETAINING WALL</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>MOBILE AUTOMATIC</u>	ALIGNMENT: <u>IR-77</u>	PAGE 1 OF 2
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>697.8 (MSL)</u> EOB: <u>61.5 ft.</u>	
START: <u>11/4/14</u> END: <u>11/4/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>90*</u>	LAT / LONG: <u>41.491319, -81.669814</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
6.0", ASPHALT	697.8																	
9.0", CONCRETE	697.3 696.6	1																
DENSE TO VERY DENSE, BROWN, GRAVEL WITH SAND , LITTLE SILT, TRACE CLAY, DAMP (FILL)		2																
		3	13	41	100	SS-1	-	-	-	-	-	-	-	-	6	A-1-b (V)		
		4	13 14															
		5																
		6	18	57	100	SS-2	-	27	31	26	11	5	NP	NP	NP	9	A-1-b (0)	
		7	19 19															
DENSE TO VERY DENSE, BROWN, SANDY SILT , LITTLE CLAY, TRACE GRAVEL, DAMP (FILL)	690.8	8																
		9	8	47	100	SS-3	-	8	17	32	29	14	19	14	5	10	A-4a (2)	
		10																
@10.0'; SS-4 CONTAINS BRICK FRAGMENTS		11	12	53	100	SS-4	-	-	-	-	-	-	-	-	-	11	A-4a (V)	
		12	21 14															
MEDIUM DENSE TO DENSE, BROWN, COARSE AND FINE SAND , LITTLE SILT, LITTLE GRAVEL, LITTLE CLAY, DAMP (FILL)	685.8	13																
		14	14	42	100	SS-5	-	-	-	-	-	-	-	-	-	11	A-3a (V)	
		15																
		16	12	26	100	SS-6	-	14	24	31	20	11	NP	NP	NP	11	A-3a (0)	
		17	11 6															
DENSE, BROWN, COARSE AND FINE SAND , SOME GRAVEL, LITTLE SILT, TRACE CLAY, DAMP @17.5'; ENCOUNTERED SAND HEAVE	680.3	18	6	42	100	SS-7	-	-	-	-	-	-	-	-	-	10	A-3a (V)	
		19	12 16															
		20																
		21	8	45	100	SS-8	-	-	-	-	-	-	-	-	-	10	A-3a (V)	
		22	11 19															
MEDIUM DENSE, BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, MOIST	675.8	23	12	26	100	SS-9	-	-	-	-	-	-	-	-	-	8	A-1-b (V)	
		24	10 7															
MEDIUM DENSE TO DENSE, BROWN, FINE SAND , LITTLE COARSE SAND, LITTLE GRAVEL, TRACE SILT, TRACE CLAY, WET TO MOIST	673.3	25																
		26	6	18	100	SS-10	-	13	13	64	7	3	NP	NP	NP	14	A-3 (0)	
		27	6 6															
		28																
		29	6	20	100	SS-11	-	-	-	-	-	-	-	-	-	13	A-3 (V)	
			7 6															

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:10 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 58+48, 49' RT.		START: 11/4/14		END: 11/4/14		PG 2 OF 2		B-040-0-14																																																																																																	
MATERIAL DESCRIPTION AND NOTES			ELEV. 667.8	DEPTHS		SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL																																																																																										
											GR	CS	FS	SI	CL	LL	PL	PI																																																																																													
MEDIUM DENSE TO DENSE, BROWN, FINE SAND, LITTLE COARSE SAND, LITTLE GRAVEL, TRACE SILT, TRACE CLAY, WET TO MOIST (continued)			667.8	31	6	5	20	100	SS-12	-	-	-	-	-	-	-	-	-	10	A-3 (V)	↖ ↗																																																																																										
																						FS	8	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61																																																										
																																																						6	9	14	35	100	SS-13	-	-	-	-	-	-	-	-	-	-	-	-	13	A-3 (V)	↖ ↗																																					
																																																																											659.5	4	5	15	100	SS-14	-	0	0	23	66	11	NP	NP	NP	25	A-4b (8)	↖ ↗																			
																																																																																													5	5	15	100	SS-15	-	-	-	-	-	-	-	-	-	-	-	25	A-4b (V)	↖ ↗
4	5	7	18	100	SS-17	-	0	1	2	78	19	27	22	5	29	A-4b (8)	↖ ↗																																																																																														
																		7	8	11	29	100	SS-18	-	-	-	-	-	-	-	-	-	-	25	A-4b (V)	↖ ↗																																																																											

636.3 EOB

NOTES: GROUNDWATER ENCOUNTERED AT 17.5' DURING DRILLING, 10.0' UPON COMPLETION. CAVE DEPTH 33.0.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:10 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>59+08, 164' LT.</u>	EXPLORATION ID <u>B-041-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.LYON</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>IR-77</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>685.1 (MSL)</u> EOB: <u>9.0 ft.</u>	
START: <u>11/20/14</u> END: <u>11/20/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.490798, -81.670230</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI				
3.0", TOPSOIL	685.1		11																
MEDIUM DENSE, GRAY AND BROWN, GRAVEL , TRACE SAND, TRACE SILT, TRACE CLAY, MOIST (FILL)	684.8	1	8	21	33	SS-1	-	-	-	-	-	-	-	-	-	-	11	A-1-a (V)	<L> <V> <L> >L> >V> >L>
@1.5'; SS-2 IS CUTTINGS/CAVINGS, NO TESTING PERFORMED	682.1	2	6	5	13	3	SS-2	-	-	-	-	-	-	-	-	-	-		<L> <V> <L> >L> >V> >L>
VERY LOOSE, BROWN, COARSE AND FINE SAND , LITTLE GRAVEL, TRACE SILT, TRACE CLAY, CONTAINS CONCRETE FRAGMENTS, DAMP (FILL)	680.6	3	2	1	4	100	SS-3	-	13	23	48	9	7	NP	NP	NP	10	A-3a (0)	<L> <V> <L> >L> >V> >L>
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , LITTLE SILT, TRACE GRAVEL, TRACE CLAY, DAMP	679.1	4	4	2															<L> <V> <L> >L> >V> >L>
MEDIUM DENSE, BROWN, FINE SAND , TRACE COARSE SAND, TRACE CLAY, TRACE SILT, TRACE GRAVEL, WET	677.6	5	5	5	13	72	SS-4	-	-	-	-	-	-	-	-	-	9	A-3a (V)	<L> <V> <L> >L> >V> >L>
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , LITTLE SILT, TRACE GRAVEL, TRACE CLAY, DAMP	676.1	6	4	4	12	100	SS-5	-	1	4	90	2	3	NP	NP	NP	14	A-3 (0)	<L> <V> <L> >L> >V> >L>
MEDIUM DENSE, BROWN, FINE SAND , TRACE COARSE SAND, TRACE CLAY, TRACE SILT, TRACE GRAVEL, WET	677.6	7	4	5															<L> <V> <L> >L> >V> >L>
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , TRACE GRAVEL, TRACE SILT, TRACE CLAY, MOIST	676.1	8	4	4	12	100	SS-6	-	-	-	-	-	-	-	-	-	11	A-3a (V)	<L> <V> <L> >L> >V> >L>
		9	5																<L> <V> <L> >L> >V> >L>

EOB

NOTES: CPT BORING. GROUNDWATER NOT ENCOUNTERED DURING DRILLING. CAVE DEPTH 6.0'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:10 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 58+96, 86' RT.		START: 10/29/14		END: 10/29/14		PG 2 OF 2		B-042-0-14							
MATERIAL DESCRIPTION AND NOTES			ELEV. 658.1	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	HOLE SEALED	
										GR	CS	FS	SI	CL	LL	PL	PI				
LOOSE TO MEDIUM DENSE, GRAY, SILT, LITTLE CLAY, TRACE SAND, TRACE GRAVEL, WET (continued) @35.0'; SS-14 CONTAINS DECAYED ROOTS @45.0'; UNIT WEIGHT: 130.0 PCF @ 31.1% MC				31	3 5	13	100	SS-13	-	-	-	-	-	-	-	-	25	A-4b (V)			
				32																	
				33																	
				34																	
				35	4																
				36	3 5	10	100	SS-14	-	-	-	-	-	-	-	-	-	-	-	26	A-4b (V)
				37																	
				38																	
				39																	
				40	2																
41	3 7	13	100	SS-15	-	-	-	-	-	-	-	-	-	-	-	31	A-4b (V)				
42																					
43																					
44																					
45																					
46		100		ST-16	-	0	0	2	86	12	25	21	4	31		A-4b (8)					
47																					
48																					
49																					
50	3																				
51	5 6	14	100	SS-17	-	-	-	-	-	-	-	-	-	-	-	29	A-4b (V)				
52																					
53																					
54																					
55	7																				
56	20 23	55	100	SS-18	-	-	-	-	-	-	-	-	-	-	-	12	A-3a (V)				
57																					
58																					
59																					
60	13																				
61	25 29	70	100	SS-19	-	-	-	-	-	-	-	-	-	-	-	18	A-3a (V)				

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 24.3' DURING DRILLING, 25.7' UPON COMPLETION. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PUMPED 2 BAGS BENTONITE PELLETS; PUMPED 2 BAGS CEMENT; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:10 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / D.SHOPE</u>	DRILL RIG: <u>CME 55</u>	STATION / OFFSET: <u>59+49, 51' RT.</u>	EXPLORATION ID <u>B-043-0-14</u>
TYPE: <u>RETAINING WALL</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.SHOPE</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>IR-77</u>	
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>4.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>696.8 (MSL)</u> EOB: <u>61.5 ft.</u>	PAGE 1 OF 2
START: <u>11/3/14</u> END: <u>11/3/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>78.8</u>	LAT / LONG: <u>41.491395, -81.670168</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
6.0", ASPHALT 18.0", CONCRETE	696.8 696.3																	
MEDIUM DENSE TO VERY DENSE, BROWN, GRAVEL WITH SAND , LITTLE SILT, TRACE CLAY, DAMP (FILL)	694.8	1																
		2	9	28	100	SS-1	-	-	-	-	-	-	-	-	10		A-1-b (V)	
		3	9 12															
		4	9	60	100	SS-2	-	23	29	27	14	7	NP	NP	NP	10	A-1-b (0)	
		5	26 20															
		6	9	33	100	SS-3	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	
		7	12 13															
VERY DENSE, BROWN, COARSE AND FINE SAND , SOME SILT, LITTLE GRAVEL, TRACE CLAY, MOIST (FILL)	689.8	8	19	79	100	SS-4	-	16	22	32	22	8	NP	NP	NP	11	A-3a (0)	
		9	26 34															
		10	9	74	100	SS-5	-	-	-	-	-	-	-	-	-	11	A-3a (V)	
		11	21 35															
HARD, DARK BROWN, SANDY SILT , LITTLE CLAY, LITTLE GRAVEL, CONTAINS BRICK FRAGMENTS, DAMP (FILL)	684.8	12																
		13	14	75	100	SS-6	4.50	-	-	-	-	-	-	-	-	12	A-4a (V)	
		14	21 36															
@15.0'; SS-7 BECOMES BROWN AND GRAY		15	27	38	100	SS-7	4.50	11	18	33	23	15	23	15	8	11	A-4a (1)	
		16	16 13															
HARD, DARK BROWN AND BROWN, SILT AND CLAY , "AND" SAND, LITTLE GRAVEL, CONTAINS FEW BRICK FRAGMENTS, DAMP (FILL)	679.8 677.8	17																
		18	50/5"	-	100	SS-8	4.50	13	16	22	26	23	31	17	14	15	A-6a (4)	
		19																
MEDIUM DENSE, BROWN, GRAVEL WITH SAND , LITTLE SILT, TRACE CLAY, DAMP	674.8	20	7	14	100	SS-9	-	-	-	-	-	-	-	-	-	8	A-1-b (V)	
		21	6 5															
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , TRACE SILT, TRACE CLAY, TRACE GRAVEL, DAMP TO WET		22																
		23	4	16	100	SS-10	-	-	-	-	-	-	-	-	-	4	A-3a (V)	
		24	5 7															
		25	4	14	100	SS-11	-	3	3	83	6	5	NP	NP	NP	6	A-3a (0)	
		26	4 7															
		27																
		28	5	14	100	SS-12	-	-	-	-	-	-	-	-	-	5	A-3a (V)	
		29	5 6															

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:10 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 59+49, 51' RT.		START: 11/3/14		END: 11/3/14		PG 2 OF 2		B-043-0-14										
MATERIAL DESCRIPTION AND NOTES			ELEV. 666.8	DEPTHS		SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL			
											GR	CS	FS	SI	CL	LL	PL	PI						
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , TRACE SILT, TRACE CLAY, TRACE GRAVEL, DAMP TO WET <i>(continued)</i>			666.8	31	3	5	14	100	SS-13	-	-	-	-	-	-	-	-	-	5	A-3a (V)	<V>			
				32		6																	<V>	
				33																				<V>
				34																				<V>
MEDIUM DENSE, GRAY, SANDY SILT , TRACE CLAY, TRACE GRAVEL, WET			658.5	35	4	5	16	100	SS-14	-	-	-	-	-	-	-	-	-	25	A-3a (V)	<V>			
				36		7																	<V>	
				37																				<V>
				38																				<V>
MEDIUM DENSE, GRAY, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, MOIST TO WET			653.5	39	7	5	14	100	SS-15	-	1	0	52	37	10	NP	NP	NP	23	A-4a (2)	<V>			
				40		6																	<V>	
				41																				<V>
				42																				<V>
MEDIUM DENSE, GRAY, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, MOIST TO WET			653.5	43	4	4	11	100	SS-16	-	-	-	-	-	-	-	-	-	24	A-4b (V)	<V>			
				44		4																	<V>	
				45																				<V>
				46																				<V>
MEDIUM DENSE, GRAY, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, MOIST TO WET			653.3	47	4	4	13	100	SS-17	-	-	-	-	-	-	-	-	-	25	A-4b (V)	<V>			
				48		6																	<V>	
				49																				<V>
				50																				<V>
MEDIUM DENSE, GRAY, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, MOIST TO WET			653.3	51	4	4	13	100	SS-18	-	1	0	10	68	21	28	22	6	28	A-4b (8)	<V>			
				52		6																	<V>	
				53																				<V>
				54																				<V>
MEDIUM DENSE, GRAY, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, MOIST TO WET			653.3	55	4	4	13	100	SS-18	-	1	0	10	68	21	28	22	6	28	A-4b (8)	<V>			
				56		6																	<V>	
				57																				<V>
				58																				<V>
MEDIUM DENSE, GRAY, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, MOIST TO WET			653.3	59	3	5	16	100	SS-19	-	-	-	-	-	-	-	-	-	29	A-4b (V)	<V>			
				60		7																	<V>	
				61																				<V>
				61																				<V>

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 21.5' DURING DRILLING. CAVE DEPTH 22.5'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:10 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / P.STROUD</u>	DRILL RIG: <u>MOBILE B-58</u>	STATION / OFFSET: <u>61+00, 47' LT.</u>	EXPLORATION ID <u>B-044-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / C. PIERCE</u>	HAMMER: <u>MOBILE AUTOMATIC</u>	ALIGNMENT: <u>IR-77</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>694.5 (MSL)</u> EOB: <u>10.0 ft.</u>	
START: <u>12/3/14</u> END: <u>12/3/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>90*</u>	LAT / LONG: <u>41.491247, -81.670795</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI		
6.0", ASPHALT	694.5																
12.0", CONCRETE	694.0	1															
12.0", GRANULAR BASE	693.0	2															
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , LITTLE GRAVEL, TRACE SILT, TRACE CLAY, DAMP (FILL)	692.0	3	7														
		4	7	24	100	SS-1	-	14	33	38	10	5	NP	NP	NP	7	A-3a (0)
	689.5	5															
DENSE, BROWN, GRAVEL WITH SAND AND SILT , TRACE CLAY, CONTAINS SILT AND CLAY SEAMS, DAMP (FILL)	686.7	6	7														
		7	11	33	100	SS-2	-	24	23	25	18	10	18	15	3	10	A-2-4 (0)
	686.7	8															
VERY DENSE, BROWN, COARSE AND FINE SAND , TRACE GRAVEL, TRACE SILT, TRACE CLAY, DAMP (FILL)	684.5	9	46														
		10	36	120	100	SS-3	-	-	-	-	-	-	-	-	-	10	A-3a (V)
		EOB	44														

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:10 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>60+72, 87' RT.</u>	EXPLORATION ID <u>B-046-0-14</u>
TYPE: <u>RETAINING WALL</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.LYON</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>IR-77</u>	PAGE 1 OF 2
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>693.2 (MSL)</u> EOB: <u>61.5 ft.</u>	
START: <u>10/30/14</u> END: <u>10/30/14</u>	SAMPLING METHOD: <u>SPT / ST</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.491581, -81.670563</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	HOLE SEALED
								GR	CS	FS	SI	CL	LL	PL	PI	WC		
12.0", ASPHALT	693.2																	
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , SOME SILT, LITTLE GRAVEL, TRACE CLAY, MOIST (FILL)	692.2	1	5															
LOOSE, GRAYISH BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, DAMP (FILL)	690.7	2	7	18	61	SS-1	-	-	-	-	-	-	-	-	-	12	A-3a (V)	
VERY STIFF, GRAY, BROWN AND DARK BROWN, SILT AND CLAY , "AND" SAND, LITTLE GRAVEL, SS-3 CONTAINS TRACE COAL FRAGMENTS, DAMP (FILL)	688.7	3	4	2	6	SS-2	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	
@7.5'; SS-4 CONTAINS WOOD, BRICK AND COAL FRAGMENTS	683.7	4																
MEDIUM DENSE TO DENSE, BROWN TO DARK GRAY AND GRAY, GRAVEL WITH SAND AND SILT , TRACE CLAY, CONTAINS BRICK, CONCRETE, AND COAL, MOIST (FILL)	683.7	5	7															
		6	10	49	100	SS-3	3.00	16	15	21	30	18	28	17	11	14	A-6a (3)	
		7																
		8	4															
	683.7	9	4	26	100	SS-4	2.30	-	-	-	-	-	-	-	-	16	A-6a (V)	
		10																
		11	20	45	89	SS-5	-	31	18	27	15	9	NP	NP	NP	15	A-2-4 (0)	
		12																
		13	29	18	83	SS-6	-	-	-	-	-	-	-	-	-	12	A-2-4 (V)	
	678.7	14																
		15	15															
VERY DENSE, GRAY AND DARK BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, CONTAINS CONCRETE FRAGMENTS, DAMP (FILL)	676.2	16	34	102	100	SS-7	-	43	7	37	9	4	NP	NP	NP	6	A-1-b (0)	
		17																
MEDIUM DENSE, BROWN AND DARK GRAY, COARSE AND FINE SAND , SOME SILT, LITTLE GRAVEL, TRACE CLAY, CONTAINS SLAG AND CONCRETE, DAMP (FILL)	673.7	18	3	12	67	SS-8	-	-	-	-	-	-	-	-	-	9	A-3a (V)	
		19																
LOOSE, BROWN AND REDDISH BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, CONTAINS BRICK AND CONCRETE FRAGMENTS, MOIST (FILL)	671.2	20	4	9	61	SS-9	-	-	-	-	-	-	-	-	-	14	A-1-b (V)	
		21																
LOOSE TO MEDIUM DENSE, BROWN, FINE SAND , TRACE COARSE SAND, TRACE SILT, TRACE CLAY, TRACE GRAVEL, DAMP	671.2	22																
		23	2	9	100	SS-10	-	1	2	91	3	3	NP	NP	NP	6	A-3 (0)	
		24																
		25	4	12	100	SS-11	-	-	-	-	-	-	-	-	-	5	A-3 (V)	
	666.2	26																
		27																
LOOSE, BROWN, COARSE AND FINE SAND , TRACE GRAVEL, TRACE SILT, TRACE CLAY, DAMP TO MOIST		28	3	10	100	SS-12	-	-	-	-	-	-	-	-	-	5	A-3a (V)	
		29																

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:10 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 60+72, 87' RT.		START: 10/30/14		END: 10/30/14		PG 2 OF 2		B-046-0-14								
MATERIAL DESCRIPTION AND NOTES			ELEV.	DEPTHS	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	HOLE SEALED		
										GR	CS	FS	SI	CL	LL	PL	PI					
LOOSE, BROWN, COARSE AND FINE SAND , TRACE GRAVEL, TRACE SILT, TRACE CLAY, DAMP TO MOIST <i>(continued)</i>			663.2	31	2 4 4	10	100	SS-13	-	-	-	-	-	-	-	-	15	A-3a (V)				
			660.0	32																		
LOOSE TO DENSE, GRAY, SILT , LITTLE TO SOME CLAY, TRACE TO LITTLE SAND, TRACE GRAVEL, WET @45.0'; UNIT WEIGHT: 130.4 PCF @ 26.3% MC @45.7'; QU: 1008 PSF @ 6.5% STRAIN			W 658.2	33																		
				34																		
				35	5 7 7	18	100	SS-14	-	0	0	10	74	16	26	21	5	26		A-4b (8)		
				36																		
				37																		
				38																		
				39																		
				40	9 15 15	39	78	SS-15	-	-	-	-	-	-	-	-	-	-		24	A-4b (V)	
				41																		
				42																		
43																						
44																						
45																						
46			100	ST-16	-	0	0	20	65	15	22	18	4	26	A-4b (8)							
47																						
48																						
49																						
50	2 3 4	9	100	SS-17	-	-	-	-	-	-	-	-	-	-	30	A-4b (V)						
51																						
52																						
53																						
54																						
55	3 2 4	8	100	SS-18	-	0	0	7	71	22	28	22	6	32	A-4b (8)							
56																						
57																						
58																						
59																						
60	7 10 15	32	100	SS-19	-	-	-	-	-	-	-	-	-	-	13	A-3a (V)						
61																						

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 35.0' DURING DRILLING, 32.0' UPON COMPLETION. CAVE DEPTH 32.9'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; POURED 1 BAG CEMENT; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:10 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>61+65, 179' RT.</u>	EXPLORATION ID <u>B-047-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>IR-77</u>	
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>675.5 (MSL)</u> EOB: <u>9.0 ft.</u>	PAGE 1 OF 1
START: <u>12/10/14</u> END: <u>12/10/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.491891, -81.670804</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
9.0", ASPHALT	675.5																	
10.0", CONCRETE	674.8	1																
2.0", GRANULAR BASE	673.9	2	4	10	100	SS-1	-	4	14	68	9	5	NP	NP	NP	6	A-3a (0)	
LOOSE, BROWN, COARSE AND FINE SAND , TRACE SILT, TRACE GRAVEL, TRACE CLAY, DAMP (FILL)	673.7	3	4															
		4	3	6	100	SS-2	-	-	-	-	-	-	-	-	-	6	A-3a (V)	
@4.5'; SS-3 CHANGES TO BROWN AND BLACK		5	2	9	100	SS-3	-	6	11	68	10	5	NP	NP	NP	9	A-3a (0)	
	669.5	6	2	5														
LOOSE, BROWN, FINE SAND , TRACE COARSE SAND, TRACE GRAVEL, TRACE SILT, TRACE CLAY, DAMP		7	2	6	100	SS-4	-	-	-	-	-	-	-	-	-	6	A-3 (V)	
		8	3															
	666.5	9	2	9	100	SS-5	-	-	-	-	-	-	-	-	-	6	A-3 (V)	
		EOB																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:10 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 62+71, 60' RT.		START: 11/4/14		END: 11/5/14		PG 2 OF 2		B-048-0-14									
MATERIAL DESCRIPTION AND NOTES			ELEV. 663.7	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL			
										GR	CS	FS	SI	CL	LL	PL	PI						
LOOSE TO MEDIUM DENSE, BROWN, FINE SAND , TRACE COARSE SAND, TRACE SILT, TRACE CLAY, TRACE GRAVEL, DAMP (continued) @35.0'; SS-14 BECOMES DARK BROWN, WET				31	3	19	100	SS-13	-	-	-	-	-	-	-	-	5	A-3 (V)					
				32	6																		
				33																			
				34																			
@44.3'; UNIT WEIGHT: 124.1 PCF @ 24.7% MC				35	4	15	56	SS-14	-	-	-	-	-	-	-	-	22	A-3 (V)					
				36	6																		
				37																			
				38																			
LOOSE TO MEDIUM DENSE, GRAY, SANDY SILT , TRACE CLAY, TRACE GRAVEL, (SAND INTERBEDDED WITH SILT AND CLAY), WET @44.3'; UNIT WEIGHT: 124.1 PCF @ 24.7% MC				39																			
				40	2	9	78	SS-15	-	-	-	-	-	-	-	-	-	26		A-4a (V)			
				41	4																		
				42																			
LOOSE, GRAY, SILT , SOME SAND, LITTLE CLAY, TRACE GRAVEL, CONTAINS NO INTACT SOIL FOR HP READINGS, WET				43			100	ST-16	-	0	1	50	39	10	NP	NP	NP	25	A-4a (3)				
				44																			
				45	3	18	100	SS-17	-	-	-	-	-	-	-	-	-	-	26		A-4a (V)		
				46	9																		
LOOSE, GRAY, SILT , SOME SAND, LITTLE CLAY, TRACE GRAVEL, CONTAINS NO INTACT SOIL FOR HP READINGS, WET				47																			
				48																			
				49	2	8	100	SS-18	-	-	-	-	-	-	-	-	-	-		26	A-4b (V)		
				50	3																		
DENSE, GRAYISH BROWN, COARSE AND FINE SAND , SOME GRAVEL, TRACE SILT, TRACE CLAY, DAMP				51	3	8	100	SS-19	-	3	13	15	51	18	28	20	8	30	A-4b (7)				
				52																			
				53																			
				54																			
DENSE, GRAYISH BROWN, COARSE AND FINE SAND , SOME GRAVEL, TRACE SILT, TRACE CLAY, DAMP				55	3	8	100	SS-19	-	3	13	15	51	18	28	20	8	30	A-4b (7)				
				56	3																		
				57																			
				58																			
DENSE, GRAYISH BROWN, COARSE AND FINE SAND , SOME GRAVEL, TRACE SILT, TRACE CLAY, DAMP				59																			
				60	5	40	100	SS-20	-	-	-	-	-	-	-	-	-	-	10		A-3a (V)		
				61	11																		
				62	20																		

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 36.3' DURING DRILLING. CAVE DEPTH 29.5'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>65+22, 218' LT.</u>	EXPLORATION ID <u>B-050-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>IR-77</u>	
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>678.3 (MSL)</u> EOB: <u>8.0 ft.</u>	PAGE 1 OF 1
START: <u>1/27/15</u> END: <u>1/27/15</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.491101, -81.672445</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI				
6.0", ASPHALT	677.8																	X	
12.0", CONCRETE	676.8	1																X	
6.0", GRANULAR BASE	676.3	2																X	
LOOSE TO MEDIUM DENSE, BROWN, COARSE AND FINE SAND, LITTLE GRAVEL, TRACE SILT, TRACE CLAY, DAMP		3	4	7	19	100	SS-1	-	15	13	59	7	6	NP	NP	NP	5	A-3a (0)	<L> <L> <L>
		4	6	5	13	100	SS-2	-	-	-	-	-	-	-	-	-	6	A-3a (V)	<L> <L> <L>
		5	2	3	8	100	SS-3	-	12	9	68	6	5	NP	NP	NP	6	A-3a (0)	<L> <L> <L>
		6	3	3	8	100	SS-4	-	-	-	-	-	-	-	-	-	6	A-3a (V)	<L> <L> <L>
		7	3	3	8	100	SS-4	-	-	-	-	-	-	-	-	-	6	A-3a (V)	<L> <L> <L>
	670.3	8																<L> <L> <L>	

EOB

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:11 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380 SFN: _____ PROJECT: CUY-CCG3 STATION / OFFSET: 65+15, 9' LT. START: 12/10/14 END: 12/11/14 PG 4 OF 4 B-051-0-14

MATERIAL DESCRIPTION AND NOTES	ELEV. 598.9	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI				
MEDIUM STIFF TO HARD, GRAY, SILT, SOME CLAY, TRACE SAND, TRACE GRAVEL, DAMP TO MOIST (continued)		95	7																
		96	8 15	35	100	SS-25	4.50	0	0	0	74	26	27	20	7	20	A-4b (8)		
		97																	
		98																	
		99																	
		100	20																
		101	14 17	47	100	SS-26	4.50	-	-	-	-	-	-	-	-	20	A-4b (V)		
		102																	
		103																	
		104																	
@105.0'; SS-27 (SILT INTERBEDDED WITH "SILT AND CLAY")		105	19																
		106	15 16	47	100	SS-27	3.00	-	-	-	-	-	-	-	-	24	A-4b (V)		
		107																	
		108																	
		109																	
		110	8																
	581.7	111	10 14	36	100	SS-28	3.00	-	-	-	-	-	-	-	-	23	A-4b (V)		

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 39.5' DURING DRILLING. CAVE DEPTH 40.1'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:11 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>66+11, 207' RT.</u>	EXPLORATION ID <u>B-052-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>IR-77</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>675.7 (MSL)</u> EOB: <u>8.0 ft.</u>	
START: <u>12/9/14</u> END: <u>12/9/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.492292, -81.672346</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI				
8.0", ASPHALT	675.7																		
12.0", CONCRETE	675.0	1																	
6.0", GRANULAR BASE	674.0	2																	
LOOSE, BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, CONTAINS ASPHALT FRAGMENTS, DAMP (FILL)	673.5	3	5	4	9	100	SS-1	-	14	47	26	8	5	NP	NP	NP	8	A-1-b (0)	
LOOSE, BROWN, FINE SAND , LITTLE COARSE SAND, LITTLE GRAVEL, TRACE SILT, TRACE CLAY, DAMP (FILL)	672.2	4	5	3	5	100	SS-2	-	13	17	63	6	1	NP	NP	NP	6	A-3 (0)	
LOOSE, BROWN AND BLACK, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, CONTAINS ASPHALT FRAGMENTS, DAMP (FILL)	670.7	5	8	5	10	100	SS-3	-	-	-	-	-	-	-	-	-	7	A-1-b (V)	
LOOSE, BROWN, COARSE AND FINE SAND , TRACE GRAVEL, TRACE SILT, TRACE CLAY, DAMP	669.2	6	4	3	8	100	SS-4	-	-	-	-	-	-	-	-	-	8	A-3a (V)	
	667.7	7																	
		8																	
		EOB																	

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:11 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 66+75, 83' LT.		START: 12/1/14		END: 12/2/14		PG 2 OF 3		B-053-0-14										
MATERIAL DESCRIPTION AND NOTES			ELEV. 645.0	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL				
										GR	CS	FS	SI	CL	LL	PL	PI							
MEDIUM DENSE, GRAY, SILT, SOME SAND, LITTLE CLAY, TRACE GRAVEL, WET (continued)			645.0	31	6 7 8	20	100	SS-13	-	1	0	21	67	11	23	19	4	26	A-4b (8)					
				32																				
				33																				
				34																				
				35	6 8 12	26	100	SS-14	-	-	-	-	-	-	-	-	-	-	-		-	24	A-4b (V)	
				36																				
MEDIUM DENSE, GRAY, COARSE AND FINE SAND, SOME GRAVEL, TRACE SILT, TRACE CLAY, MOIST			636.7	37																				
				38																				
				39																				
				40	5 8 12	26	100	SS-15	-	-	-	-	-	-	-	-	-	-	-		-	11	A-3a (V)	
				41																				
				42																				
DENSE TO VERY DENSE, GRAY, SILT, SOME SAND, TRACE TO LITTLE CLAY, TRACE GRAVEL, WET			631.7	43																				
				44																				
				45	12 15 22	49	100	SS-16	-	0	1	26	63	10	NP	NP	NP		20		A-4b (8)			
				46																				
				47																				
				48																				
				49																				
				50	15 12 14	34	100	SS-17	-	-	-	-	-	-	-	-	-	-	-		-	20	A-4b (V)	
				51																				
				52																				
				53																				
				54																				
55																								
56			100	ST-18	-	0	1	22	62	15	NP	NP	NP		21	A-4b (8)								
57																								
58																								
59																								
60	8 11 15	34	100	SS-19	-	-	-	-	-	-	-	-	-	-	-	-	19	A-4b (V)						
61																								

@56.4'; UNIT WEIGHT: 134.0 PCF @ 20.5% MC

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:11 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380 SFN: _____ PROJECT: CUY-CCG3 STATION / OFFSET: 66+85, 50' RT. START: 11/4/14 END: 11/5/14 PG 4 OF 4 B-054-0-14

MATERIAL DESCRIPTION AND NOTES	ELEV. 599.1	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
MEDIUM DENSE TO VERY DENSE, GRAYISH BROWN, SILT, SOME CLAY, TRACE SAND, TRACE GRAVEL, DAMP TO WET <i>(continued)</i> @95.0'; SS-26 BECOMES HARD, CONTAINS NO INTACT SOIL FOR HP READINGS @105.0'; SS-28 BECOMES GRAYISH BROWN @110.0'; SS-29 BECOMES GRAY, SOME SAND		95	9															
		96	13 18	41	100	SS-26	-	0	1	0	71	28	26	19	7	17	A-4b (8)	
		97																
		98																
		99																
		100		9														
		101		13 17	39	100	SS-27	-	-	-	-	-	-	-	-	21	A-4b (V)	
		102																
		103																
		104																
		105		16														
	106		18 24	55	100	SS-28	-	0	0	5	74	21	NP	NP	NP	21	A-4b (8)	
	107																	
	108																	
	109																	
	110		9															
	111		12 18	39	100	SS-29	-	-	-	-	-	-	-	-	17	A-4b (V)		
	581.9	EOB																

NOTES: GROUNDWATER ENCOUNTERED AT 41.5' DURING DRILLING, 24.5' UPON COMPLETION. CAVE DEPTH 44.0'.
ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:11 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380	SFN: _____	PROJECT: CUY-CCG3	STATION / OFFSET: 67+04, 183' LT.	START: 11/20/14	END: 11/20/14	PG 2 OF 2	B-055-0-14													
MATERIAL DESCRIPTION AND NOTES		ELEV.	DEPTHS		SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
		649.2								GR	CS	FS	SI	CL	LL	PL	PI			
MEDIUM DENSE, BROWN AND GRAY, FINE SAND, TRACE COARSE SAND, TRACE SILT, TRACE CLAY, TRACE GRAVEL, WET (continued)		F.S. 647.7	EOB 31	5 6 11	22	100	SS-13	-	-	-	-	-	-	-	-	-	-	24	A-3 (V)	< > < > < >
																				< > < > < >

NOTES: GROUNDWATER ENCOUNTERED AT 27.2' DURING DRILLING. CAVE DEPTH 25.0'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

PID: 82380	SFN: _____	PROJECT: CUY-CCG3	STATION / OFFSET: 69+71, 52' LT.	START: 2/10/15	END: 2/13/15	PG 4 OF 4	B-056-0-14												
MATERIAL DESCRIPTION AND NOTES		ELEV. 600.5	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
									GR	CS	FS	SI	CL	LL	PL	PI			
HARD, GRAY, SILT, SOME TO "AND" CLAY, TRACE SAND, TRACE GRAVEL, MOIST (continued) @95.0'; ST-26 NO RECOVERY, LOST TUBE IN HOLE		597.8	95															<L> >L	
			96			0	ST-26	-	-	-	-	-	-	-	-	-	-	-	<L> >L
			EOB 97															<L> >L	

NOTES: GROUNDWATER ENCOUNTERED AT 45.0' DURING DRILLING, DRY AFTER DRILLING. CAVE DEPTH 34.0'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:11 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 69+50, 173' LT.		START: 12/30/14		END: 12/30/14		PG 2 OF 2		B-058-0-14						
MATERIAL DESCRIPTION AND NOTES			ELEV. 650.6	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
										GR	CS	FS	SI	CL	LL	PL	PI			
MEDIUM DENSE, BROWN AND ORANGISH BROWN, COARSE AND FINE SAND , TRACE GRAVEL, TRACE SILT, TRACE CLAY, WET (continued) @30.0'; SS-12 CONTAINS A 2.0" SEAM OF SILT AND CLAY, IRON STAINING			647.3	31	4 5	17	100	SS-12	-	-	-	-	-	-	-	-	-	24	A-3a (V)	
				32	8															
MEDIUM DENSE, GRAY MOTTLED WITH BROWN, SILT , "AND" SAND, LITTLE CLAY, TRACE GRAVEL, WET			637.3	33																
				34																
DENSE, GRAYISH BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, DAMP			632.3	35	3 6	14	100	SS-13	-	0	1	36	51	12	NP	NP	NP	26	A-4b (6)	
				36	5															
VERY DENSE, GRAYISH BROWN, SANDY SILT , LITTLE CLAY, TRACE GRAVEL, MOIST			627.3	37																
				38																
STIFF, GRAYISH BROWN, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, DAMP TO MOIST			618.6	39																
				40																
@61.2'; UNIT WEIGHT: 132.8 PCF @ 22.8% MC			618.6	41	3 4	14	100	SS-14	-	-	-	-	-	-	-	-	-	29	A-4b (V)	
				42	7															
DENSE, GRAYISH BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, DAMP			632.3	43																
				44																
VERY DENSE, GRAYISH BROWN, SANDY SILT , LITTLE CLAY, TRACE GRAVEL, MOIST			632.3	45	1 12	32	100	SS-15	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	
				46	13															
STIFF, GRAYISH BROWN, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, DAMP TO MOIST			627.3	47																
				48																
VERY DENSE, GRAYISH BROWN, SANDY SILT , LITTLE CLAY, TRACE GRAVEL, MOIST			632.3	49																
				50																
STIFF, GRAYISH BROWN, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, DAMP TO MOIST			627.3	51	18 20	53	100	SS-16	-	-	-	-	-	-	-	-	-	19	A-4a (V)	
				52	21															
STIFF, GRAYISH BROWN, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, DAMP TO MOIST			627.3	53																
				54																
STIFF, GRAYISH BROWN, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, DAMP TO MOIST			627.3	55	5 6	23	100	SS-17	1.50	-	-	-	-	-	-	-	-	19	A-4b (V)	
				56	12															
STIFF, GRAYISH BROWN, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, DAMP TO MOIST			627.3	57																
				58																
STIFF, GRAYISH BROWN, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, DAMP TO MOIST			627.3	59																
				60																
STIFF, GRAYISH BROWN, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, DAMP TO MOIST			627.3	61			100	ST-18	1.50	0	0	1	76	23	28	21	7	23	A-4b (8)	
				62																

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 27.5' DURING DRILLING, 31.7' UPON COMPLETION. CAVE DEPTH 14.4'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:12 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>68+91, 202' RT.</u>	EXPLORATION ID <u>B-059-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>IR-77</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>675.8 (MSL)</u> EOB: <u>9.0 ft.</u>	
START: <u>12/10/14</u> END: <u>12/10/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.492483, -81.673336</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
8.0", ASPHALT	675.8																	
10.0", CONCRETE	675.1	1																
6.0", GRANULAR BASE	674.3	2	8															
LOOSE, BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, DAMP (FILL)	673.8	3	4	10	100	SS-1	-	19	37	31	8	5	NP	NP	NP	6	A-1-b (0)	
LOOSE, BROWN, FINE SAND , LITTLE SAND, TRACE GRAVEL, TRACE SILT, TRACE CLAY, DAMP (FILL)	672.8	4	4	8	100	SS-2	-	2	11	83	2	2	NP	NP	NP	5	A-3 (0)	
		5	3	6	100	SS-3	-	-	-	-	-	-	-	-	-	5	A-3 (V)	
		6	3	6	100	SS-4	-	-	-	-	-	-	-	-	-	4	A-3 (V)	
	668.3	7	3	6	100	SS-4	-	-	-	-	-	-	-	-	-	4	A-3 (V)	
LOOSE, BROWN, COARSE AND FINE SAND , LITTLE GRAVEL, TRACE SILT, TRACE CLAY, CONTAINS CINDERS AND CONCRETE FRAGMENTS, DAMP (FILL)	666.8	8	3	6	56	SS-5	-	-	-	-	-	-	-	-	-	6	A-3a (V)	
	666.8	9	2															

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:12 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 69+83, 48' RT.		START: 11/5/14		END: 11/6/14		PG 2 OF 2		B-060-0-14												
MATERIAL DESCRIPTION AND NOTES			ELEV. 664.8	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL						
										GR	CS	FS	SI	CL	LL	PL	PI									
LOOSE TO MEDIUM DENSE, LIGHT BROWN, FINE SAND , TRACE COARSE SAND, TRACE GRAVEL, TRACE SILT, TRACE CLAY, DAMP @40.0': SS-15 BECOMES GRAYISH BROWN, WET @45.0': SS-16 BECOMES BROWN WITH ORANGISH BROWN, CONTAINS IRON STAINING				664.8 W 654.5 646.3 633.3	31	4 5 5	13	100	SS-13	-	2	0	93	4	1	NP	NP	NP	4	A-3 (0)						
					32																					
					33																					
					34																					
					35																					
					36																					
					37																					
					38																					
					39																					
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59																										
60																										
61																										

NOTES: GROUNDWATER ENCOUNTERED AT 40.3' DURING DRILLING, 47.3' UPON COMPLETION. CAVE DEPTH 38.7'.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:12 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 400+40, 118' LT.		START: 12/31/14		END: 12/31/14		PG 2 OF 2		B-061-0-14							
MATERIAL DESCRIPTION AND NOTES			ELEV. 650.1	DEPTHS		SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
											GR	CS	FS	SI	CL	LL	PL	PI			
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , TRACE GRAVEL, TRACE SILT, TRACE CLAY, WET (continued)			648.8	31	3	8	21	100	SS-12A	-	-	-	-	-	-	-	-	-	20	A-3a (V)	<V>
MEDIUM DENSE, BROWN BECOMING GRAYISH BROWN, SANDY SILT , LITTLE GRAVEL, LITTLE CLAY, WET				32	8				SS-12B	-	-	-	-	-	-	-	-	-	34	A-4a (V)	<V>
			636.8	33																<V>	
				34																	<V>
			631.8	35	2	5	12	100	SS-13	-	14	1	25	48	12	NP	NP	NP	27	A-4a (5)	<V>
				36	4																<V>
			636.8	37																	<V>
				38																	<V>
DENSE, GRAYISH BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, MOIST			631.8	39																	<V>
				40	3	3	12	100	SS-14	-	-	-	-	-	-	-	-	-	28	A-4a (V)	<V>
			631.8	41	6																<V>
				42																	<V>
			631.8	43																	<V>
				44																	<V>
			631.8	45	4	12	41	100	SS-15	-	-	-	-	-	-	-	-	-	13	A-1-b (V)	<V>
				46	20																<V>
			631.8	47																	<V>
				48																	<V>
MEDIUM DENSE, GRAYISH BROWN, SILT , TRACE CLAY, TRACE SAND, TRACE GRAVEL, WET			631.8	49																	<V>
				50	3	7	25	100	SS-16	-	-	-	-	-	-	-	-	-	25	A-4b (V)	<V>
			631.8	51	12																<V>
				52																	<V>
			631.8	53																	<V>
				54																	<V>
			631.8	55																	<V>
				56				100	ST-17	-	0	0	5	87	8	NP	NP	NP	21	A-4b (8)	<V>
@56.6'; UNIT WEIGHT: 135.6 PCF @ 21.4% MC			631.8	57																	<V>
				58																	<V>
			631.8	59																	<V>
				60																	<V>
@60.0'; SS-18 CONTAINS DECAYED VEGETATION			618.6	61	4	5	15	100	SS-18	-	-	-	-	-	-	-	-	30	A-4b (V)	<V>	
				61	7																<V>

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 27.5' DURING DRILLING, 29.7' UPON COMPLETION. CAVE DEPTH 11.3'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:12 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 55</u>	STATION / OFFSET: <u>400+83, 91' LT.</u>	EXPLORATION ID <u>B-062-0-14</u>
TYPE: <u>RETAINING WALL</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>RAMP A2</u>	
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>679.3 (MSL)</u> EOB: <u>61.5 ft.</u>	PAGE 1 OF 2
START: <u>1/14/15</u> END: <u>1/14/15</u>	SAMPLING METHOD: <u>SPT / ST</u>	ENERGY RATIO (%): <u>78.8</u>	LAT / LONG: <u>41.491715, -81.674342</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI	WC		
6.0", ASPHALT	678.8	1																
18.0", CONCRETE	677.3	2																
6.0", GRANULAR BASE	676.8	3	6	29	100	SS-1	-	19	38	26	10	7	NP	NP	NP	9	A-1-b (0)	
MEDIUM DENSE, BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, DAMP (FILL)	673.3	5	5	18	100	SS-2A	-	-	-	-	-	-	-	-	-	8	A-1-b (V)	
STIFF, GRAY, SILT AND CLAY , TRACE SAND, TRACE GRAVEL, MOIST (POSSIBLE FILL)	672.3	6	7	7		SS-2B	1.25	-	-	-	-	-	-	-	-	17	A-6a (V)	
LOOSE TO MEDIUM DENSE, BROWN, FINE SAND , LITTLE COARSE SAND, TRACE GRAVEL, TRACE SILT, TRACE CLAY, DAMP		8	4	11	100	SS-3	-	-	-	-	-	-	-	-	-	8	A-3 (V)	
		9	4	4														
		10	4	3	8	100	SS-4	-	-	-	-	-	-	-	-	7	A-3 (V)	
		11	3	3														
@12.5'; SS-5 TO SS-8 BECOME LIGHT BROWN		13	3	4	11	100	SS-5	-	4	13	79	2	2	NP	NP	NP	7	A-3 (0)
		14	4	4														
		15	2	2	7	100	SS-6	-	-	-	-	-	-	-	-	5	A-3 (V)	
		16	2	3														
		17																
		18	4	5	13	100	SS-7	-	-	-	-	-	-	-	-	5	A-3 (V)	
		19	5	5														
		20	2	3	8	100	SS-8	-	-	-	-	-	-	-	-	6	A-3 (V)	
		21	3	3														
	657.3	22																
LOOSE TO MEDIUM DENSE, LIGHT BROWN, GRAYISH BROWN AND BLACK, COARSE AND FINE SAND , LITTLE SILT, LITTLE CLAY, TRACE GRAVEL, DAMP TO WET @22.5'; SS-9 CONTAINS IRON STAINING		23	3	5	13	100	SS-9	-	-	-	-	-	-	-	-	7	A-3a (V)	
		24	5	5														
		25	3	3	8	100	SS-10	-	-	-	-	-	-	-	-	13	A-3a (V)	
		26	3	3														
		27																
		28	3	3	8	11	SS-11	-	1	14	55	19	11	NP	NP	NP	15	A-3a (0)
		29	3	3														

W 651.8

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:12 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 1070+82, 7' RT.		START: 11/11/14		END: 11/13/14		PG 2 OF 2		B-063-0-14									
MATERIAL DESCRIPTION AND NOTES			ELEV. 665.3	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL			
										GR	CS	FS	SI	CL	LL	PL	PI						
MEDIUM DENSE TO DENSE, BROWN, COARSE AND FINE SAND , TRACE TO LITTLE SILT, TRACE GRAVEL, TRACE CLAY, DRY (<i>continued</i>)				31	3	7	21	100	SS-12	-	-	-	-	-	-	-	-	5	A-3a (V)				
				32																			
				33																			
				34																			
@40.0'; SS-14 TO SS-16 BECOME MOIST TO WET				35	4	9	32	100	SS-13	-	7	35	47	8	3	NP	NP	NP	5	A-3a (0)			
				36																			
				37																			
				38																			
@50.0'; SS-16 BECOMES GRAYISH BROWN				39																			
				40	4	5	15	100	SS-14	-	-	-	-	-	-	-	-	-	10	A-3a (V)			
				41																			
				42																			
DENSE, GRAYISH BROWN, SANDY SILT , TRACE CLAY, TRACE GRAVEL, WET TO MOIST			642.0	43																			
				44																			
				45	3	4	14	100	SS-15	-	-	-	-	-	-	-	-	-	-	22		A-3a (V)	
				46																			
			642.0	47																			
				48																			
				49																			
				50	6	11	33	100	SS-16	-	-	-	-	-	-	-	-	-	-	15		A-3a (V)	
			642.0	51																			
				52																			
				53																			
				54	8	11	35	100	SS-17	-	3	11	46	31	9	NP	NP	NP	19	A-4a (1)			
			642.0	55																			
				56																			
				57																			
				58																			
			633.8	59																			
				60	8	11	38	100	SS-18	-	-	-	-	-	-	-	-	-	14	A-4a (V)			
				61																			
				62																			

W 650.3

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 38.0' DURING DRILLING. CAVE DEPTH 45.0'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:12 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / P.STROUD</u>	DRILL RIG: <u>MOBILE B-58</u>	STATION / OFFSET: <u>973+32, 29' LT.</u>	EXPLORATION ID <u>B-066-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / C. PIERCE</u>	HAMMER: <u>MOBILE AUTOMATIC</u>	ALIGNMENT: <u>RAMP H5</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>696.4 (MSL)</u> EOB: <u>9.0 ft.</u>	
START: <u>12/15/14</u> END: <u>12/15/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>90*</u>	LAT / LONG: <u>41.492293, -81.675076</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
6.0", ASPHALT	696.4																	
12.0", CONCRETE	695.9	1																
6.0", GRANULAR BASE	694.9	2																
DENSE, GRAYISH BROWN, COARSE AND FINE SAND , SOME SILT, LITTLE GRAVEL, TRACE CLAY, SS-1 CONTAINS BRICK FRAGMENTS, DAMP (FILL)	694.4	3	9	15	48	100	SS-1	-	18	12	40	21	9	NP	NP	NP	10	A-3a (0)
		4		17														
		5		14														
		6		15	47	100	SS-2	-	5	16	57	14	8	NP	NP	NP	9	A-3a (0)
@5.0'; SS-2 TO SS-3 CHANGES TO BROWN, LITTLE SILT, TRACE GRAVEL		7		16														
@7.5'; SS-3 CHANGES TO BROWN AND DARK GRAY, CONTAINS FEW BRICK FRAGMENTS		8		14														
	687.4	9		14	42	100	SS-3	-	-	-	-	-	-	-	-	-	9	A-3a (V)
		EOB		14														

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:12 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380 SFN: _____ PROJECT: CUY-CCG3 STATION / OFFSET: 12+91, 37' RT. START: 12/23/14 END: 12/23/14 PG 4 OF 4 B-067-0-14

MATERIAL DESCRIPTION AND NOTES	ELEV. 581.6	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI				
VERY STIFF, GRAYISH BROWN, SILT, SOME CLAY, TRACE SAND, TRACE GRAVEL, DAMP TO MOIST (continued) @95.0'; SS-25 CONTAINS MANY SILTY CLAY LENSES	++++ ++++ ++++ ++++ ++++ ++++ ++++	95	7																
		96	9 12	32	100	SS-25	3.50	-	-	-	-	-	-	-	21	A-4b (V)	<V>		
		97																<V>	
SOFT TO VERY STIFF, GRAYISH BROWN, SILTY CLAY, TRACE SAND, TRACE GRAVEL, MOIST @100.0'; SS-26 CONTAINS MANY SILT LENSES	577.6	98																	
		99																<V>	
		100	6															<V>	
		101	7 7	21	100	SS-26	2.00	-	-	-	-	-	-	-	24	A-6b (V)	<V>		
		102																<V>	
		103																	<V>
		104																	<V>
		105	5																<V>
		106	6 7	20	100	SS-27	1.00	0	2	4	45	49	34	17	17	26	A-6b (11)	<V>	
		107																	<V>
		108																	<V>
109																	<V>		
110	6																<V>		
111	5 5	15	100	SS-28	0.50	-	-	-	-	-	-	-	-	29	A-6b (V)	<V>			
	564.4	EOB															<V>		

NOTES: GROUNDWATER ENCOUNTERED AT 22.5' DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:13 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 403+25, 2' RT.		START: 12/17/14		END: 12/22/14		PG 3 OF 4		B-068-0-14							
MATERIAL DESCRIPTION AND NOTES			ELEV. 634.4	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
										GR	CS	FS	SI	CL	LL	PL	PI				
DENSE, GRAYISH BROWN, SILT , TRACE TO LITTLE CLAY, TRACE TO LITTLE SAND, TRACE GRAVEL, WET @75.2'; UNIT WEIGHT: 133.8 PCF @ 19.0% MC @76.5'; UNIT WEIGHT: 130.6 PCF @ 21.4% MC			633.2	63																	
			64																		
			65	11																	
			66	18 14	48	100	SS-19	-	-	-	-	-	-	-	-	-	19	A-4b (V)			
			67																		
			68																		
			69																		
			70	4																	
			71	10 15	38	100	SS-20	-	-	-	-	-	-	-	-	-	19	A-4b (V)			
			72																		
73																					
74																					
75																					
76																					
77																					
78																					
79																					
80																					
81	4	6 10	24	100	SS-22	1.60	-	-	-	-	-	-	-	21	A-4b (V)						
82																					
83																					
84																					
85																					
86																					
87																					
88																					
89																					
90																					
91	8	9 17	39	100	SS-24	3.50	-	-	-	-	-	-	-	23	A-4b (V)						
92																					
93																					
94																					

618.2

STIFF TO HARD, GRAYISH BROWN, **SILT**, SOME CLAY,
 TRACE SAND, TRACE GRAVEL, DAMP TO MOIST

@86.6'; UNIT WEIGHT: 136.3 PCF @ 17.5% MC
 @86.7'; UNIT WEIGHT: 134.5 PCF @ 17.6% MC

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:13 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>14+64, 61' RT.</u>	EXPLORATION ID <u>B-070-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>E 22ND ST</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>676.8 (MSL)</u> EOB: <u>8.0 ft.</u>	
START: <u>12/10/14</u> END: <u>12/10/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.492964, -81.675131</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI		
6.0", TOPSOIL	676.8																
LOOSE, BROWN AND DARK GRAY, COARSE AND FINE SAND , LITTLE GRAVEL, TRACE TO LITTLE SILT, TRACE CLAY, SS-1 CONTAINS CONCRETE, MOIST TO WET (FILL)	676.3	1	2	8	100	SS-1	-	17	21	40	14	8	NP	NP	NP	12	A-3a (0)
		2	5	5	100	SS-2	-	18	30	35	10	7	NP	NP	NP	15	A-3a (0)
		3	2	6	67	SS-3	-	-	-	-	-	-	-	-	-	14	A-3a (V)
LOOSE, BROWN, FINE SAND , LITTLE COARSE SAND, TRACE SILT, TRACE CLAY, TRACE GRAVEL, DAMP	671.8	4	3	6	100	SS-4	-	1	16	78	3	2	NP	NP	NP	8	A-3 (0)
	670.3	5	3	10	100	SS-5	-	-	-	-	-	-	-	-	-	8	A-3a (V)
LOOSE, BROWN, COARSE AND FINE SAND , TRACE GRAVEL, TRACE SILT, TRACE CLAY, DAMP	668.8	6	4														
		7															
		8															
		EOB															



NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:13 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>9+72, 54' LT.</u>	EXPLORATION ID <u>B-071-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>E 22ND ST</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>678.2 (MSL)</u> EOB: <u>8.0 ft.</u>	
START: <u>1/23/15</u> END: <u>1/23/15</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.491724, -81.675914</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI			WC
6.0", TOPSOIL	678.2																	
MEDIUM DENSE, BROWN, GRAVEL WITH SAND AND SILT , TRACE CLAY, CONTAINS MANY ROOTS, DAMP (FILL)	677.7	1	2														<L> >L>	
	676.2	2	9	14	100	SS-1	-	29	20	26	17	8	NP	NP	NP	13	A-2-4 (0)	<L> >L>
LOOSE TO MEDIUM DENSE, DARK BROWN TO BROWN AND BLACK, COARSE AND FINE SAND , LITTLE SILT, TRACE CLAY, TRACE GRAVEL, DAMP TO MOIST (FILL)		3	5	14	100	SS-2	-	-	-	-	-	-	-	-	-	10	A-3a (V)	<L> >L>
		4	3	8	100	SS-3	-	5	16	60	13	6	NP	NP	NP	12	A-3a (0)	<L> >L>
	671.7	5	2															<L> >L>
		6	3	9	100	SS-4	-	-	-	-	-	-	-	-	-	7	A-3a (V)	<L> >L>
LOOSE, BROWN, FINE SAND , TRACE COARSE SAND, TRACE SILT, TRACE CLAY, TRACE GRAVEL, MOIST	670.2	7	4	9	100	SS-5	-	-	-	-	-	-	-	-	-	12	A-3 (V)	<L> >L>
		8	3															<L> >L>

EOB

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>16+30, 9' LT.</u>	EXPLORATION ID <u>B-072-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>E 22ND ST</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>676.0 (MSL)</u> EOB: <u>8.0 ft.</u>	
START: <u>12/29/14</u> END: <u>12/29/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.493452, -81.675216</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI				
5.0", ASPHALT	676.0																		
11.0", CONCRETE	675.6	1																	
8.0", AGGREGATE BASE	674.7	2																	
VERY LOOSE TO LOOSE, BROWN, FINE SAND, TRACE COARSE SAND, TRACE GRAVEL, TRACE SILT, TRACE CLAY, DAMP @5.0'; SS-3 AND SS-4 BECOME SOME COARSE SAND	674.0	3	5	8	100	SS-1	-	5	5	82	4	4	NP	NP	NP	7	A-3 (0)	<LV< >L>	
		4	2	2	5	100	SS-2	-	-	-	-	-	-	-	-	6	A-3 (V)	<LV< >L>	
		5	1	2	3	100	SS-3	-	6	34	54	3	3	NP	NP	NP	7	A-3 (0)	<LV< >L>
		6	1	2	6	100	SS-4	-	-	-	-	-	-	-	-	-	7	A-3 (V)	<LV< >L>
		7	2	3															<LV< >L>
	668.0	8																	

EOB

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:13 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380	SFN: _____	PROJECT: CUY-CCG3	STATION / OFFSET: 176+44, 48' RT.	START: 12/8/14	END: 12/8/14	PG 2 OF 2	B-075-0-14													
MATERIAL DESCRIPTION AND NOTES		ELEV. 665.5	DEPTHS		SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
										GR	CS	FS	SI	CL	LL	PL	PI			
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , TRACE SILT, TRACE GRAVEL, TRACE CLAY, DAMP <i>(continued)</i>		664.0	-	31	3 4 5	12	100	SS-14	-	7	16	63	10	4	NP	NP	NP	7	A-3a (0)	< L < > L > < L < > L >

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. CAVE DEPTH 24.0'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:13 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / P.STROUD</u>	DRILL RIG: <u>MOBILE B-58</u>	STATION / OFFSET: <u>179+55, 49' LT.</u>	EXPLORATION ID <u>B-076-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / C. PIERCE</u>	HAMMER: <u>MOBILE AUTOMATIC</u>	ALIGNMENT: <u>IR-90 EB</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>699.6 (MSL)</u> EOB: <u>9.0 ft.</u>	
START: <u>12/16/14</u> END: <u>12/16/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>90*</u>	LAT / LONG: <u>41.495287, -81.680237</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
4.0", PAVEMENT AND BASE	699.6																	
6.0", CONCRETE	699.3 698.8	1																
14.0", GRANULAR BASE	697.6	2																
MEDIUM DENSE, GRAYISH BROWN, COARSE AND FINE SAND , SOME GRAVEL, LITTLE SILT, TRACE CLAY, SS-1 CONTAINS FEW BRICK AND ASPHALT FRAGMENT, DAMP TO MOIST		3	10															
		4	8	5	20	100	SS-1	-	32	17	33	13	5	NP	NP	NP	8	A-3a (0)
(FILL)		5																
@5.0'; SS-2 CHANGES TO DARK GRAY, SOME SILT, TRACE GRAVEL, CONTAINS PLASTIC, SLIGHTLY ORGANIC, WET		6	3															
		7	2	5	11	56	SS-2	-	10	21	37	22	10	NP	NP	NP	18	A-3a (0)
@7.5'; SS-3 CHANGES TO GRAYISH BROWN, CONTAINS BRICK FRAGMENTS, MOIST		8	6															
	690.6	9	5	4	14	56	SS-3	-	-	-	-	-	-	-	-	-	12	A-3a (V)
		EOB																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:13 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>184+01, 65' RT.</u>	EXPLORATION ID <u>B-077-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>IR-90 EB</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>703.5 (MSL)</u> EOB: <u>8.5 ft.</u>	
START: <u>12/9/14</u> END: <u>12/9/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.495631, -81.678618</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
4.0", ASPHALT	703.5																	
9.0", CONCRETE	703.2	1																
2.0", GRANULAR BASE	702.4	2	6															
MEDIUM DENSE TO DENSE, BROWN, COARSE AND FINE SAND , LITTLE GRAVEL, TRACE SILT, TRACE CLAY, DAMP (FILL)	702.2	3	8	27	100	SS-1	-	-	-	-	-	-	-	-	7	A-3a (V)		
		4	14	39	100	SS-2	-	11	14	62	8	5	NP	NP	NP	8	A-3a (0)	
		5	8	32	100	SS-3	-	-	-	-	-	-	-	-	-	12	A-3a (V)	
		6	9	50	100	SS-4	-	27	20	32	14	7	NP	NP	NP	10	A-3a (0)	
		696.5	7	11	37	100	SS-5	-	-	-	-	-	-	-	-	8	A-3a (V)	
@5.5'; SS-4 CHANGES TO BLACK, BROWN AND GRAY, SOME GRAVEL, LITTLE SILT, CONTAINS CONCRETE FRAGMENTS	695.0	8																
DENSE, BROWN, COARSE AND FINE SAND , TRACE GRAVEL, TRACE SILT, TRACE CLAY, DAMP	695.0	EOB																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:13 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>186+36, 27' LT.</u>	EXPLORATION ID: <u>B-078-0-14</u>
TYPE: <u>BRIDGE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>IR-90 EB</u>	
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>670.9 (MSL)</u> EOB: <u>112.0 ft.</u>	PAGE: <u>1 OF 4</u>
START: <u>1/21/15</u> END: <u>1/22/15</u>	SAMPLING METHOD: <u>SPT / ST</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.496226, -81.678129</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI	WC		
2.4" TOPSOIL	670.9		2															
VERY STIFF, DARK BROWN, GRAY AND DARK GRAY, SILT AND CLAY , "AND" SAND, TRACE GRAVEL, CONTAINS FEW ROOTS, MOIST (FILL)	670.7	1	4	12	67	SS-1	2.25	6	12	26	34	22	33	20	13	22	A-6a (5)	<><><>
MEDIUM DENSE, BROWN AND DARK GRAY, SANDY SILT , LITTLE GRAVEL, LITTLE CLAY, CONTAINS BRICK FRAGMENTS AND FEW ROOTS, DAMP (FILL)	668.9	2																<><><>
MEDIUM DENSE, BROWN AND DARK GRAY, COARSE AND FINE SAND , LITTLE TO SOME SILT, TRACE TO LITTLE GRAVEL, TRACE CLAY, DAMP TO MOIST (FILL) @7.5'; SS-4 CONTAINS BRICK FRAGMENTS	666.4	3	6	17	100	SS-2	-	-	-	-	-	-	-	-	-	12	A-4a (V)	<><><>
		4	7															<><><>
		5	7															<><><>
		6	6	14	100	SS-3	-	-	-	-	-	-	-	-	-	11	A-3a (V)	<><><>
		7	5															<><><>
		8	5	13	100	SS-4	-	-	-	-	-	-	-	-	-	10	A-3a (V)	<><><>
		9	5															<><><>
		10	3															<><><>
		11	3	13	100	SS-5	-	13	19	46	15	7	NP	NP	NP	12	A-3a (0)	<><><>
		12																<><><>
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , TRACE TO LITTLE GRAVEL, TRACE SILT, TRACE CLAY, DAMP	658.9	13	3	13	100	SS-6	-	-	-	-	-	-	-	-	-	8	A-3a (V)	<><><>
		14	5															<><><>
		15	4															<><><>
MEDIUM DENSE, BROWN MOTTLED WITH GRAY, SANDY SILT , LITTLE CLAY, TRACE GRAVEL, DAMP TO WET	655.2	16	6	17	100	SS-7A	-	-	-	-	-	-	-	-	-	7	A-3a (V)	<><><>
		17	7			SS-7B	-	0	1	54	28	17	18	14	4	14	A-4a (2)	<><><>
		18	4															<><><>
MEDIUM DENSE, BROWN, FINE SAND , TRACE COARSE SAND, TRACE SILT, TRACE CLAY, TRACE GRAVEL, DAMP	653.0	19	8	21	100	SS-8A	-	-	-	-	-	-	-	-	-	28	A-4a (V)	<><><>
		20	8			SS-8B	-	-	-	-	-	-	-	-	-	8	A-3 (V)	<><><>
		21																<><><>
LOOSE, BROWN AND GRAY, SILT , LITTLE SAND, TRACE CLAY, TRACE GRAVEL, WET	651.4	22	3	8	100	SS-9	-	0	1	19	73	7	NP	NP	NP	30	A-4b (8)	<><><>
		23	3															<><><>
@22.5'; SS-10 NO RECOVERY		24	2	5	0	SS-10	-	-	-	-	-	-	-	-	-	-		<><><>
		25	2															<><><>
LOOSE TO DENSE, BROWN, COARSE AND FINE SAND , TRACE SILT, TRACE CLAY, MOIST TO WET	646.4	26	3	8	100	SS-11	-	-	-	-	-	-	-	-	-	22	A-3a (V)	<><><>
		27	1															<><><>
@27.5'; SS-12 BECOMES BROWN AND GRAY		28	4	27	100	SS-12	-	-	-	-	-	-	-	-	-	18	A-3a (V)	<><><>
		29	9															<><><>
			12															<><><>

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:13 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380 SFN: _____ PROJECT: CUY-CCG3 STATION / OFFSET: 186+36, 27' LT. START: 1/21/15 END: 1/22/15 PG 4 OF 4 B-078-0-14

MATERIAL DESCRIPTION AND NOTES	ELEV. 576.6	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI				
MEDIUM STIFF, GRAYISH BROWN, SILT AND CLAY, TRACE SAND, TRACE GRAVEL, CONTAINS SILT LENSES, MOIST <i>(continued)</i>	572.6	95	6																
		96	6 10	21	100	SS-26	0.90	-	-	-	-	-	-	-	21	A-6a (V)	<V>		
VERY SOFT TO SOFT, GRAYISH BROWN, SILTY CLAY, TRACE SAND, TRACE GRAVEL, MOIST	558.9	97																	
		98																	
		99																	
		100	5																
		101	6 7	17	100	SS-27	0.25	-	-	-	-	-	-	-	24	A-6b (V)	<V>		
	102																		
	103																		
	104																		
	105	2																	
	106	3 6	12	100	SS-28	0.10	-	-	-	-	-	-	-	27	A-6b (V)	<V>			
	107																		
	108																		
	109																		
	110																		
@111.2'; UNIT WEIGHT: 123.1 PCF @ 30.5% MC		111			96	ST-29	0.40	0	1	1	23	75	40	20	20	31	A-6b (12)	<V>	
		112																	

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 22.5' DURING DRILLING. CAVE DEPTH 21.0'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / P.STROUD</u>	DRILL RIG: <u>MOBILE B-58</u>	STATION / OFFSET: <u>188+15, 41' LT.</u>	EXPLORATION ID <u>B-080-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / C. PIERCE</u>	HAMMER: <u>MOBILE AUTOMATIC</u>	ALIGNMENT: <u>IR-90 WB</u>	
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>669.4 (MSL)</u> EOB: <u>9.0 ft.</u>	PAGE 1 OF 1
START: <u>12/22/14</u> END: <u>12/22/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>90*</u>	LAT / LONG: <u>41.496459, -81.678286</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
VERY STIFF, DARK GRAY AND BROWN, SILT AND CLAY , "AND" SAND, LITTLE GRAVEL, DAMP (FILL)	669.4	1	3															< >
	667.4	2	4	14	100	SS-1	3.25	11	15	32	26	16	33	21	12	18	A-6a (2)	< >
MEDIUM DENSE, ORANGISH BROWN, COARSE AND FINE SAND , LITTLE SILT, TRACE CLAY, TRACE GRAVEL, CONTAINS SILT LENSES, IRON STAINING, MOIST	664.9	3	4	15	100	SS-2	-	8	13	59	12	8	NP	NP	NP	12	A-3a (0)	< >
	664.9	4	5															< >
LOOSE, BROWN, FINE SAND , LITTLE COARSE SAND, TRACE GRAVEL, TRACE SILT, TRACE CLAY, DAMP	662.4	5	3															< >
	662.4	6	2	9	100	SS-3	-	-	-	-	-	-	-	-	-	8	A-3 (V)	< >
	662.4	7	4															< >
LOOSE, BROWN, COARSE AND FINE SAND , LITTLE SILT, LITTLE GRAVEL, TRACE CLAY, DAMP	660.4	8	2	6	100	SS-4	-	-	-	-	-	-	-	-	-	9	A-3a (V)	< >
	660.4	9	2	2														< >

EOB

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:13 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / P.STROUD</u>	DRILL RIG: <u>MOBILE B-58</u>	STATION / OFFSET: <u>189+07, 22' RT.</u>	EXPLORATION ID <u>B-081-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / C. PIERCE</u>	HAMMER: <u>MOBILE AUTOMATIC</u>	ALIGNMENT: <u>IR-90 EB</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>686.8 (MSL)</u> EOB: <u>9.0 ft.</u>	
START: <u>12/16/14</u> END: <u>12/16/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>90*</u>	LAT / LONG: <u>41.496578, -81.677243</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI			WC
4.0", ASPHALT	686.8																	
14.0", CONCRETE	686.5 685.6	1																
6.0", GRANULAR BASE	684.8	2																
DENSE TO VERY DENSE, GRAYISH BROWN, COARSE AND FINE SAND, LITTLE SILT, TRACE CLAY, TRACE GRAVEL, DAMP (FILL)		3	6	12	36	100	SS-1	-	4	18	59	13	6	NP	NP	NP	9	A-3a (0)
		4																
		5		12														
		6		14 21	53	100	SS-2	-	-	-	-	-	-	-	-	-	-	9
@7.5'; SS-3 CHANGES TO SOME GRAVEL, CONTAINS BRICK FRAGMENTS		7																
	677.8	8	15 35	90	100	SS-3	-	-	-	-	-	-	-	-	-	-	8	A-3a (V)
		9	25															
		EOB																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:13 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / J.GILBERT</u>	DRILL RIG: <u>CME 55</u>	STATION / OFFSET: <u>192+12, 13' RT.</u>	EXPLORATION ID <u>B-083-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>IR-90 EB</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>675.4 (MSL)</u> EOB: <u>8.0 ft.</u>	
START: <u>3/11/15</u> END: <u>3/11/15</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>78.8</u>	LAT / LONG: <u>41.497118, -81.676387</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI				
10.0", ASPHALT	675.4																		
14.0", GRANULAR BASE	674.6	1																	
	673.4	2																	
MEDIUM DENSE, DARK GRAY AND BLACK, GRAVEL , SOME SAND, TRACE SILT, TRACE CLAY, CONTAINS ASPHALT FRAGMENTS, DAMP (FILL)	671.9	3	5	11	29	100	SS-1	-	64	18	11	5	2	NP	NP	NP	6	A-1-a (0)	<L> <L> <L> <L> <L>
		4	10	12	38	100	SS-2	-	-	-	-	-	-	-	-	-	10	A-3a (V)	<L> <L> <L> <L> <L>
MEDIUM DENSE TO DENSE, BROWN, COARSE AND FINE SAND , LITTLE TO SOME SILT, LITTLE GRAVEL, TRACE CLAY, MOIST		5	14	11	29	100	SS-3	-	-	-	-	-	-	-	-	-	11	A-3a (V)	<L> <L> <L> <L> <L>
SS-2 AND SS-3 CONTAIN BRICK FRAGMENTS (FILL) @6.5'; SS-4 CHANGES TO DARK GRAY AND BLACK, WET		6	11	11	29	100	SS-3	-	-	-	-	-	-	-	-	-	11	A-3a (V)	<L> <L> <L> <L> <L>
		7	11	14	37	100	SS-4	-	11	15	43	23	8	NP	NP	NP	15	A-3a (0)	<L> <L> <L> <L> <L>
	667.4	8	14	14															

EOB

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:13 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / P.STROUD</u>	DRILL RIG: <u>MOBILE B-58</u>	STATION / OFFSET: <u>196+29, 133' RT.</u>	EXPLORATION ID <u>B-084-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / C. PIERCE</u>	HAMMER: <u>MOBILE AUTOMATIC</u>	ALIGNMENT: <u>IR-90 EB</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>661.5 (MSL)</u> EOB: <u>9.0 ft.</u>	
START: <u>12/15/14</u> END: <u>12/15/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>90*</u>	LAT / LONG: <u>41.497464, -81.674920</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
6.0", ASPHALT	661.5																	
12.0", CONCRETE	661.0	1																
6.0", GRANULAR BASE	660.0	2																
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , LITTLE GRAVEL, TRACE SILT, TRACE CLAY, (GRAVEL IS SANDSTONE), MOIST	659.5	3	6	24	100	SS-1	-	17	14	55	9	5	NP	NP	NP	12	A-3a (0)	< < < > > >
	657.0	4	6	10														< < < > > >
LOOSE TO MEDIUM DENSE, BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, MOIST TO WET		5	6	11	100	SS-2	-	-	-	-	-	-	-	-	-	14	A-1-b (V)	< < < > > >
		6	4	3														< < < > > >
		7																< < < > > >
		8	2	5	100	SS-3	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	< < < > > >
	652.5	9	1	2														< < < > > >
		EOB																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:13 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>199+20, 6' LT.</u>	EXPLORATION ID <u>B-085-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.LYON</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>IR-90 EB</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>650.6 (MSL)</u> EOB: <u>8.7 ft.</u>	
START: <u>12/2/14</u> END: <u>12/2/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.498146, -81.674208</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
5.0", ASPHALT	650.6																	
9.0", CONCRETE	650.2 649.4																	
MEDIUM DENSE TO DENSE, BROWN, COARSE AND FINE SAND , LITTLE SILT, TRACE GRAVEL, TRACE CLAY, SS-2 CONTAINS FEW BRICK FRAGMENTS, DAMP TO MOIST (FILL)																		
	646.4	W 646.4																
MEDIUM DENSE TO DENSE, BROWN, COARSE AND FINE SAND , LITTLE SILT, TRACE CLAY, TRACE GRAVEL, WET																		
	641.9																	
		EOB																

NOTES: GROUNDWATER ENCOUNTERED AT 4.2' DURING DRILLING. CAVE DEPTH 3.3'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:13 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>408+87, 132' LT.</u>	EXPLORATION ID <u>B-088-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / S.PENCE</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>RAMP A2</u>	
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>678.2 (MSL)</u> EOB: <u>8.5 ft.</u>	PAGE 1 OF 1
START: <u>2/3/15</u> END: <u>2/3/15</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.492213, -81.677246</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
4.0", ASPHALT	678.2																	
8.0", CONCRETE	677.9 677.6																	
DENSE, BROWN, COARSE AND FINE SAND , SOME GRAVEL, TRACE SILT, TRACE CLAY, CONTAINS BRICK FRAGMENTS, DAMP (FILL)	675.7	1	9															
MEDIUM DENSE, BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, WET (FILL) @4.0"; SS-3 TO SS-5 BECOME VERY LOOSE TO LOOSE		2	11 13	31	100	SS-1	-	22	17	44	10	7	NP	NP	NP	9	A-3a (0)	
		3	9															
		4	11 6	22	100	SS-2	-	-	-	-	-	-	-	-	-	13	A-1-b (V)	
		5	5															
		6	2 1	4	78	SS-3	-	-	-	-	-	-	-	-	-	13	A-1-b (V)	
		7	3															
		8	1 2	3	44	SS-4	-	-	-	-	-	-	-	-	-	12	A-1-b (V)	
	669.7	EOB	1 2	8	56	SS-5	-	44	17	27	6	6	NP	NP	NP	15	A-1-b (0)	

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:14 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>412+93, 207' LT.</u>	EXPLORATION ID <u>B-089-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / S.PENCE</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>RAMP A2</u>	
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>676.4 (MSL)</u> EOB: <u>9.0 ft.</u>	PAGE 1 OF 1
START: <u>2/3/15</u> END: <u>2/3/15</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.492649, -81.678837</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
6.0", ASPHALT	676.4																	
12.0", CONCRETE	675.9	1																
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , TRACE SILT, TRACE GRAVEL, TRACE CLAY, DAMP (FILL)	674.9	2	4	6	18	100	SS-1	-	-	-	-	-	-	-	-	-	8	A-3a (V)
		3	7	8	21	100	SS-2	-	6	15	65	9	5	NP	NP	NP	8	A-3a (0)
@4.5"; SS-3 CHANGES TO GRAYISH BROWN, LITTLE GRAVEL	670.4	5	7	7	17	100	SS-3	-	-	-	-	-	-	-	-	-	10	A-3a (V)
MEDIUM DENSE, LIGHT BROWN, FINE SAND , TRACE COARSE SAND, TRACE SILT, TRACE CLAY, TRACE GRAVEL, DAMP	667.4	6	7	6	15	100	SS-4	-	2	8	82	4	4	NP	NP	NP	8	A-3 (0)
		7	6	6	15	100	SS-4	-	2	8	82	4	4	NP	NP	NP	8	A-3 (0)
		8	5	7	21	89	SS-5	-	-	-	-	-	-	-	-	-	9	A-3 (V)
		9	7	9														
		EOB																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:14 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>412+93, 207' LT.</u>	EXPLORATION ID <u>B-090-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>RAMP A2</u>	
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>674.0 (MSL)</u> EOB: <u>8.0 ft.</u>	PAGE 1 OF 1
START: <u>1/27/15</u> END: <u>1/27/15</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.492879, -81.680269</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
6.0", ASPHALT	674.0																	
12.0", CONCRETE	673.5	1																
6.0", GRANULAR BASE	672.5	2																
MEDIUM DENSE, GRAY TO LIGHT BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, DAMP	672.0	2	24	11	25	100	SS-1	-	40	27	18	10	5	NP	NP	NP	7	A-1-b (0)
		3	11	8														
		4	12	11	25	17	SS-2	-	-	-	-	-	-	-	-	-	9	A-1-b (V)
	669.0	5	2	2	8	100	SS-3	-	-	-	-	-	-	-	-	-	6	A-3a (V)
LOOSE, BROWN, COARSE AND FINE SAND , LITTLE SILT, TRACE TO LITTLE GRAVEL, TRACE CLAY, DAMP TO WET		6	2	4														
		7	3	3	8	100	SS-4	-	5	18	56	12	9	NP	NP	NP	21	A-3a (0)
	666.0	8	3	3														
		EOB																



NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:14 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / JO.GILBERT</u>	DRILL RIG: <u>CME 55</u>	STATION / OFFSET: <u>26+82, 264' LT.</u>	EXPLORATION ID <u>B-092-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>CARNEGIE AVE</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>670.5 (MSL)</u> EOB: <u>8.0 ft.</u>	
START: <u>3/12/15</u> END: <u>3/12/15</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>78.8</u>	LAT / LONG: <u>41.496341, -81.683187</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
4.0", ASPHALT	670.5																	
12.0", CONCRETE	669.2	1																
8.0", GRANULAR BASE	668.5	2																
LOOSE TO MEDIUM DENSE, BROWN, COARSE AND FINE SAND , LITTLE GRAVEL, TRACE SILT, TRACE CLAY, SS-1 CONTAINS BRICK FRAGMENTS, DAMP (FILL)		3	5	18	100	SS-1	-	14	31	40	10	5	NP	NP	NP	6	A-3a (0)	<L> <L> <L>
@5.0'; SS-3 CHANGES TO BROWN WITH GRAY		4	3	8	100	SS-2	-	-	-	-	-	-	-	-	-	6	A-3a (V)	<L> <L> <L>
	664.0	5	2	5	100	SS-3	-	-	-	-	-	-	-	-	-	8	A-3a (V)	<L> <L> <L>
LOOSE, LIGHT BROWN, FINE SAND , SOME COARSE SAND, LITTLE GRAVEL, TRACE SILT, TRACE CLAY, DAMP	662.5	6	2	5	100	SS-4	-	12	25	54	6	3	NP	NP	NP	7	A-3 (0)	<L> <L> <L>
		7	3	5	100													
		8	2															
		EOB																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>22+69, 32' RT.</u>	EXPLORATION ID <u>B-093-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / S.PENCE</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>CARNEGIE AVE</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>669.5 (MSL)</u> EOB: <u>7.0 ft.</u>	
START: <u>2/3/15</u> END: <u>2/3/15</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.495030, -81.683824</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
6.0", ASPHALT	669.5																	
12.0", CONCRETE	669.0																	
6.0", GRANULAR BASE	668.0	1	43															
DENSE, GRAYISH BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, CONTAINS CONCRETE FRAGMENTS, DAMP	667.5	2	17	41	100	SS-1	-	-	-	-	-	-	-	-	-	7	A-1-b (V)	
(FILL)	667.0	3	5	15	100	SS-2	-	23	26	29	14	8	NP	NP	NP	9	A-3a (0)	
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , SOME GRAVEL, LITTLE SILT, TRACE CLAY, DAMP	665.5	4	5	13	100	SS-3	-	42	20	15	18	5	NP	NP	NP	8	A-1-b (0)	
(FILL)		5	5															
LOOSE TO MEDIUM DENSE, LIGHT BROWN, GRAVEL WITH SAND , LITTLE SILT, TRACE CLAY, DAMP	662.5	6	4	10	89	SS-4	-	-	-	-	-	-	-	-	-	10	A-1-b (V)	
(FILL)		7	4															
		EOB																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:14 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / JO.GILBERT</u>	DRILL RIG: <u>CME 55</u>	STATION / OFFSET: <u>174+96, 9' LT.</u>	EXPLORATION ID <u>B-094-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>IR-90 EB</u>	
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>673.2 (MSL)</u> EOB: <u>8.0 ft.</u>	PAGE 1 OF 1
START: <u>3/12/15</u> END: <u>3/12/15</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>78.8</u>	LAT / LONG: <u>41.494700, -81.681719</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
3.0", ASPHALT	673.2																	
6.0", CONCRETE	673.0 672.5	1																X
15.0", GRANULAR BASE	671.2	2																X
MEDIUM DENSE TO DENSE, BROWN TO GRAYISH BROWN, COARSE AND FINE SAND , LITTLE TO SOME GRAVEL, LITTLE SILT, TRACE CLAY, CONTAINS FEW ASPHALT AND BRICK FRAGMENTS, DAMP (FILL)		3	11 14 19	43	100	SS-1	-	21	25	37	11	6	NP	NP	NP	6	A-3a (0)	<L> >L>
		4	19 11 10	28	100	SS-2	-	-	-	-	-	-	-	-	-	6	A-3a (V)	<L> >L>
		5	8															<L> >L>
	666.7	6	6	16	100	SS-3	-	-	-	-	-	-	-	-	-	8	A-3a (V)	<L> >L>
LOOSE, BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, DAMP		7	3	8	100	SS-4	-	20	38	29	8	5	NP	NP	NP	7	A-1-b (0)	<L> >L>
	665.2	8	3															<L> >L>
		EOB																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:14 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>29+11, 29' RT.</u>	EXPLORATION ID <u>B-095-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>CARNEGIE AVE</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>671.4 (MSL)</u> EOB: <u>8.0 ft.</u>	
START: <u>2/24/15</u> END: <u>2/24/15</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.496030, -81.681895</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI				
6.0", ASPHALT	670.9	1																	
12.0", CONCRETE	669.9	2																	
6.0", GRANULAR BASE	669.4	2																	
LOOSE TO VERY LOOSE, GRAY, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, DAMP (FILL)		3	14	5	9	33	SS-1	-	-	-	-	-	-	-	-	-	5	A-1-b (V)	
		4	1	1	4	78	SS-2	-	-	-	-	-	-	-	-	-	5	A-1-b (V)	
		5	1	0	3	44	SS-3	-	26	36	27	7	4	NP	NP	NP	5	A-1-b (0)	
		6	2	0	2	3	44	SS-3	-	26	36	27	7	4	NP	NP	NP	5	A-1-b (0)
VERY LOOSE, BROWN, FINE SAND , SOME COARSE SAND, LITTLE GRAVEL, TRACE SILT, TRACE CLAY, DAMP (FILL)	664.9	6																	
	663.4	7	2	1	3	89	SS-4	-	19	29	43	6	3	NP	NP	NP	6	A-3 (0)	
		8		1															
		EOB																	

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / J.GILBERT</u>	DRILL RIG: <u>CME 55</u>	STATION / OFFSET: <u>31+14, 0' RT.</u>	EXPLORATION ID <u>B-096-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>CARNEGIE AVE</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>672.3 (MSL)</u> EOB: <u>8.0 ft.</u>	
START: <u>3/11/15</u> END: <u>3/11/15</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>78.8</u>	LAT / LONG: <u>41.496409, -81.681341</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL		
								GR	CS	FS	SI	CL	LL	PL	PI					
6.0", ASPHALT	671.8																			
12.0", CONCRETE	670.8	1																		
6.0", GRANULAR BASE	670.3	2																		
LOOSE TO MEDIUM DENSE, DARK BROWN, COARSE AND FINE SAND , TRACE TO LITTLE GRAVEL, TRACE TO LITTLE SILT, TRACE CLAY, DAMP (FILL)		3	6	4	12	100	SS-1	-	-	-	-	-	-	-	-	-	7	A-3a (V)		
		4	4	2	5	100	SS-2	-	16	33	37	8	6	NP	NP	NP	6	A-3a (0)		
		5	2	2																
		6	4	4	12	100	SS-3	-	-	-	-	-	-	-	-	-	-	6	A-3a (V)	
		7	4	2	7	100	SS-4	-	10	26	40	15	9	NP	NP	NP	9	A-3a (0)		
	664.3	8		3																
		EOB																		

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 55</u>	STATION / OFFSET: <u>36+06, 32' RT.</u>	EXPLORATION ID <u>B-097-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>CARNEGIE AVE</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>672.0 (MSL)</u> EOB: <u>8.0 ft.</u>	
START: <u>2/23/15</u> END: <u>2/23/15</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>78.8</u>	LAT / LONG: <u>41.497097, -81.679790</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
6.0", ASPHALT	672.0																	
12.0", CONCRETE	671.5	1																
6.0", GRANULAR BASE	670.5	2																
SS-1 AND SS-2 NO RECOVERY	670.0	3	9	6	13	0	SS-1	-	-	-	-	-	-	-	-	-	-	
		4	4	4														
		5	4	3	8	0	SS-2	-	-	-	-	-	-	-	-	-	-	
	667.0	6	4	2	7	67	SS-3	-	16	22	50	7	5	NP	NP	NP	9	A-3a (0)
LOOSE TO MEDIUM DENSE, BROWN, COARSE AND FINE SAND , LITTLE GRAVEL, TRACE SILT, TRACE CLAY, DAMP (FILL)		7	3	5	16	100	SS-4	-	-	-	-	-	-	-	-	-	7	A-3a (V)
	664.0	8	7															
		EOB																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:14 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / J.GILBERT</u>	DRILL RIG: <u>CME 55</u>	STATION / OFFSET: <u>40+84, 46' RT.</u>	EXPLORATION ID <u>B-098-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>SB E 14TH ST</u>	
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>670.8 (MSL)</u> EOB: <u>8.0 ft.</u>	PAGE 1 OF 1
START: <u>3/11/15</u> END: <u>3/11/15</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>78.8</u>	LAT / LONG: <u>41.497667, -81.678786</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI				
4.0", ASPHALT	670.5																		
8.0", CONCRETE	669.8	1																	
12.0", GRANULAR BASE	668.8	2																	
LOOSE, BROWN, FINE SAND , LITTLE COARSE SAND, TRACE GRAVEL, TRACE SILT, TRACE CLAY, DAMP (FILL)	667.3	3	2	3	8	100	SS-1	-	-	-	-	-	-	-	7	A-3 (V)	<L> <L> <L>		
LOOSE, BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, DAMP (FILL)	665.8	4	3	3	8	100	SS-2	-	14	48	29	5	4	NP	NP	NP	7	A-1-b (0)	<L> <L> <L>
MEDIUM DENSE, BROWN, FINE SAND , LITTLE COARSE SAND, TRACE GRAVEL, TRACE SILT, TRACE CLAY, DAMP (FILL)	662.8	5	3	5	13	100	SS-3	-	-	-	-	-	-	-	-	-	8	A-3 (V)	<L> <L> <L>
		6	4	5															
		7	4	4	12	100	SS-4	-	2	15	76	4	3	NP	NP	NP	6	A-3 (0)	<L> <L> <L>
		8	5	5															

EOB

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / J.GILBERT</u>	DRILL RIG: <u>CME 55</u>	STATION / OFFSET: <u>43+78, 8' RT.</u>	EXPLORATION ID <u>B-099-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>CARNEGIE AVE</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>670.4 (MSL)</u> EOB: <u>8.0 ft.</u>	
START: <u>3/11/15</u> END: <u>3/11/15</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>78.8</u>	LAT / LONG: <u>41.498096, -81.677330</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			ODOT CLASS (GI)	BACK FILL			
								GR	CS	FS	SI	CL	LL	PL	PI			WC		
4.0", ASPHALT	670.4																			
12.0", CONCRETE	670.1	1															X			
12.0", GRANULAR BASE	669.1	2															X			
LOOSE TO MEDIUM DENSE, BROWN, COARSE AND FINE SAND , TRACE TO LITTLE GRAVEL, TRACE SILT, TRACE CLAY, DAMP (FILL) @5.0'; SS-3 CONTAINS CONCRETE FRAGMENTS	668.1	3	4														^< ^< ^<			
		4	3	3	8	100	SS-1	-	12	26	46	10	6	NP	NP	NP	8	A-3a (0)	^< ^< ^<	
		5	2	3	11	18	100	SS-2	-	9	30	47	8	6	NP	NP	NP	7	A-3a (0)	^< ^< ^<
		6	1	11	5	12	11	SS-3	-	-	-	-	-	-	-	-	-	7	A-3a (V)	^< ^< ^<
		7	4	3	2	5	11	SS-4	-	-	-	-	-	-	-	-	-	7	A-3a (V)	^< ^< ^<
	662.4	8	2															^< ^< ^<		

EOB

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT. - 6/22/22 14:14 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 55</u>	STATION / OFFSET: <u>47+10, 46' RT.</u>	EXPLORATION ID <u>B-100-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>CARNEGIE AVE</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>670.8 (MSL)</u> EOB: <u>8.0 ft.</u>	
START: <u>2/23/15</u> END: <u>2/23/15</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>78.8</u>	LAT / LONG: <u>41.498385, -81.676170</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
4.0", ASPHALT	670.8																	
8.0", CONCRETE	670.5 669.8	1																
12.0", GRANULAR BASE	668.8	2																
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , LITTLE GRAVEL, TRACE SILT, TRACE CLAY, DAMP	667.3	3	5	4	11	100	SS-1	-	-	-	-	-	-	-	-	-	7	A-3a (V)
LOOSE, BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, DAMP	665.8	4	3	3	7	100	SS-2	-	22	42	26	6	4	NP	NP	NP	7	A-1-b (0)
LOOSE, BROWN, COARSE AND FINE SAND , LITTLE SILT, TRACE GRAVEL, TRACE CLAY, DAMP	662.8	5	12	4	9	100	SS-3	-	10	33	34	15	8	NP	NP	NP	7	A-3a (0)
		6	3	3	9	100	SS-4	-	-	-	-	-	-	-	-	-	8	A-3a (V)
		7	3	3	9	100	SS-4	-	-	-	-	-	-	-	-	-	8	A-3a (V)
		8	4	4														

EOB

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / J.GILBERT</u>	DRILL RIG: <u>CME 55</u>	STATION / OFFSET: <u>50+04, 110' LT.</u>	EXPLORATION ID <u>B-101-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>CARNEGIE AVE</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>671.2 (MSL)</u> EOB: <u>8.0 ft.</u>	
START: <u>3/11/15</u> END: <u>3/11/15</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>78.8</u>	LAT / LONG: <u>41.499108, -81.675407</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI				
6.0", ASPHALT	670.7	1																X	
6.0", CONCRETE	670.2	1																X	
12.0", GRANULAR BASE	669.2	2																X	
MEDIUM DENSE, BROWN, COARSE AND FINE SAND, TRACE TO LITTLE GRAVEL, TRACE SILT, TRACE CLAY, DAMP (FILL)		3	5	14	100	SS-1	-	11	20	57	7	5	NP	NP	NP	6	A-3a (0)	<L> >L> <L> >L> <L> >L>	
		4	3	11	17	SS-2	-	-	-	-	-	-	-	-	-	9	A-3a (V)	<L> >L> <L> >L> <L> >L>	
		5	5																<L> >L> <L> >L> <L> >L>
		6	4	4	11	100	SS-3	-	2	12	74	7	5	NP	NP	NP	5	A-3a (0)	<L> >L> <L> >L> <L> >L>
		7	4	4	11	100	SS-4	-	-	-	-	-	-	-	-	-	6	A-3a (V)	<L> >L> <L> >L> <L> >L>
		8	4	4	11	100	SS-4	-	-	-	-	-	-	-	-	-	6	A-3a (V)	<L> >L> <L> >L> <L> >L>
	663.2	EOB																	

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:14 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 32+11, 55' LT.		START: 12/3/14		END: 12/3/14		PG 2 OF 2		B-102-0-14												
MATERIAL DESCRIPTION AND NOTES			ELEV. 649.0	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL						
										GR	CS	FS	SI	CL	LL	PL	PI									
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , LITTLE GRAVEL, TRACE SILT, TRACE CLAY, DAMP <i>(continued)</i> @30.0'; SS-13 TO SS-16 BECOME GRAYISH BROWN @35.0'; SS-14 TO SS-16 BECOME DENSE				649.0	31	6	20	100	SS-13	-	1	5	82	11	1	NP	NP	NP	21	A-3a (0)						
					32	7																				
					33																					
					34																					
					35	6																				
					36	10	33	100	SS-14	-	-	-	-	-	-	-	-	-	-	-		-	20	A-3a (V)		
					37	12																				
					38																					
					39																					
					40	6																				
41	9	32	100	SS-15	-	-	-	-	-	-	-	-	-	-	-	-	-	20	A-3a (V)							
42	12																									
43																										
44																										
45	5																									
46	9	35	100	SS-16	-	-	-	-	-	-	-	-	-	-	-	-	-	22	A-3a (V)							
47	14																									
48																										
49																										
50	4																									
51	6	18	100	SS-17	-	0	0	27	60	13	NP	NP	NP	NP	NP	NP	NP	23	A-4b (8)							
52	6																									
53																										
54																										
55	6																									
56	7	29	100	SS-18	-	-	-	-	-	-	-	-	-	-	-	-	-	18	A-4b (V)							
57	12																									
58																										
59																										
60	6																									
61	5	18	100	SS-19	1.10	0	0	1	64	35	29	18	11	26	26	26	26	26	A-6a (8)							
	7																									

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 26.5' DURING DRILLING. CAVE DEPTH 25.1'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:14 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>202+45, 9' LT.</u>	EXPLORATION ID <u>B-103-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>SB E 14TH ST INTERIM</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>677.4 (MSL)</u> EOB: <u>9.0 ft.</u>	
START: <u>1/22/15</u> END: <u>1/22/15</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.494776, -81.677457</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI			WC
4.0", TOPSOIL	677.4		2															
MEDIUM DENSE TO DENSE, BROWN, COARSE AND FINE SAND , LITTLE GRAVEL, TRACE TO LITTLE SILT, TRACE CLAY, CONTAINS BRICK FRAGMENTS, MOIST TO WET (FILL)	677.0	1	5	13	100	SS-1	-	-	-	-	-	-	-	-	-	-	12	A-3a (V)
@3.0'; SS-3 CHANGES TO DARK GRAYISH BROWN, CONTAINS BRICK AND CONCRETE FRAGMENTS		2	5	22	100	SS-2	-	12	18	57	8	5	NP	NP	NP		12	A-3a (0)
@4.5'; SS-4 CHANGES TO BROWN AND DARK GRAY, CONTAINS ASPHALT		3	8	32	100	SS-3	-	13	21	43	16	7	NP	NP	NP		27	A-3a (0)
LOOSE TO MEDIUM DENSE, BROWN, FINE SAND , SOME COARSE SAND, TRACE SILT, TRACE CLAY, TRACE GRAVEL, DAMP	671.4	4	15	23	100	SS-4	-	-	-	-	-	-	-	-	-	-	11	A-3a (V)
		5	10	8														
		6	4	6	17	100	SS-5	-	1	30	63	4	2	NP	NP	NP	6	A-3 (0)
		7	6	7														
		8	3	2	9	100	SS-6	-	-	-	-	-	-	-	-	-	9	A-3 (V)
	668.4	9	2	5														
		EOB																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:14 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>198+03, 55' RT.</u>	EXPLORATION ID <u>B-104-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>SB E 14TH ST INTERIM</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>672.4 (MSL)</u> EOB: <u>8.0 ft.</u>	
START: <u>1/22/15</u> END: <u>1/22/15</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.493549, -81.677515</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI				
3.0", ASPHALT	672.4																		
6.0", CONCRETE	672.2	1																X	
9.0", GRANULAR BASE	671.7	2																X	
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , TRACE SILT, TRACE GRAVEL, TRACE CLAY, DAMP (FILL)	670.9	3	4	7	22	100	SS-1	-	3	7	78	9	3	NP	NP	NP	8	A-3a (0)	<L> <L> <L>
		4	8	7	19	100	SS-2	-	-	-	-	-	-	-	-	-	6	A-3a (V)	<L> <L> <L>
MEDIUM DENSE, GRAY AND BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, CONTAIN CONCRETE FRAGMENTS, DAMP (FILL)	667.4	5	8	10	21	6	SS-3	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	<L> <L> <L>
		6	10	6															<L> <L> <L>
		7	3	5	14	11	SS-4	-	27	24	38	8	3	NP	NP	NP	7	A-1-b (0)	<L> <L> <L>
	664.4	8	6																<L> <L> <L>
		EOB																	<L> <L> <L>

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>28+96, 36' RT.</u>	EXPLORATION ID <u>B-105-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>E 22ND ST</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>669.7 (MSL)</u> EOB: <u>8.0 ft.</u>	
START: <u>12/29/14</u> END: <u>12/29/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.496770, -81.673828</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI				
6.0", ASPHALT	669.2																	X	
9.0", CONCRETE	668.4	1																X	
9.0", GRANULAR BASE	667.7	2																X	
MEDIUM DENSE, BROWN AND DARK BROWN, COARSE AND FINE SAND , TRACE SILT, TRACE GRAVEL, TRACE CLAY, DAMP (FILL)	666.2	3	7	5	13	89	SS-1	-	7	19	59	10	5	NP	NP	NP	6	A-3a (0)	<L> >L>
LOOSE, BROWN, FINE SAND , LITTLE COARSE SAND, TRACE GRAVEL, TRACE SILT, TRACE CLAY, DAMP		4	6	3	10	100	SS-2	-	-	-	-	-	-	-	-	-	5	A-3 (V)	<L> >L>
		5	3	3	8	100	SS-3	-	6	17	69	5	3	NP	NP	NP	8	A-3 (0)	<L> >L>
		6	3	3															<L> >L>
		7	3	3	9	100	SS-4	-	-	-	-	-	-	-	-	-	5	A-3 (V)	<L> >L>
	661.7	8	4																<L> >L>
EOB																			

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>30+60, 115' RT.</u>	EXPLORATION ID <u>B-106-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>E 22ND ST</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>668.9 (MSL)</u> EOB: <u>8.0 ft.</u>	
START: <u>12/29/14</u> END: <u>12/29/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.497213, -81.673404</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI			WC
3.0", ASPHALT	668.6	1																
9.0", CONCRETE	667.9	1																
10.0", AGGREGATE BASE	667.1	2																
MEDIUM DENSE, BROWN AND GRAY, COARSE AND FINE SAND , SOME GRAVEL, LITTLE SILT, TRACE CLAY, SS-1 CONTAINS NO RECOVERY, DAMP (FILL)	663.9	3	8	6	14	0	SS-1	-	-	-	-	-	-	-	-	-		
		4	8	5	13	11	SS-2	-	-	-	-	-	-	-	-	6	A-3a (V)	
LOOSE, BROWN, COARSE AND FINE SAND , LITTLE SILT, TRACE CLAY, TRACE GRAVEL, MOIST TO DAMP	661.5	5	3	2	6	100	SS-3	-	0	2	77	13	8	NP	NP	NP	12	A-3a (0)
	661.5	6	3	3	8	100	SS-4A	-	-	-	-	-	-	-	-	-	9	A-3a (V)
MEDIUM STIFF, BROWN MOTTLED WITH GRAY, SILT AND CLAY , LITTLE SAND, TRACE GRAVEL, CONTAINS NO INTACT SOIL FOR HP READINGS, MOIST	660.9	7	3	3	8	100	SS-4B	-	0	1	19	56	24	29	18	11	24	A-6a (8)
		8																

EOB

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>31+89, 27' LT.</u>	EXPLORATION ID <u>B-107-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>E 22ND ST</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>668.8 (MSL)</u> EOB: <u>8.0 ft.</u>	
START: <u>12/29/15</u> END: <u>12/29/15</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.497575, -81.673961</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI				
4.0", ASPHALT	668.8																		
10.0", CONCRETE	668.5	1																	
10.0", GRANULAR BASE	667.6	2																	
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , SOME SILT, TRACE GRAVEL, TRACE CLAY, DAMP	666.8	3	5	22	100	SS-1	-	9	11	51	22	7	NP	NP	NP	10	A-3a (0)	<L> <L> <L>	
LOOSE TO MEDIUM DENSE, BROWN, FINE SAND , TRACE COARSE SAND, TRACE SILT, TRACE CLAY, TRACE GRAVEL, DAMP	665.3	4	9	10	56	SS-2	-	-	-	-	-	-	-	-	-	9	A-3 (V)	<L> <L> <L>	
		5	3	4	10	100	SS-3	-	0	7	85	6	2	NP	NP	NP	7	A-3 (0)	<L> <L> <L>
		6	4	4	10	100	SS-3	-	0	7	85	6	2	NP	NP	NP	7	A-3 (0)	<L> <L> <L>
	660.8	7	3	4	12	100	SS-4	-	-	-	-	-	-	-	-	5	A-3 (V)	<L> <L> <L>	
		8	5																

EOB

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:14 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / J.GILBERT</u>	DRILL RIG: <u>CME 55</u>	STATION / OFFSET: <u>53+98, 9' LT.</u>	EXPLORATION ID <u>B-108-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>CARNEGIE AVE</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>671.6 (MSL)</u> EOB: <u>8.0 ft.</u>	
START: <u>3/11/15</u> END: <u>3/11/15</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>78.8</u>	LAT / LONG: <u>41.499148, -81.673887</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
4.0", ASPHALT	671.6																	
12.0", CONCRETE	671.3	1																
8.0", GRANULAR BASE	670.3	2																
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , TRACE GRAVEL, TRACE SILT, TRACE CLAY, DAMP (FILL) @3.5'; SS-2 CHANGES TO LIGHT BROWN	669.6	3	2															
		4	3	5	11	100	SS-1	-	8	24	53	8	7	NP	NP	NP	7	A-3a (0)
		5	3	5	5	13	100	SS-2	-	-	-	-	-	-	-	-	5	A-3a (V)
		6	5	5	5	14	100	SS-3	-	-	-	-	-	-	-	-	5	A-3a (V)
		665.1	6	4	5	11	100	SS-4	-	0	8	86	3	3	NP	NP	NP	5
MEDIUM DENSE, BROWN, FINE SAND , TRACE COARSE SAND, TRACE SILT, TRACE CLAY, TRACE GRAVEL, DAMP (FILL)	663.6	7	4	4	11	100	SS-4	-	0	8	86	3	3	NP	NP	NP	5	A-3 (0)
		8																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / J.GILBERT</u>	DRILL RIG: <u>CME 55</u>	STATION / OFFSET: <u>37+53, 76' RT.</u>	EXPLORATION ID <u>B-109-0-14</u>
TYPE: <u>SUBGRADE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>E 22ND ST</u>	PAGE 1 OF 1
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>669.6 (MSL)</u> EOB: <u>8.0 ft.</u>	
START: <u>3/11/15</u> END: <u>3/11/15</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>78.8</u>	LAT / LONG: <u>41.499682, -81.674243</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
8.0", ASPHALT	669.6																	
16.0", GRANULAR BASE	669.0	1																
LOOSE, ORANGISH BROWN, COARSE AND FINE SAND , LITTLE SILT, TRACE CLAY, TRACE GRAVEL, DAMP (FILL)	667.4	2	2	5	100	SS-1	-	5	35	43	11	6	NP	NP	NP	9	A-3a (0)	<L> >L> <L> >L> <L> >L> <L> >L>
	664.6	3	3	8	100	SS-2	-	-	-	-	-	-	-	-	-	6	A-3a (V)	<L> >L> <L> >L> <L> >L> <L> >L>
MEDIUM DENSE, ORANGISH BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, DAMP (FILL)	663.1	4	3	11	100	SS-3	-	40	16	38	4	2	NP	NP	NP	6	A-1-b (0)	<L> >L> <L> >L> <L> >L> <L> >L>
	661.6	5	4	9	100	SS-4	-	-	-	-	-	-	-	-	-	7	A-3a (V)	<L> >L> <L> >L> <L> >L> <L> >L>
LOOSE, ORANGISH BROWN, COARSE AND FINE SAND , LITTLE SILT, TRACE CLAY, TRACE GRAVEL, DAMP (FILL)	661.6	6	3															<L> >L> <L> >L> <L> >L> <L> >L>
		7																
		8																
		EOB																

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:15 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 980+67, 13' LT.		START: 11/6/14		END: 11/7/14		PG 2 OF 2		B-111-0-14								
MATERIAL DESCRIPTION AND NOTES			ELEV. 652.6	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL		
										GR	CS	FS	SI	CL	LL	PL	PI					
MEDIUM DENSE, GRAYISH BROWN AND BROWN, COARSE AND FINE SAND , LITTLE SILT, TRACE CLAY, TRACE GRAVEL, MOIST TO WET (continued)			652.6	31	6	17	78	SS-13	-	0	8	73	14	5	NP	NP	NP	24	A-3a (0)			
				32	7																	
				33																		
				34																		
				35	5																	
MEDIUM DENSE, GRAY, SANDY SILT , TRACE CLAY, TRACE GRAVEL, WET			644.3	36	10	27	100	SS-14	-	-	-	-	-	-	-	-	-	27	A-3a (V)			
				37	11																	
				38																		
				39																		
				40	4																	
SOFT TO VERY STIFF, GRAY, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, MOIST TO WET			634.3	41	7	19	100	SS-15	-	1	0	61	34	4	NP	NP	NP	26	A-4a (1)			
				42	8																	
				43																		
				44																		
				45	4																	
@55.0': SS-18 AND SS-19 CONTAIN FEW SILTY CLAY LENSES			621.1	46	7	25	100	SS-16	-	-	-	-	-	-	-	-	-	29	A-4a (V)			
				47	12																	
				48																		
				49																		
				50	11																	
			621.1	51	16	45	100	SS-17	0.50	-	-	-	-	-	-	-	-	22	A-4b (V)			
				52	19																	
				53																		
				54																		
				55	18																	
			621.1	56	7	19	100	SS-18	1.75	1	0	7	67	25	25	18	7	23	A-4b (8)			
				57	8																	
				58																		
				59																		
				60	10																	
			621.1	61	11	30	100	SS-19	3.10	-	-	-	-	-	-	-	21	A-4b (V)				
			621.1	61	12																	

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 30.5' DURING DRILLING, 37.1' UPON COMPLETION. CAVE DEPTH 28.6'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:15 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>1187+81, 26' RT.</u>	EXPLORATION ID: <u>B-113-0-14</u>
TYPE: <u>RETAINING WALL</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.LYON</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>RAMP H6</u>	
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>677.1 (MSL)</u> EOB: <u>61.5 ft.</u>	PAGE: <u>1 OF 2</u>
START: <u>11/19/14</u> END: <u>11/19/14</u>	SAMPLING METHOD: <u>SPT / ST</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.495295, -81.676213</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
4.0", TOPSOIL	676.8	1	2															
LOOSE, BROWN, COARSE AND FINE SAND, LITTLE GRAVEL, LITTLE SILT, TRACE CLAY, CONTAINS FEW ROOTS, DAMP (FILL)	675.1	2	3	6	56	SS-1	-	-	-	-	-	-	-	-	9	A-3a (V)	<<<<<<	
LOOSE, DARK GRAYISH BROWN, GRAVEL WITH SAND, TRACE SILT, TRACE CLAY, CONTAINS TILE FRAGMENTS AND CINDERS, WET (FILL)	672.6	3	5	10	94	SS-2	-	38	25	23	9	5	NP	NP	NP	16	A-1-b (0)	<<<<<<
VERY LOOSE, DARK GRAYISH BROWN AND BROWN, COARSE AND FINE SAND, LITTLE GRAVEL, LITTLE SILT, TRACE CLAY, SS-3 CONTAINS TILE AND GLASS FRAGMENTS AND CINDERS, WET TO MOIST (FILL)		4																<<<<<<
@7.5'; SS-4 CONTAINS CINDERS		5	0	3	89	SS-3	-	-	-	-	-	-	-	-	24	A-3a (V)	<<<<<<	
@10.0'; SS-5 CHANGES TO BROWN, CONTAINS GLASS FRAGMENTS, CHANGES TO BROWN		6	1	1														<<<<<<
		7	0	0	78	SS-4	-	-	-	-	-	-	-	-	13	A-3a (V)	<<<<<<	
		8	0	0														<<<<<<
		9	0	0														<<<<<<
		10	0	1	67	SS-5	-	-	-	-	-	-	-	-	11	A-3a (V)	<<<<<<	
	665.1	11	1	0														<<<<<<
LOOSE, BROWN, COARSE AND FINE SAND, TRACE SILT, TRACE CLAY, TRACE GRAVEL, DAMP	662.6	12	1	5	89	SS-6	-	0	1	87	8	4	NP	NP	NP	10	A-3a (0)	<<<<<<
		13	2	2														<<<<<<
LOOSE, BROWN, GRAVEL WITH SAND, TRACE SILT, TRACE CLAY, DAMP	660.1	14	2	5	89	SS-7	-	-	-	-	-	-	-	-	9	A-1-b (V)	<<<<<<	
		15	2	2														<<<<<<
MEDIUM DENSE, BROWN, COARSE AND FINE SAND, TRACE GRAVEL, TRACE SILT, TRACE CLAY, DAMP	655.1	16	2	12	89	SS-8	-	-	-	-	-	-	-	-	5	A-3a (V)	<<<<<<	
		17	4	5														<<<<<<
		18	5	7	19	89	SS-9	-	-	-	-	-	-	-	3	A-3a (V)	<<<<<<	
		19	7	8														<<<<<<
MEDIUM DENSE, BROWN, GRAVEL WITH SAND, TRACE SILT, TRACE CLAY, DAMP	652.6	20	4	21	78	SS-10	-	1	72	21	4	2	NP	NP	NP	4	A-1-b (0)	<<<<<<
		21	7	9														<<<<<<
MEDIUM DENSE TO DENSE, BROWN, COARSE AND FINE SAND, TRACE GRAVEL, TRACE SILT, TRACE CLAY, DAMP TO MOIST		22	4	12	39	SS-11	-	-	-	-	-	-	-	-	10	A-3a (V)	<<<<<<	
		23	4	5														<<<<<<
		24	4	5														<<<<<<
		25	4	5														<<<<<<
		26	4	5														<<<<<<
		27	7	10	23	100	SS-12	-	-	-	-	-	-	-	9	A-3a (V)	<<<<<<	
		28	7	8														<<<<<<
		29	8															<<<<<<

W 647.1

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:15 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 1187+81, 26' RT.		START: 11/19/14		END: 11/19/14		PG 2 OF 2		B-113-0-14							
MATERIAL DESCRIPTION AND NOTES			ELEV. 647.1	DEPTHS		SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
											GR	CS	FS	SI	CL	LL	PL	PI			
MEDIUM DENSE TO DENSE, BROWN, COARSE AND FINE SAND , TRACE GRAVEL, TRACE SILT, TRACE CLAY, DAMP TO MOIST (continued)			643.8	31	10	45	100	SS-13	-	-	-	-	-	-	-	-	-	-	12	A-3a (V)	↖ ↗
				32	18																
MEDIUM DENSE, GRAYISH BROWN, FINE SAND , TRACE COARSE SAND, TRACE SILT, TRACE CLAY, TRACE GRAVEL, WET			638.8	35	3	19	39	SS-14	-	-	-	-	-	-	-	-	-	-	19	A-3 (V)	↖ ↗
				36	6																
MEDIUM DENSE, GRAY, SILT , LITTLE CLAY, LITTLE SAND, TRACE GRAVEL, WET			633.8	40	8	23	100	SS-15	-	-	-	-	-	-	-	-	-	-	27	A-4b (V)	↖ ↗
				41	8																
GRAY, SANDY SILT , TRACE CLAY, TRACE GRAVEL, WET @46.2'; UNIT WEIGHT: 133.8 PCF @ 21.0% MC			628.8	45		100		ST-16	-	0	1	63	31	5	NP	NP	NP	21	A-4a (0)	↖ ↗	
				46																	
VERY STIFF, GRAY, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, DAMP TO MOIST			618.8	50	3	17	100	SS-17	2.60	0	0	7	66	27	29	20	9	20	A-4b (8)	↖ ↗	
				51	5																8
MEDIUM STIFF TO STIFF, GRAY, SILT AND CLAY , TRACE SAND, TRACE GRAVEL, MOIST			615.6	55	6	17	100	SS-18	2.25	-	-	-	-	-	-	-	-	-	22	A-4b (V)	↖ ↗
				56	5																
			615.6	60	4	14	100	SS-19	1.00	0	0	1	60	39	33	20	13	24	A-6a (9)	↖ ↗	
				61	4																7

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 30.0' DURING DRILLING, 32.0' 1 HOUR 45 MINUTES LATER. CAVE DEPTH 28.6'.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:15 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 1190+07, 37' RT.		START: 11/19/14		END: 11/20/14		PG 2 OF 2		B-114-0-14									
MATERIAL DESCRIPTION AND NOTES			ELEV. 644.5	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL			
										GR	CS	FS	SI	CL	LL	PL	PI						
MEDIUM DENSE TO DENSE, GRAYISH BROWN, COARSE AND FINE SAND , LITTLE SILT, TRACE CLAY, TRACE GRAVEL, WET			644.5	31	10 13 12	32	100	SS-13	-	-	-	-	-	-	-	-	-	17	A-3a (V)				
				32																			
				33																			
				34																			
				35	6																		
				36	8 14	28	100	SS-14	-	0	1	83	14	2	NP	NP	NP		23		A-3a (0)		
MEDIUM DENSE TO DENSE, GRAY, SILT , SOME SAND, TRACE CLAY, TRACE GRAVEL, WET @44.0'; UNIT WEIGHT: 128.4 PCF @ 26.3% MC			636.2	37																			
				38																			
				39																			
				40	7																		
				41	10 15	32	100	SS-15	-	-	-	-	-	-	-	-	-	-	-		24	A-4b (V)	
				42																			
				43																			
				44			100	ST-16	-	1	0	34	56	9	NP	NP	NP				26	A-4b (6)	
				45	5																		
				46	6 9	19	100	SS-17	-	-	-	-	-	-	-	-	-	-	-		27	A-4b (V)	
VERY STIFF, GRAY, SILT AND CLAY , TRACE SAND, TRACE GRAVEL, MOIST			621.2	47																			
				48																			
				49																			
				50	3																		
				51	6 6	15	100	SS-18	-	-	-	-	-	-	-	-	-	-	-		26	A-4b (V)	
				52																			
MEDIUM DENSE, GRAY, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, WET			616.2	53																			
				54																			
				55	2																		
				56	3 6	12	100	SS-19	3.00	0	0	2	67	31	30	19	11		20		A-6a (8)		
MEDIUM DENSE, GRAY, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, WET			613.0	57																			
				58																			
				59																			
				60	5																		
				61	9 12	27	100	SS-20	-	-	-	-	-	-	-	-	-	-	-		21	A-4b (V)	

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 22.0' DURING DRILLING, 50.2' UPON COMPLETION. CAVE DEPTH 10.0'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:15 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 1274+42, 6' RT.		START: 11/6/14		END: 11/6/14		PG 2 OF 2		B-115-0-14										
MATERIAL DESCRIPTION AND NOTES			ELEV. 640.8	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL				
										GR	CS	FS	SI	CL	LL	PL	PI							
MEDIUM DENSE TO DENSE, BROWN, COARSE AND FINE SAND , LITTLE SILT, TRACE CLAY, WET (continued)			640.8	31	4 8 15	30	100	SS-13	-	-	-	-	-	-	-	-	-	22	A-3a (V)					
				32																				
MEDIUM DENSE TO DENSE, GRAYISH BROWN, SILT , TRACE TO LITTLE SAND, TRACE TO LITTLE CLAY, TRACE GRAVEL, WET			637.5	33																				
				34																				
				35	8 17 18	46	100	SS-14	-	-	-	-	-	-	-	-	-	-	-		24	A-4b (V)		
				36																				
				37																				
				38																				
				39																				
				40	13 15 16	41	100	SS-15	-	0	1	18	73	8	NP	NP	NP				21	A-4b (8)		
				41																				
				42																				
				43																				
				44																				
				45	7 6 7	17	100	SS-16	-	-	-	-	-	-	-	-	-	-	-		-	20	A-4b (V)	
46																								
47																								
48																								
49																								
50	8 12 16	37	100	SS-17	-	1	0	7	77	15	NP	NP	NP			19	A-4b (8)							
51																								
52																								
53																								
54																								
55	8 9 10	25	100	SS-18	1.80	0	0	2	65	33	29	18	11			22	A-6a (8)							
56																								
57																								
58																								
59																								
60	11 17 12	38	100	SS-19	4.50	-	-	-	-	-	-	-	-	-	-	-	18	A-6a (V)						
61																								

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 20.0' DURING DRILLING, 17.5' UPON COMPLETION. CAVE DEPTH 18.1'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:15 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 1184+46, 21' LT.		START: 11/4/14		END: 11/6/14		PG 2 OF 2		B-116-0-14											
MATERIAL DESCRIPTION AND NOTES				ELEV. 637.7	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL				
											GR	CS	FS	SI	CL	LL	PL	PI							
MEDIUM DENSE TO DENSE, GRAYISH BROWN, SANDY SILT, LITTLE CLAY, TRACE GRAVEL, WET (continued)				637.7	31	5 6 10	24	100	SS-12	-	0	0	61	33	6	NP	NP	NP	25	A-4a (1)	<>				
					32																			<>	
					33																				<>
					34																				<>
					35																				<>
					36																				<>
					37																				<>
					38																				<>
					39																				<>
					40																				<>
VERY STIFF TO HARD, GRAY, SILT, SOME CLAY, TRACE SAND, TRACE GRAVEL, SS-14 CONTAINS FEW DECAYED ORGANICS, DAMP TO MOIST				629.4	40	6 6 8	21	100	SS-14	3.10	-	-	-	-	-	-	-	-	20	A-4b (V)	<>				
					41																			<>	
					42																				<>
					43																				<>
					44																				<>
					45																				<>
					46																				<>
					47																				<>
					48																				<>
					49																				<>
				606.2	50	6 9 14	35	100	SS-15	4.50	0	0	6	71	23	27	19	8	19	A-4b (8)	<>				
					51																			<>	
					52																				<>
					53																				<>
					54																				<>
					55																				<>
					56																				<>
					57																				<>
					58																				<>
					59																				<>
				606.2	60	5 7 9	24	100	SS-17	3.50	0	0	1	66	33	28	19	9	20	A-4b (8)	<>				
					61	6 7 8	23	100	SS-18	4.50	-	-	-	-	-	-	-	-	-	-	19	A-4b (V)	<>		
					EOB																				

NOTES: GROUNDWATER ENCOUNTERED AT 15.0' DURING DRILLING. CAVE DEPTH 14.0'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:16 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 1080+66, 51' LT.		START: 4/8/15		END: 4/8/15		PG 2 OF 3		B-119-0-14						
MATERIAL DESCRIPTION AND NOTES			ELEV. 654.5	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
										GR	CS	FS	SI	CL	LL	PL	PI			
MEDIUM DENSE, BROWN AND GRAY, COARSE AND FINE SAND , TRACE SILT, TRACE CLAY, TRACE GRAVEL, DAMP (continued)			650.7	31	6	27	100	SS-13	-	1	6	82	8	3	NP	NP	NP	8	A-3a (0)	↖ ↗
				32	11															
MEDIUM DENSE, GRAY, SANDY SILT , LITTLE CLAY, TRACE GRAVEL, WET			649.0	33																↖ ↗
				34																
DENSE, GRAY, COARSE AND FINE SAND , LITTLE SILT, TRACE CLAY, TRACE GRAVEL, WET			645.7	35	4	15	100	SS-14	-	-	-	-	-	-	-	-	-	25	A-4a (V)	↖ ↗
				36	5															
DENSE, GRAY, SANDY SILT , TRACE CLAY, TRACE GRAVEL, WET			640.7	37																↖ ↗
				38																
DENSE, GRAY, SANDY SILT , TRACE CLAY, TRACE GRAVEL, WET			640.7	39	5	45	100	SS-15	-	-	-	-	-	-	-	-	-	17	A-3a (V)	↖ ↗
				40	13															
DENSE, GRAY, SANDY SILT , TRACE CLAY, TRACE GRAVEL, WET			625.7	41																↖ ↗
				42																
GRAY, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, WET			625.7	43	8	37	100	SS-16	-	0	1	48	46	5	NP	NP	NP	20	A-4a (3)	↖ ↗
				44	12															
GRAY, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, WET			625.7	45																↖ ↗
				46																
GRAY, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, WET			625.7	47	7	35	100	SS-17	-	-	-	-	-	-	-	-	-	28	A-4a (V)	↖ ↗
				48	10															
GRAY, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, WET			625.7	49																↖ ↗
				50																
GRAY, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, WET			625.7	51	11	31	100	SS-18	-	-	-	-	-	-	-	-	-	24	A-4a (V)	↖ ↗
				52	9															
GRAY, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, WET			625.7	53																↖ ↗
				54																
GRAY, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, WET			625.7	55																↖ ↗
				56																
GRAY, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, WET			625.7	57																↖ ↗
				58																
GRAY, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, WET			625.7	59																↖ ↗
				60																
GRAY, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, WET			625.7	61			83	SS-19	1.50	0	1	9	59	31	27	18	9	27	A-4b (8)	↖ ↗
				62																

PID: 82380	SFN: _____	PROJECT: CUY-CCG3	STATION / OFFSET: 1080+66, 51' LT.	START: 4/8/15	END: 4/8/15	PG 3 OF 3	B-119-0-14												
MATERIAL DESCRIPTION AND NOTES		ELEV. 622.4	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
									GR	CS	FS	SI	CL	LL	PL	PI			
@62.0'; UNIT WEIGHT: 125.3 PCF @ 27.3% MC		622.0	EOB														< . v <		

NOTES: GROUNDWATER ENCOUNTERED AT 35.5' DURING DRILLING. CAVE IN DEPTH 32.0'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:16 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / J.GILBERT</u>	DRILL RIG: <u>CME 55X</u>	STATION / OFFSET: <u>990+36, 22' LT.</u>	EXPLORATION ID <u>B-122-0-14</u>
TYPE: <u>BRIDGE</u>	SAMPLING FIRM / LOGGER: <u>BARR / S.PENCE</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>RAMP H5</u>	
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>676.0 (MSL)</u> EOB: <u>112.0 ft.</u>	PAGE 1 OF 4
START: <u>4/9/15</u> END: <u>4/10/15</u>	SAMPLING METHOD: <u>SPT / ST</u>	ENERGY RATIO (%): <u>81.2</u>	LAT / LONG: <u>41.496213, -81.677011</u>	



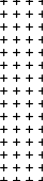













MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	BACK FILL		
								GR	CS	FS	SI	CL	LL	PL	PI	WC				
MEDIUM DENSE TO DENSE, DARK BROWN, COARSE AND FINE SAND , LITTLE SILT, LITTLE GRAVEL, TRACE CLAY, DAMP (FILL)	676.0	1	5	18	100	SS-1	-	-	-	-	-	-	-	-	-	-	-	11	A-3a (V)	<< < <
		2																		<< < <
		3	9	13	31	100	SS-2	-	14	15	43	20	8	NP	NP	NP	10	A-3a (0)	<< < <	
		4		10																<< < <
MEDIUM DENSE, BROWN AND REDDISH BROWN, GRAVEL WITH SAND , LITTLE SILT, TRACE CLAY, CONTAINS BRICK FRAGMENTS, DAMP (FILL)	671.5	5	8	7	16	100	SS-3	-	27	23	31	13	6	NP	NP	NP	10	A-1-b (0)	<< < <	
LOOSE, GRAY, SANDY SILT , LITTLE CLAY, TRACE GRAVEL, WET	669.0	6																		<< < <
	667.5	7																		<< < <
LOOSE, BROWN, COARSE AND FINE SAND , TRACE SILT, TRACE CLAY, TRACE GRAVEL, WET	666.5	8	3	2	7	100	SS-4A	-	-	-	-	-	-	-	-	-	19	A-4a (V)	<< < <	
		9		3			SS-4B	-	-	-	-	-	-	-	-	-	14	A-3a (V)	<< < <	
LOOSE TO MEDIUM DENSE, BROWN, FINE SAND , LITTLE COARSE SAND, TRACE SILT, TRACE GRAVEL, TRACE CLAY, DAMP		10	3	4	14	100	SS-5	-	-	-	-	-	-	-	-	-	9	A-3 (V)	<< < <	
		11		6																<< < <
		12																		<< < <
		13	4	3	12	100	SS-6	-	4	19	68	6	3	NP	NP	NP	7	A-3 (0)	<< < <	
		14		6																<< < <
		15																		<< < <
		16	3	4	8	100	SS-7	-	-	-	-	-	-	-	-	-	11	A-3 (V)	<< < <	
		17		2																<< < <
		18	2	2	8	100	SS-8	-	-	-	-	-	-	-	-	-	6	A-3 (V)	<< < <	
		19		4																<< < <
		20																		<< < <
		21	4	5	16	100	SS-9	-	-	-	-	-	-	-	-	-	6	A-3 (V)	<< < <	
	654.0	22		7																<< < <
SOFT TO MEDIUM STIFF, BROWN, SANDY SILT , SOME CLAY, TRACE GRAVEL, MOIST TO WET		23	2	3	9	83	SS-10	0.50	3	18	39	14	26	19	12	7	16	A-4a (1)	<< < <	
		24		4																<< < <
		25																		<< < <
		26	2	4	15	100	SS-11	0.90	-	-	-	-	-	-	-	-	23	A-4a (V)	<< < <	
	649.0	27		7																<< < <
STIFF, BROWN, SILT AND CLAY , SOME SAND, LITTLE GRAVEL, MOIST		28	5	4	14	100	SS-12	1.50	19	22	9	22	28	32	18	14	22	A-6a (4)	<< < <	
	646.5	29		6																<< < <

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:16 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>1077+89, 41' LT.</u>	EXPLORATION ID <u>B-123-0-14</u>
TYPE: <u>RETAINING WALL</u>	SAMPLING FIRM / LOGGER: <u>BARR / Z.JEWELL</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>INTERIM RAMP H5</u>	PAGE 1 OF 2
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>693.6 (MSL)</u> EOB: <u>61.5 ft.</u>	
START: <u>11/12/14</u> END: <u>11/12/14</u>	SAMPLING METHOD: <u>SPT</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.492796, -81.676651</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI	WC			
6.0", ASPHALT	693.6																		
12.0", CONCRETE	692.1	1																	
8.0", GRANULAR BASE	691.4	2																	
VERY STIFF, BROWN AND DARK GRAY, SILT AND CLAY , SOME SAND, LITTLE GRAVEL, DAMP (FILL)	689.1	3	7	30	100	SS-1	3.10	17	7	16	32	28	32	18	14	15	A-6a (7)		
		4	9	14															
		5	19																
VERY DENSE, BROWN, COARSE AND FINE SAND , LITTLE TO SOME SILT, TRACE TO LITTLE GRAVEL, TRACE CLAY, CONTAINS FEW BRICK AND CONCRETE FRAGMENTS, DAMP (FILL)	689.1	6	32	68	100	SS-2	-	-	-	-	-	-	-	-	-	8	A-3a (V)		
		7	21																
		8	16	67	100	SS-3	-	9	8	54	21	8	NP	NP	NP	8	A-3a (0)		
@12.5'; SS-5 CHANGES TO DENSE, BROWN AND BLACK	689.1	9	28																
		10	10	-	100	SS-4	-	-	-	-	-	-	-	-	-	10	A-3a (V)		
		11	50/3"																
@15.0'; SS-6 CHANGES TO MEDIUM DENSE, BROWN	689.1	12																	
		13	5	37	94	SS-5	-	-	-	-	-	-	-	-	-	9	A-3a (V)		
		14	13	16															
@17.5'; SS-7 CHANGES TO LOOSE	689.1	15	9	27	100	SS-6	-	-	-	-	-	-	-	-	-	6	A-3a (V)		
		16	11	10															
		17	4	10	67	SS-7	-	19	26	37	12	6	NP	NP	NP	10	A-3a (0)		
MEDIUM DENSE, BROWN, GRAVEL WITH SAND , TRACE TO LITTLE SILT, TRACE CLAY, CONTAINS FEW BRICK FRAGMENTS, DAMP (FILL)	674.1	18	5	13	78	SS-8	-	-	-	-	-	-	-	-	-	6	A-1-b (V)		
		19	5	5															
		20	7	19	28	SS-9	-	-	-	-	-	-	-	-	-	7	A-1-b (V)		
LOOSE TO MEDIUM DENSE, BROWN, COARSE AND FINE SAND , TRACE SILT, TRACE GRAVEL, TRACE CLAY, DAMP	669.1	21	5	23	100	SS-10	-	-	-	-	-	-	-	-	-	5	A-3a (V)		
		22	8	10															
		23	5	10															
	669.1	24	3	8	100	SS-11	-	-	-	-	-	-	-	-	-	7	A-3a (V)		
		25	3	3															
		26	3	3															
		27																	
		28																	
		29																	

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:16 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 1077+89, 41' LT.		START: 11/12/14		END: 11/12/14		PG 2 OF 2		B-123-0-14									
MATERIAL DESCRIPTION AND NOTES			ELEV. 663.6	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL			
										GR	CS	FS	SI	CL	LL	PL	PI						
LOOSE TO MEDIUM DENSE, BROWN, COARSE AND FINE SAND , TRACE SILT, TRACE GRAVEL, TRACE CLAY, DAMP <i>(continued)</i> @30.0'; SS-12 CONTAINS 4.0" SILT AND CLAY SEAM				31	3	9	100	SS-12	-	-	-	-	-	-	-	-	7	A-3a (V)					
				32	4																		
				33																			
				34																			
MEDIUM DENSE, BROWN MOTTLED WITH GRAY, SILT , "AND" SAND, TRACE CLAY, TRACE GRAVEL, WET				35	8	27	89	SS-13	-	6	30	52	8	4	NP	NP	NP	5	A-3a (0)				
				36	9	12																	
				37																			
				38																			
MEDIUM DENSE TO DENSE, GRAYISH BROWN, COARSE AND FINE SAND , SOME SILT, TRACE CLAY, TRACE GRAVEL, WET				39	4	21	100	SS-14	-	0	3	37	50	10	NP	NP	NP	26	A-4b (5)				
				40	7	9																	
				41																			
				42																			
MEDIUM DENSE TO DENSE, GRAYISH BROWN, COARSE AND FINE SAND , SOME SILT, TRACE CLAY, TRACE GRAVEL, WET				43																			
				44																			
				45	6	8	25	100	SS-15	-	-	-	-	-	-	-	-	-	-		24	A-3a (V)	
				46	8	11																	
MEDIUM DENSE TO DENSE, GRAYISH BROWN, SILT , LITTLE TO SOME SAND, TRACE CLAY, TRACE GRAVEL, WET				47																			
				48																			
				49																			
				50	9	15	41	100	SS-16	-	-	-	-	-	-	-	-	-	-		21	A-3a (V)	
MEDIUM DENSE TO DENSE, GRAYISH BROWN, SILT , LITTLE TO SOME SAND, TRACE CLAY, TRACE GRAVEL, WET				51	15	17																	
				52																			
				53																			
				54	11	13	37	100	SS-17	-	0	0	40	54	6	NP	NP	NP	23		A-4b (5)		
MEDIUM DENSE TO DENSE, GRAYISH BROWN, SILT , LITTLE TO SOME SAND, TRACE CLAY, TRACE GRAVEL, WET				55																			
				56																			
				57																			
				58																			
MEDIUM DENSE TO DENSE, GRAYISH BROWN, SILT , LITTLE TO SOME SAND, TRACE CLAY, TRACE GRAVEL, WET				59																			
				60																			
				61	7	10	27	100	SS-18	-	-	-	-	-	-	-	-	-	-		22	A-4b (V)	
				62	10	11																	

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 45.0' DURING DRILLING. CAVE DEPTH 17.0'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:17 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / JO.GILBERT</u>	DRILL RIG: <u>CME 55X</u>	STATION / OFFSET: <u>199+84, 120' LT.</u>	EXPLORATION ID <u>B-128-0-14</u>
TYPE: <u>RETAINING WALL</u>	SAMPLING FIRM / LOGGER: <u>BARR / S.PENCE</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>SB E 14TH ST INTERIM</u>	
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>675.4 (MSL)</u> EOB: <u>61.5 ft.</u>	PAGE 1 OF 2
START: <u>11/19/14</u> END: <u>11/19/14</u>	SAMPLING METHOD: <u>SPT / ST</u>	ENERGY RATIO (%): <u>81.2</u>	LAT / LONG: <u>41.494133, -81.678006</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL		
								GR	CS	FS	SI	CL	LL	PL	PI					
LOOSE, BROWN AND DARK GRAY, COARSE AND FINE SAND , LITTLE GRAVEL, LITTLE SILT, TRACE CLAY, MOIST (FILL)	675.4	1	3			SS-1	-	-	-	-	-	-	-	-	-	-	10	A-3a (V)	<<<<<<	
	673.4	2	4	9	67														<<<<<<	
LOOSE TO MEDIUM DENSE, BROWN, COARSE AND FINE SAND , TRACE GRAVEL, TRACE SILT, TRACE CLAY, MOIST @7.5'; SS-4 TO SS-5 (INTERBEDDED WITH SILT)		3	2			SS-2	-	-	-	-	-	-	-	-	-	-	10	A-3a (V)	<<<<<<	
		4	4	5	12	67													<<<<<<	
		5	4	4	11	100	SS-3	-	10	21	54	10	5	NP	NP	NP	11	A-3a (0)	<<<<<<	
		6	4	4	11	100	SS-3	-	10	21	54	10	5	NP	NP	NP	11	A-3a (0)	<<<<<<	
		7	5	5	16	100	SS-4	-	-	-	-	-	-	-	-	-	-	15	A-3a (V)	<<<<<<
		8	5	7	16	100	SS-4	-	-	-	-	-	-	-	-	-	-	15	A-3a (V)	<<<<<<
		9	3	3	8	100	SS-5	-	-	-	-	-	-	-	-	-	-	18	A-3a (V)	<<<<<<
		10	3	3	8	100	SS-5	-	-	-	-	-	-	-	-	-	-	18	A-3a (V)	<<<<<<
		11	3	3	8	100	SS-5	-	-	-	-	-	-	-	-	-	-	18	A-3a (V)	<<<<<<
		12	3	4	14	100	SS-6	-	1	0	6	60	33	27	17	10	24	A-4b (8)	<<<<<<	
STIFF, BROWN, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, CONTAINS NO INTACT SOIL FOR HP READINGS, MOIST TO WET	663.4	13	3																<<<<<<	
	660.0	14	6																<<<<<<	
MEDIUM DENSE TO DENSE, BROWN, COARSE AND FINE SAND , TRACE SILT, TRACE GRAVEL, TRACE CLAY, DAMP TO WET @25.0'; SS-11 TO SS-12 BECOME GRAYISH BROWN @27.5'; SS-12 CONTAINS 1" SEAM OF SANDY SILT		15	5			SS-7A	-	-	-	-	-	-	-	-	-	-	28	A-4b (V)	<<<<<<	
		16	5	4	12	100	SS-7B	-	-	-	-	-	-	-	-	-	17	A-3a (V)	<<<<<<	
		17	6	5	18	100	SS-8	-	-	-	-	-	-	-	-	-	12	A-3a (V)	<<<<<<	
		18	6	5	18	100	SS-8	-	-	-	-	-	-	-	-	-	12	A-3a (V)	<<<<<<	
		19	8	8															<<<<<<	
		20	4	7	22	100	SS-9	-	-	-	-	-	-	-	-	-	7	A-3a (V)	<<<<<<	
		21	4	7	22	100	SS-9	-	-	-	-	-	-	-	-	-	7	A-3a (V)	<<<<<<	
		22	8	9	28	100	SS-10	-	4	35	49	9	3	NP	NP	NP	19	A-3a (0)	<<<<<<	
		23	8	9	28	100	SS-10	-	4	35	49	9	3	NP	NP	NP	19	A-3a (0)	<<<<<<	
		24	6	4	26	100	SS-11	-	-	-	-	-	-	-	-	-	22	A-3a (V)	<<<<<<	
	25	6	4	26	100	SS-11	-	-	-	-	-	-	-	-	-	22	A-3a (V)	<<<<<<		
	26	6	4	26	100	SS-11	-	-	-	-	-	-	-	-	-	22	A-3a (V)	<<<<<<		
	27	7	11	35	100	SS-12	-	-	-	-	-	-	-	-	-	21	A-3a (V)	<<<<<<		
	28	7	11	35	100	SS-12	-	-	-	-	-	-	-	-	-	21	A-3a (V)	<<<<<<		
	29	7	11	35	100	SS-12	-	-	-	-	-	-	-	-	-	21	A-3a (V)	<<<<<<		

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:17 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380 SFN: _____ PROJECT: CUY-CCG3 STATION / OFFSET: 406+76, 128' LT. START: 1/15/15 END: 1/15/15 PG 4 OF 4 B-131-0-14

MATERIAL DESCRIPTION AND NOTES	ELEV. 583.7	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI				
VERY STIFF TO HARD, GRAY, SILT, SOME CLAY, TRACE SAND, TRACE GRAVEL, DAMP TO MOIST (continued)	+++++	95	7																
		96	9	24	100	SS-25	2.20	-	-	-	-	-	-	-	24	A-4b (V)	<V>		
		97																<V>	
		98																<V>	
		99																<V>	
		100	5																<V>
		101	8	26	100	SS-26	2.20	2	1	4	57	36	27	17	10	20	A-4b (8)	<V>	
		102																	<V>
		103																	<V>
		104																	<V>
STIFF, GRAY, SILTY CLAY, TRACE SAND, TRACE GRAVEL, CONTAINS FEW SILT LENSES, MOIST	574.7	105	10															<V>	
		106	13	42	100	SS-27	1.50	-	-	-	-	-	-	-	26	A-6b (V)	<V>		
		107	19															<V>	
STIFF, GRAY, SILT AND CLAY, TRACE SAND, TRACE GRAVEL, INTERBEDDED, MOIST	569.7	108																<V>	
		109																<V>	
		110	5															<V>	
		111	6	20	100	SS-28	1.50	-	-	-	-	-	-	-	22	A-6a (V)	<V>		
	566.5	111	9														<V>		

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 27.5' DURING DRILLING, 26.0' UPON COMPLETION. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:17 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 406+54, 4' RT.		START: 12/3/14		END: 12/3/14		PG 2 OF 2		B-132-0-14							
MATERIAL DESCRIPTION AND NOTES			ELEV. 668.5	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
										GR	CS	FS	SI	CL	LL	PL	PI				
VERY LOOSE, BROWN, FINE SAND , TRACE COARSE SAND, TRACE SILT, TRACE CLAY, TRACE GRAVEL, DAMP TO MOIST (continued) @35.0'; BECOMES SOME COARSE SAND				31	6 4 5	12	100	SS-13	-	-	-	-	-	-	-	-	11	A-3 (V)			
				32																	
				33																	
				34																	
				35	9																
				36	10 11	27	100	SS-14	-	8	34	50	6	2	NP	NP	NP	6		A-3 (0)	
				37																	
				38																	
				39																	
				40	9																
41	5 7	15	100	SS-15	-	-	-	-	-	-	-	-	-	9	A-3 (V)						
42																					
43																					
44																					
45	6																				
46	11 16	35	100	SS-16	-	-	-	-	-	-	-	-	-	12	A-3a (V)						
47																					
48																					
49																					
50	6																				
51	10 11	27	100	SS-17	-	-	-	-	-	-	-	-	-	23	A-3a (V)						
52																					
53																					
54																					
55	5																				
56	11 13	31	100	SS-18	-	-	-	-	-	-	-	-	-	24	A-3a (V)						
57																					
58																					
59							100	ST-19	-	0	1	86	12	1	NP	NP	NP	27	A-3a (0)		
60																					
61	8																				
	15 21	46	100	SS-20	-	-	-	-	-	-	-	-	-	25	A-3a (V)						
			637.0	EOB																	

NOTES: GROUNDWATER ENCOUNTERED AT 49.0' DURING DRILLING, 52.7' UPON COMPLETION. CAVE DEPTH 42.3'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:17 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 408+56, 22' RT.		START: 12/2/14		END: 12/2/14		PG 2 OF 2		B-134-0-14						
MATERIAL DESCRIPTION AND NOTES			ELEV.	DEPTHS	SPT/RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
										GR	CS	FS	SI	CL	LL	PL	PI			
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , TRACE TO LITTLE GRAVEL, TRACE SILT, TRACE CLAY, DAMP (continued)			667.9	31	5	12	94	SS-12	-	-	-	-	-	-	-	-	-	6	A-3a (V)	↖ ↗
				32	4															
				33	5															
				34																
				35																
LOOSE, BROWN, SILT , TRACE SAND, TRACE CLAY, TRACE GRAVEL, CONTAINS 2.5" SEAM OF "SILT AND CLAY", WET			661.9	36	4	9	100	SS-13A	-	-	-	-	-	-	-	-	-	5	A-3a (V)	↖ ↗
				37	3			SS-13B	-	-	-	-	-	-	-	-	-	-	30	
MEDIUM DENSE TO DENSE, BROWN, COARSE AND FINE SAND , SOME SILT, TRACE CLAY, TRACE GRAVEL, DAMP TO WET @45.0'; SS-15 BECOMES GRAYISH BROWN @50.0'; SS-16 TO SS-19 BECOME GRAY			659.6	38		26	100	SS-14	-	-	-	-	-	-	-	-	-	6	A-3a (V)	↖ ↗
				39																
				40	4															
				41	7															
				42	13															
				43																
				44																
				45																
				46	11															
				47	13															
				48	18															
DENSE, GRAY, SANDY SILT , TRACE CLAY, TRACE GRAVEL, WET @58.6'; UNIT WEIGHT: 123.6 PCF @ 25.9% MC			652.9	49		26	100	SS-16	-	-	-	-	-	-	-	-	-	25	A-3a (V)	↖ ↗
				50	4															
				51	9															
				52	11															
				53																
				54																
				55	6															
				56	11															
				57	14															
				58																
DENSE, GRAY, SANDY SILT , TRACE CLAY, TRACE GRAVEL, WET			644.6	59		32	100	SS-17	-	-	-	-	-	-	-	-	-	24	A-4a (V)	↖ ↗
				60																
				61																
				62																
				63																
DENSE, GRAY, SANDY SILT , TRACE CLAY, TRACE GRAVEL, WET			636.4	64		100	100	ST-18	-	0	0	54	43	3	NP	NP	NP	26	A-4a (2)	↖ ↗
				65																
				66																
				67																
DENSE, GRAY, SANDY SILT , TRACE CLAY, TRACE GRAVEL, WET			636.4	68	4	31	100	SS-19	-	-	-	-	-	-	-	-	-	26	A-4a (V)	↖ ↗
				69	10															
				70	14															
EOB																				

NOTES: GROUNDWATER ENCOUNTERED AT 45.0' DURING DRILLING. CAVE DEPTH 38.2'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED .5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:17 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 414+82, 26' LT.		START: 12/2/14		END: 12/3/14		PG 2 OF 2		B-138-0-14							
MATERIAL DESCRIPTION AND NOTES			ELEV. 655.5	DEPTHS		SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
											GR	CS	FS	SI	CL	LL	PL	PI			
MEDIUM STIFF TO STIFF, BROWN MOTTLED WITH GRAY, SILT AND CLAY, TRACE SAND, TRACE GRAVEL, MOIST			654.3	31	12	42	100	SS-13A	-	-	-	-	-	-	-	-	-	-	10	A-3a (V)	↖ ↗
					13																
VERY DENSE, GRAYISH BROWN, COARSE AND FINE SAND, LITTLE SILT, TRACE CLAY, TRACE GRAVEL, WET			652.2	32																	↖ ↗
					33																
DENSE, GRAYISH BROWN, SANDY SILT, TRACE CLAY, TRACE GRAVEL, WET			647.2	34																	↖ ↗
					35																
DENSE TO VERY DENSE, GRAYISH BROWN, SILT, LITTLE CLAY, TRACE SAND, TRACE GRAVEL, DAMP TO MOIST			642.2	36	13	51	100	SS-14	-	-	-	-	-	-	-	-	-	-	20	A-3a (V)	↖ ↗
					37																
@55.0'; SS-18 BECOMES GRAY			623.5	38																	↖ ↗
					39																
@60.0'; ST-19 BECOMES LITTLE SAND @60.8'; UNIT WEIGHT: 137.4 PCF @ 29.1% MC				40	11	34	100	SS-15	-	1	0	48	46	5	NP	NP	NP	23	A-4a (3)	↖ ↗	
					41																12
				42																	↖ ↗
					43																
				44																	↖ ↗
					45																
				46	9	51	100	SS-16	-	-	-	-	-	-	-	-	-	-	22	A-4b (V)	↖ ↗
					47																
				48																	↖ ↗
					49																
				50																	↖ ↗
					51																
				52																	↖ ↗
					53																
				54																	↖ ↗
					55																
				56	11	38	100	SS-18	-	0	0	7	78	15	24	21	3	19	A-4b (8)	↖ ↗	
					57																14
				58																	↖ ↗
					59																
				60																	↖ ↗
					61																
				62																	↖ ↗
					62																

NOTES: GROUNDWATER ENCOUNTERED AT 35.0' DURING DRILLING. CAVE DEPTH 30.0'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:18 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380 SFN: _____ PROJECT: CUY-CCG3 STATION / OFFSET: 182+31, 36' LT. START: 2/26/15 END: 3/9/15 PG 4 OF 4 B-142-0-14

MATERIAL DESCRIPTION AND NOTES	ELEV. 583.2	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
MEDIUM STIFF TO HARD, BROWN, SILT, LITTLE TO SOME CLAY, TRACE SAND, TRACE GRAVEL, MOIST TO WET <i>(continued)</i>		95	6															
		96	12 15	35	100	SS-25	2.90	-	-	-	-	-	-	-	24	A-4b (V)		
		97																
		98																
		99																
		100	4															
		101	5 9	18	100	SS-26	1.25	0	0	0	61	39	26	17	9	22	A-4b (8)	
		102																
		103																
		104																
	105	0																
	106	6 10	21	100	SS-27	1.50	-	-	-	-	-	-	-	-	20	A-4b (V)		
	107																	
	108																	
	109																	
	110																	
	111			100	SS-28	2.50	1	2	4	38	55	31	19	12	24	A-6a (9)		
	112																	
VERY STIFF, GRAY, SILT AND CLAY, TRACE SAND, TRACE GRAVEL, MOIST	569.2																	
@111.5'; UNIT WEIGHT: 129.5 PCF @ 24.3% MC	565.5																	
		EOB																

NOTES: GROUNDWATER ENCOUNTERED AT 27.5 DURING DRILLING. CAVE DEPTH 27.0'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:18 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 430+46, 52' RT.		START: 10/21/14		END: 10/22/14		PG 2 OF 4		B-144-0-14											
MATERIAL DESCRIPTION AND NOTES			ELEV. 639.1	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL					
										GR	CS	FS	SI	CL	LL	PL	PI								
MEDIUM DENSE TO DENSE, GRAYISH BROWN, SANDY SILT , TRACE CLAY, TRACE GRAVEL, WET			639.1	31	10 12 23	45	94	SS-13	-	-	-	-	-	-	-	-	-	24	A-4a (V)						
				32																					
				33																					
				34																					
				35	6																				
				36	12 19	40	89	SS-14	-	0	0	53	43	4	NP	NP	NP		27		A-4a (2)				
				37																					
				38																					
				39																					
				40	4																				
41	7 9	21	100	SS-15	-	-	-	-	-	-	-	-	-	-	-	-	25	A-4a (V)							
42																									
43																									
MEDIUM DENSE, GRAY, SILT , LITTLE CLAY, TRACE SAND, TRACE GRAVEL, WET			626.1	44																					
				45	7																				
46	7 9	21	100	SS-16	-	0	0	3	80	17	25	19	6		24	A-4b (8)									
47																									
STIFF, GRAY, SILT AND CLAY , TRACE SAND, TRACE GRAVEL, MOIST			622.1	48																					
				49																					
				50	4																				
				51	5 5	13	100	SS-17	1.10	0	0	3	62	35	29	18	11		23	A-6a (8)					
52																									
MEDIUM DENSE, GRAY, SILT , LITTLE CLAY, TRACE SAND, TRACE GRAVEL, MOIST TO WET			616.1	53																					
				54																					
				55	9																				
				56	8 9	22	100	SS-18	-	-	-	-	-	-	-	-	-	-	-	21	A-4b (V)				
57																									
STIFF, GRAY, SILT AND CLAY , TRACE SAND, TRACE GRAVEL, MOIST			610.6	58																					
				59																					
				60	3																				
				61	4 6	13	100	SS-19	1.10	-	-	-	-	-	-	-	-	-	-	23	A-6a (V)				

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:18 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380 SFN: _____ PROJECT: CUY-CCG3 STATION / OFFSET: 430+46, 52' RT. START: 10/21/14 END: 10/22/14 PG 4 OF 4 B-144-0-14

MATERIAL DESCRIPTION AND NOTES	ELEV. 574.8	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI				
MEDIUM STIFF TO STIFF, GRAY, SILT AND CLAY, TRACE SAND, TRACE GRAVEL, CONTAINS SILT LENSES, MOIST <i>(continued)</i>	570.6	95	7																
		96	10 14	31	100	SS-26	1.20	-	-	-	-	-	-	-	21	A-6a (V)	<V>		
VERY SOFT TO SOFT, GRAY, SILTY CLAY, TRACE SAND, TRACE GRAVEL, MOIST	557.6	97															<V>		
		98																<V>	
		99																<V>	
		100																<V>	
		101		0 0	0	100	SS-27	0.20	0	1	3	34	62	37	18	19	29	A-6b (12)	<V>
		102																	<V>
		103																	<V>
		104																	<V>
		105		4															<V>
		106		5 6	14	100	SS-28	0.30	-	-	-	-	-	-	-	-	27	A-6b (V)	<V>
	107																	<V>	
	108																	<V>	
	109																	<V>	
	110		6															<V>	
	111		6 8	18	100	SS-29	0.40	-	-	-	-	-	-	-	-	26	A-6b (V)	<V>	

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 20.0' DURING DRILLING. CAVE DEPTH 21.0'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:18 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 306+08, 44' RT.		START: 10/23/14		END: 10/24/14		PG 2 OF 2		B-148-0-14												
MATERIAL DESCRIPTION AND NOTES			ELEV. 637.3	DEPTHS		SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	HOLE SEALED					
											GR	CS	FS	SI	CL	LL	PL	PI								
LOOSE, BROWN, COARSE AND FINE SAND, LITTLE GRAVEL, TRACE SILT, TRACE CLAY, WET (continued)			634.3	31	7	9	29	100	SS-13	-	-	-	-	-	-	-	-	-	22	A-3a (V)	<>					
				32	10																		<>			
MEDIUM DENSE, GRAY, SILT, SOME SAND, TRACE CLAY, TRACE GRAVEL, WET			623.8	33																	<>					
				34																			<>			
				35	5																			<>		
				36	8	27	100	SS-14	-	0	0	34	57	9	NP	NP	NP				28	A-4b (6)	<>			
				37																				<>		
				38																					<>	
				39																					<>	
				40	7																				<>	
				41	8	24	100	SS-15	-	-	-	-	-	-	-	-	-	-	-	-	-			26	A-4b (V)	<>
				42																					<>	
MEDIUM STIFF TO HARD, GRAY, SILT, SOME CLAY, TRACE SAND, TRACE GRAVEL, SS-18 CONTAINS NO INTACT SOIL FOR HP READINGS, MOIST TO WET			605.8	43																		<>				
				44																				<>		
				45	5																			<>		
				46	7	27	100	SS-16	4.50	0	0	2	75	23	27	17	10				20	A-4b (8)	<>			
				47																					<>	
				48																					<>	
				49																					<>	
				50																					<>	
				51	3	5	15	100	SS-17	1.00	-	-	-	-	-	-	-	-	-	-	-			25	A-4b (V)	<>
				52																					<>	
53																					<>					
54																					<>					
55	0																				<>					
56	3	12	100	SS-18	-	0	0	1	73	26	26	17	9					30	A-4b (8)	<>						
57																					<>					
58																					<>					
59																					<>					
60	5																				<>					
61	6	23	100	SS-19	1.60	-	-	-	-	-	-	-	-	-	-	-	-			24	A-4b (V)	<>				
				605.8	EOB																	<>				

NOTES: GROUNDWATER ENCOUNTERED AT 21.0' DURING DRILLING. HOLE DID NOT CAVE.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 1 BAG ASPHALT PATCH; SOIL MIXED WITH 3 BAGS CEMENT

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:18 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 198+05, 39' LT.		START: 12/2/14		END: 12/3/14		PG 2 OF 2		B-151-0-14										
MATERIAL DESCRIPTION AND NOTES			ELEV. 635.4	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL				
										GR	CS	FS	SI	CL	LL	PL	PI							
DENSE, GRAYISH BROWN, COARSE AND FINE SAND , TRACE SILT, TRACE CLAY, TRACE GRAVEL, WET (continued)			627.1	31	3	8	30	100	SS-13	-	-	-	-	-	-	-	-	-	18	A-3a (V)				
				32																				
				33																				
				34																				
DENSE, GRAYISH BROWN, SANDY SILT , TRACE CLAY, TRACE GRAVEL, WET			622.1	35	11	11	38	100	SS-14	-	-	-	-	-	-	-	-	-	19	A-3a (V)				
				36																				
				37																				
				38																				
MEDIUM STIFF TO VERY STIFF, GRAY, SILT , SOME TO "AND" CLAY, TRACE SAND, TRACE GRAVEL, MOIST TO WET			622.1	39																				
				40	10	13	38	100	SS-15	-	0	1	51	42	6	NP	NP	NP	24	A-4a (3)				
				41																				
				42																				
			603.9	43																				
				44																				
				45	7	10	36	100	SS-16	4.00	-	-	-	-	-	-	-	-	-	19		A-4b (V)		
				46																				
			603.9	47																				
				48																				
				49																				
				50	6	6	17	100	SS-17	0.60	0	1	2	61	36	29	19	10	25	A-4b (8)				
			603.9	51																				
				52																				
				53																				
				54																				
			603.9	55	4	3	12	100	SS-18	0.75	-	-	-	-	-	-	-	-	27	A-4b (V)				
				56																				
				57																				
				58																				
			603.9	59																				
				60																				
				61	5	7	29	100	SS-19	1.00	0	1	1	69	29	26	18	8	22	A-4b (8)				
				62																				

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 16.0' DURING DRILLING. CAVE DEPTH 19.7'.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:19 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 201+57, 225' LT.		START: 11/20/14		END: 11/20/14		PG 2 OF 2		B-152-0-14										
MATERIAL DESCRIPTION AND NOTES			ELEV. 645.7	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL				
										GR	CS	FS	SI	CL	LL	PL	PI							
MEDIUM DENSE TO DENSE, BROWN, COARSE AND FINE SAND , LITTLE SILT, TRACE CLAY, TRACE GRAVEL, DAMP TO WET (continued)			645.7	31	11 12 16	38	100	SS-13	-	-	-	-	-	-	-	-	-	17	A-3a (V)					
				32																				
				33																				
				34																				
@35.0'; SS-14 BECOMES GRAY			637.4	35	8 13 13	35	67	SS-14	-	0	1	77	19	3	NP	NP	NP	24	A-3a (V)					
				36																				
				37																				
				38																				
MEDIUM DENSE, GRAY, SANDY SILT , TRACE CLAY, TRACE GRAVEL, WET			637.4	39																				
				40	4 9 11	27	100	SS-15	-	0	0	62	33	5	NP	NP	NP	26	A-4a (1)					
				41																				
				42																				
@45.0'; SS-16 BECOMES VERY DENSE			627.4	43																				
				44																				
				45	11 21 24	61	100	SS-16	-	-	-	-	-	-	-	-	-	-	-		22	A-4a (V)		
				46																				
MEDIUM DENSE TO DENSE, GRAY, SILT , LITTLE SAND, TRACE TO LITTLE CLAY, TRACE GRAVEL, INTERBEDDED, WET			614.2	47																				
				48																				
				49																				
				50	3 5 8	18	100	SS-17	-	-	-	-	-	-	-	-	-	-	-		20	A-4a (V)		
			614.2	51																				
				52																				
				53																				
				54																				
			614.2	55	12 12 12	32	100	SS-18	-	0	0	17	73	10	NP	NP	NP	19	A-4b (8)					
				56																				
				57																				
				58																				
			614.2	59																				
				60	4 6 6	16	100	SS-19	-	-	-	-	-	-	-	-	-	-	26		A-4b (V)			
				61																				
				61																				

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 22.0' DURING DRILLING. CAVE DEPTH 21.5'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:19 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 199+06, 204' LT.		START: 11/18/14		END: 11/19/14		PG 2 OF 2		B-154-0-14										
MATERIAL DESCRIPTION AND NOTES			ELEV. 647.2	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL				
										GR	CS	FS	SI	CL	LL	PL	PI							
MEDIUM DENSE TO DENSE, BROWN, COARSE AND FINE SAND , LITTLE SILT, TRACE CLAY, TRACE GRAVEL, MOIST TO WET (continued)			647.2	31	5 6 8	19	100	SS-13	-	0	4	77	16	3	NP	NP	NP	21	A-3a (0)					
				32																				
				33																				
				34																				
				35																				
@35.0'; SS-14 BECOMES GRAYISH BROWN			638.9	36	9 11 12	31	100	SS-14	-	-	-	-	-	-	-	-	-	20	A-3a (V)					
				37																				
MEDIUM DENSE TO VERY DENSE, GRAYISH BROWN, SILT , SOME CLAY TRACE SAND, TRACE GRAVEL, CONTAINS NO INTACT SOIL FOR HP READINGS, DAMP TO MOIST			638.9	38																				
				39																				
				40																				
				41	9 11 11	30	100	SS-15	-	-	-	-	-	-	-	-	-	-	-	-		23	A-4b (V)	
				42																				
				43																				
				44																				
				45																				
				46	13 15 23	51	100	SS-16	-	-	-	-	-	-	-	-	-	-	-	-		22	A-4b (V)	
				47																				
STIFF TO VERY STIFF, GRAYISH BROWN, SILT , SOME CLAY TRACE SAND, TRACE GRAVEL, MOIST			618.9	50	4 7 9	22	67	SS-17	-	0	0	5	72	23	25	19	6	19	A-4b (8)					
				51																				
				52																				
				53																				
				54																				
STIFF TO VERY STIFF, GRAYISH BROWN, SILT , SOME CLAY TRACE SAND, TRACE GRAVEL, MOIST			615.7	55	10 13 17	41	100	SS-18	-	-	-	-	-	-	-	-	-	19	A-4b (V)					
				56																				
				57																				
				58																				
				59																				
				60																				
				61	3 5 7	16	100	SS-19	2.00	0	0	1	70	29	29	19	10	23	A-4b (8)					

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 24.5' DURING DRILLING. CAVE DEPTH 23.0'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS


STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:19 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 416+02, 271' LT.		START: 1/6/15		END: 1/12/15		PG 2 OF 2		B-155-0-14						
MATERIAL DESCRIPTION AND NOTES			ELEV. 644.0	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
										GR	CS	FS	SI	CL	LL	PL	PI			
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , LITTLE TO SOME SILT, TRACE CLAY, TRACE GRAVEL, MOIST TO WET (continued)			640.7	31	3 9 11	26	100	SS-13	-	-	-	-	-	-	-	-	-	23	A-3a (V)	<V>
MEDIUM DENSE, GRAYISH BROWN, SANDY SILT , TRACE CLAY, TRACE GRAVEL, WET				635.7	35	4 10 12	28	100	SS-14	-	0	0	53	42	5	NP	NP	NP	26	A-4a (2)
VERY DENSE, GRAYISH BROWN, COARSE AND FINE SAND , LITTLE SILT, TRACE CLAY, TRACE GRAVEL, WET			630.7		40	12 20 26	59	100	SS-15	-	-	-	-	-	-	-	-	-	21	A-3a (V)
MEDIUM STIFF TO VERY STIFF, GRAY, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, MOIST TO WET				615.7	45	3 5 4	12	100	SS-16	0.50	0	0	5	63	32	29	20	9	27	A-4b (8)
GRAY, SILT , LITTLE SAND, TRACE CLAY, TRACE GRAVEL, DAMP			612.0		50	5 6 8	18	100	SS-17	2.30	-	-	-	-	-	-	-	-	20	A-4b (V)
				612.0	55	6 8 10	23	100	SS-18	1.80	-	-	-	-	-	-	-	-	21	A-4b (V)
			612.0		60															
				612.0	61			76	ST-19	-	0	0	14	77	9	NP	NP	NP	20	A-4b (8)
			62																	

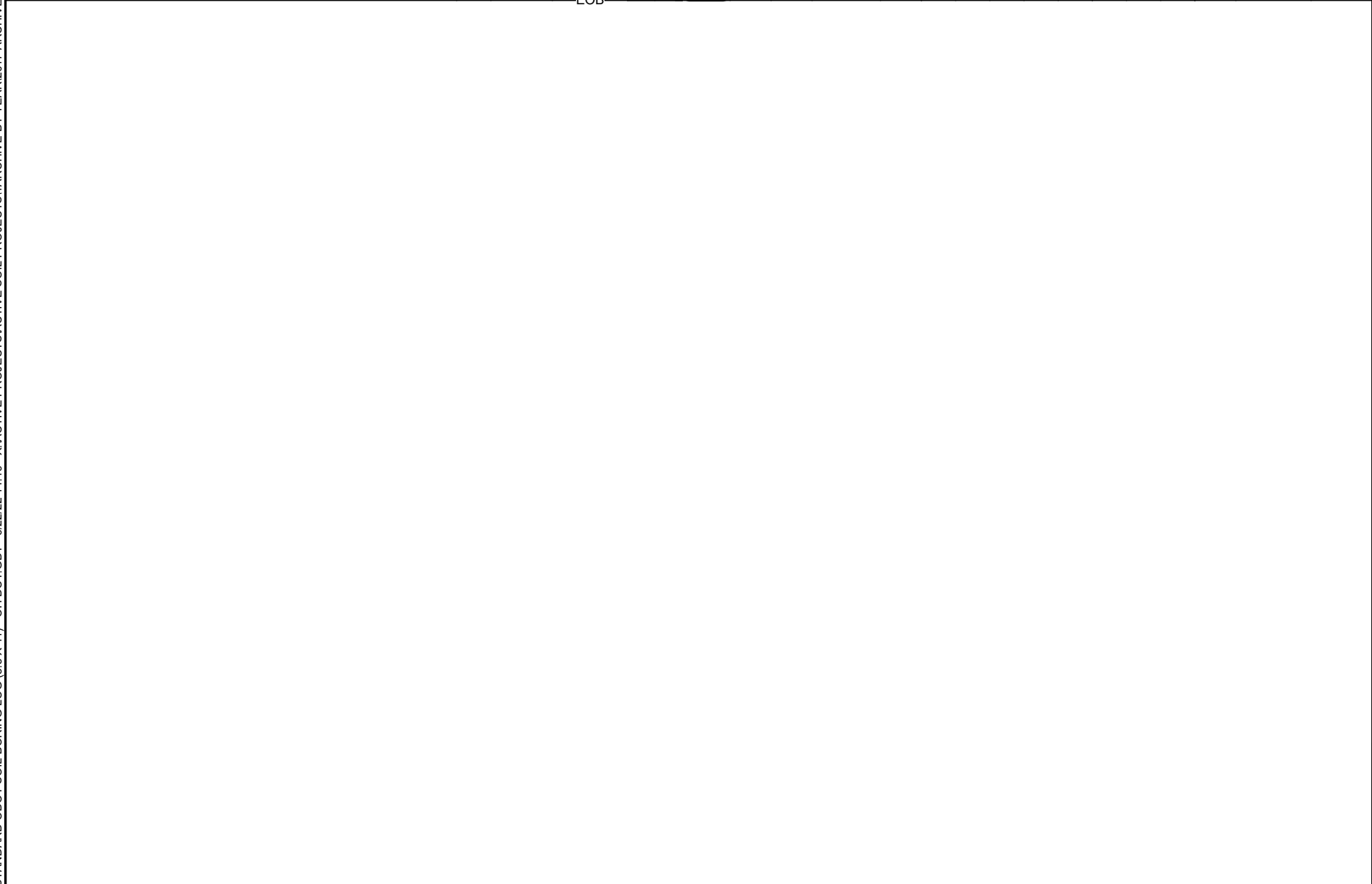
EOB

NOTES: GROUNDWATER ENCOUNTERED AT 24.5' DURING DRILLING, 12.0' UPON COMPLETION. CAVE DEPTH 19.0'.

ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

PID: 82380	SFN: _____	PROJECT: CUY-CCG3	STATION / OFFSET: 418+48, 330' LT.	START: 1/13/15	END: 1/13/15	PG 2 OF 2	B-156-0-14											
MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
	643.8							GR	CS	FS	SI	CL	LL	PL	PI			
	642.3	31	4 5 7	15	100	SS-13	-	-	-	-	-	-	-	-	20	A-3a (V)	<L> <V> <L>	

EOB



NOTES: GROUNDWATER ENCOUNTERED AT 22.5' DURING DRILLING. CAVE DEPTH 10.0'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:19 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380 SFN: _____ PROJECT: CUY-CCG3 STATION / OFFSET: 1607+41, 37' RT. START: 11/20/14 END: 11/21/14 PG 4 OF 4 B-157-0-14

MATERIAL DESCRIPTION AND NOTES	ELEV. 600.2	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI				
STIFF TO HARD, GRAY, SILT, SOME CLAY, TRACE SAND, TRACE GRAVEL, MOIST TO DAMP (continued)	+++++	95	7																
		96	10 15	34	100	SS-26	4.50	-	-	-	-	-	-	-	17	A-4b (V)	<V>		
		97																<V>	
STIFF TO VERY STIFF, GRAY, SILT AND CLAY, TRACE SAND, TRACE GRAVEL, INTERBEDDED, MOIST		596.2																	
		98																<V>	
		99																<V>	
		100	6															<V>	
		101	8 14	30	100	SS-27	2.00	0	0	1	55	44	30	18	12	20	A-6a (9)	<V>	
		102																	<V>
		103																	<V>
		104																	<V>
		105	4																<V>
106	7 9	22	100	SS-28	2.90	-	-	-	-	-	-	-	-	24	A-6a (V)	<V>			
107																	<V>		
108																	<V>		
109																	<V>		
110	4																<V>		
111	6 10	22	100	SS-29	2.00	-	-	-	-	-	-	-	-	21	A-6a (V)	<V>			
	583.0	EOB															<V>		

NOTES: GROUNDWATER NOT ENCOUNTERED DURING DRILLING. CAVE DEPTH 53.0'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:19 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / J.GILBERT</u>	DRILL RIG: <u>CME 55</u>	STATION / OFFSET: <u>32+82, 30' LT.</u>	EXPLORATION ID <u>B-158-0-14</u>
TYPE: <u>BRIDGE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>SB E 14TH ST</u>	PAGE 1 OF 4
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>678.6 (MSL)</u> EOB: <u>112.0 ft.</u>	
START: <u>3/10/15</u> END: <u>3/10/15</u>	SAMPLING METHOD: <u>SPT / ST</u>	ENERGY RATIO (%): <u>78.8</u>	LAT / LONG: <u>41.495673, -81.677588</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
LOOSE, BROWN, COARSE AND FINE SAND , LITTLE SILT, TRACE CLAY, TRACE GRAVEL, DAMP (FILL)	678.6		3															
	677.1	1	3	9	100	SS-1	-	-	-	-	-	-	-	-	-	-	10	A-3a (V)
STIFF TO VERY STIFF, BROWN AND GRAY, SILT AND CLAY , SOME SAND, TRACE GRAVEL, MOIST TO DAMP (FILL)		2	5	17	100	SS-2	4.00	2	6	21	40	31	29	15	14	16	A-6a (9)	
		3	6	7														
	674.1	4	1	12	100	SS-3	1.25	-	-	-	-	-	-	-	-	-	14	A-6a (V)
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , TRACE SILT, TRACE CLAY, TRACE GRAVEL, DAMP (FILL)		5	8	22	100	SS-4	-	-	-	-	-	-	-	-	-	-	10	A-3a (V)
	671.8	6	9	8														
MEDIUM DENSE, BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, DAMP (FILL)		7																
	669.1	8	5	18	100	SS-5	-	22	41	28	6	3	NP	NP	NP	7	A-1-b (0)	
		9	7	7														
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , TRACE SILT, TRACE CLAY, TRACE GRAVEL, DAMP (FILL)		10	4	14	100	SS-6	-	-	-	-	-	-	-	-	-	-	8	A-3a (V)
	666.6	11	5	6														
LOOSE, BROWN, SANDY SILT , LITTLE CLAY, TRACE GRAVEL, MOIST (FILL)		12																
	664.1	13	3	8	100	SS-7	-	5	4	35	42	14	NP	NP	NP	17	A-4a (4)	
		14	3	3														
LOOSE TO DENSE, BROWN, COARSE AND FINE SAND , TRACE TO LITTLE SILT, TRACE CLAY, TRACE GRAVEL, DAMP TO WET		15	3	8	100	SS-8	-	-	-	-	-	-	-	-	-	-	11	A-3a (V)
		16	3	3														
@17.5'; SS-9 TO SS-11 BECOMES LIGHT BROWN		17																
		18	3	18	100	SS-9	-	-	-	-	-	-	-	-	-	-	9	A-3a (V)
		19	6	8														
		20																
		21	4	16	100	SS-10	-	6	12	66	8	8	NP	NP	NP	8	A-3a (0)	
		22	5	7														
		23	3	16	100	SS-11	-	-	-	-	-	-	-	-	-	-	8	A-3a (V)
		24	5	7														
@25.0'; SS-12 TO SS-16 BECOMES DARK BROWN		25																
		26	3	25	100	SS-12	-	-	-	-	-	-	-	-	-	-	11	A-3a (V)
		27	8	11														
		28																
		29	4	18	100	SS-13	-	-	-	-	-	-	-	-	-	-	27	A-3a (V)
		30	5	9														

W 651.1

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:19 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 32+82, 30' LT.		START: 3/10/15		END: 3/10/15		PG 2 OF 4		B-158-0-14												
MATERIAL DESCRIPTION AND NOTES			ELEV. 648.6	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL						
										GR	CS	FS	SI	CL	LL	PL	PI									
LOOSE TO DENSE, BROWN, COARSE AND FINE SAND , TRACE TO LITTLE SILT, TRACE CLAY, TRACE GRAVEL, DAMP TO WET (continued)				648.6	31	4 6 9	20	100	SS-14	-	0	5	71	19	5	NP	NP	NP	24	A-3a (0)						
					32																					
					33																					
					34																					
					35	7																				
					36	13 25	50	100	SS-15	-	-	-	-	-	-	-	-	-	-	-		-	21	A-3a (V)		
					37																					
					38																					
					39																					
					40	7																				
41	10 11	28	100	SS-16	-	-	-	-	-	-	-	-	-	-	-	-	-	23	A-3a (V)							
42																										
43																										
44																										
45	10																									
46	15 20	46	100	SS-17	-	-	-	-	-	-	-	-	-	-	-	-	-	20	A-4b (V)							
47																										
48																										
49																										
50	7																									
51	9 13	29	100	SS-18	-	0	0	18	64	18	NP	NP	NP	NP	NP	NP	22	A-4b (8)								
52																										
53																										
54																										
55	10																									
56	13 13	34	100	SS-19	-	-	-	-	-	-	-	-	-	-	-	-	-	21	A-4b (V)							
57																										
58																										
59																										
60																										
61			100	SS-20	-	0	0	6	73	21	NP	NP	NP	NP	NP	NP	20	A-4b (8)								

@60.0'; ST-20 BECOMES SOME CLAY, TRACE SAND

@61.6'; UNIT WEIGHT: 135.8 PCF @ 20.4% MC

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:19 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380 SFN: _____ PROJECT: CUY-CCG3 STATION / OFFSET: 32+82, 30' LT. START: 3/10/15 END: 3/10/15 PG 4 OF 4 B-158-0-14

MATERIAL DESCRIPTION AND NOTES	ELEV. 584.4	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI			
MEDIUM STIFF TO HARD, GRAY, SILT, SOME CLAY, TRACE SAND, TRACE GRAVEL, DAMP TO MOIST (continued)																		
@96.5'; UNIT WEIGHT: 134.1 PCF @ 19.1% MC																		
		95																
		96			100	SS-27	3.00	0	0	0	67	33	26	19	7	19	A-4b (8)	
		97																
		98																
		99																
		100	8															
		101	12 16	37	100	SS-28	4.50	-	-	-	-	-	-	-	-	17	A-4b (V)	
		102																
		103																
		104																
		105	4															
		106	6 8	18	100	SS-29	0.60	-	-	-	-	-	-	-	-	24	A-4b (V)	
		107																
	570.3	108																
MEDIUM STIFF TO STIFF, GRAY, SILTY CLAY, TRACE SAND, TRACE GRAVEL, MOIST		109																
		110																
@111.6'; UNIT WEIGHT: 120.9 PCF @ 31.8% MC		111			100	SS-30	1.00	1	1	2	26	70	38	21	17	32	A-6b (11)	
	566.6	112																
		EOB																

NOTES: GROUNDWATER ENCOUNTERED AT 27.5' DURING DRILLING. CAVE DEPTH 26.0'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: PLACED 0.5 BAG ASPHALT PATCH; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:20 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / D.SHOPE</u>	DRILL RIG: <u>CME 55</u>	STATION / OFFSET: <u>1613+12, 66' RT.</u>	EXPLORATION ID <u>B-159-0-14</u>
TYPE: <u>BRIDGE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>RAMP B6</u>	
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>672.0 (MSL)</u> EOB: <u>86.5 ft.</u>	PAGE 1 OF 3
START: <u>12/2/14</u> END: <u>12/3/14</u>	SAMPLING METHOD: <u>SPT / ST</u>	ENERGY RATIO (%): <u>78.8</u>	LAT / LONG: <u>41.496483, -81.676402</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG				ODOT CLASS (GI)	BACK FILL
								GR	CS	FS	SI	CL	LL	PL	PI	WC		
4.5", ASPHALT	671.6																	
7.5", GRANULAR BASE	671.0																	
MEDIUM DENSE, DARK GRAY AND BROWN, GRAVEL WITH SAND AND SILT , TRACE CLAY, CONTAINS BRICK FRAGMENTS AND CINDERS, MOIST (FILL)	667.5	1	4	12	100	SS-1	-	-	-	-	-	-	-	-	-	15	A-2-4 (V)	
MEDIUM DENSE, BROWN, FINE SAND , TRACE COARSE SAND, TRACE SILT, TRACE GRAVEL, TRACE CLAY, CONTAINS BRICK FRAGMENTS, DAMP (FILL)	665.0	2	3	11	100	SS-2	-	-	-	-	-	-	-	-	-	7	A-3 (V)	
MEDIUM DENSE, BROWN AND LIGHT BROWN AND LIGHT GRAY, SANDY SILT , TRACE CLAY, TRACE GRAVEL, CONTAINS SILT SEAMS, MOIST (FILL)	662.5	3	5	17	100	SS-3	-	2	4	54	31	9	NP	NP	NP	16	A-4a (1)	
STIFF, BROWN MOTTLED WITH GRAYISH BROWN, SILT AND CLAY , TRACE SAND, TRACE GRAVEL, MOIST	658.8	4	2	5	100	SS-4	1.50	1	0	4	56	39	34	19	15	24	A-6a (10)	
MEDIUM DENSE, BROWN, COARSE AND FINE SAND , LITTLE SILT, TRACE GRAVEL, TRACE CLAY, DAMP	655.0	5	5	28	100	SS-5A	1.90	1	1	5	56	37	32	20	12	24	A-6a (9)	
		6	8	13		SS-5B	-	-	-	-	-	-	-	-	-	8	A-3a (V)	
MEDIUM DENSE, BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, DRY TO DAMP	650.0	7	7	28	100	SS-6	-	-	-	-	-	-	-	-	-	5	A-3a (V)	
MEDIUM DENSE, BROWN, GRAVEL WITH SAND , TRACE SILT, TRACE CLAY, DRY TO DAMP	647.5	8	7	30	100	SS-7	-	23	54	12	8	3	NP	NP	NP	3	A-1-b (0)	
@20.0'; SS-8 BECOMES LOOSE		9	6	8	100	SS-8	-	-	-	-	-	-	-	-	-	9	A-1-b (V)	
@21.1'; UNIT WEIGHT: 125.1 PCF @ 28.1% MC		10	4	2														
VERY SOFT, BROWN, CLAY , "AND" SILT, TRACE SAND, TRACE GRAVEL, MOIST	644.7	11	0	5	100	SS-9	0.15	1	0	1	36	62	43	21	22	34	A-7-6 (13)	
VERY STIFF, GRAY, SILT AND CLAY , TRACE SAND, TRACE GRAVEL, WET	644.7	12	2															
MEDIUM DENSE, GRAY, SANDY SILT , TRACE CLAY, TRACE GRAVEL, CONTAINS SILT SEAMS, WET	642.5	13	2	17	100	SS-11	-	-	-	-	-	-	-	-	-	24	A-4a (V)	

▼
W 644.5

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:20 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 1613+12, 66' RT.		START: 12/2/14		END: 12/3/14		PG 2 OF 3		B-159-0-14								
MATERIAL DESCRIPTION AND NOTES			ELEV. 642.0	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL		
										GR	CS	FS	SI	CL	LL	PL	PI					
MEDIUM DENSE, GRAY, COARSE AND FINE SAND , LITTLE SILT, TRACE CLAY, TRACE GRAVEL, WET (continued)			642.0	31	4 8 12	26	100	SS-12	-	-	-	-	-	-	-	-	-	22	A-3a (V)			
				32																		
				33																		
				34																		
MEDIUM DENSE, GRAY, SANDY SILT , TRACE CLAY, TRACE GRAVEL, MOIST			633.7	35	4 7 11	24	100	SS-13	-	-	-	-	-	-	-	-	-	20	A-3a (V)			
				36																		
				37																		
				38																		
VERY STIFF TO HARD, GRAY, SILT , TRACE TO SOME SAND, LITTLE TO SOME CLAY, TRACE GRAVEL, MOIST			628.7	39																		
				40	7 8 13	28	100	SS-14	-	-	-	-	-	-	-	-	-	-	20		A-4a (V)	
				41																		
				42																		
@60.0'; UNIT WEIGHT: 131.3 PCF @ 20.8% MC VERY STIFF TO HARD, GRAY, SILT , TRACE TO SOME SAND, LITTLE TO SOME CLAY, TRACE GRAVEL, MOIST			628.7	43																		
				44																		
				45	8 10 16	34	100	SS-15	3.70	0	3	22	59	16	22	16	6	18	A-4b (8)			
				46																		
				47																		
				48																		
				49																		
				50	6 8 12	26	100	SS-16	4.00	-	-	-	-	-	-	-	-	-	19		A-4b (V)	
				51																		
				52																		
				53																		
54																						
55	9 22 22	58	100	SS-17	3.00	-	-	-	-	-	-	-	-	-	16	A-4b (V)						
56																						
57																						
58																						
59																						
60																						
61			100	ST-18	2.20	0	1	0	73	26	27	18	9	21	A-4b (8)							

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:20 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 197+39, 180' RT.		START: 12/3/14		END: 12/4/14		PG 2 OF 2		B-162-0-14							
MATERIAL DESCRIPTION AND NOTES			ELEV. 639.4	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
										GR	CS	FS	SI	CL	LL	PL	PI				
MEDIUM DENSE TO VERY DENSE, DARK GRAY AND BROWN TO BROWN, COARSE AND FINE SAND , LITTLE SILT, TRACE CLAY, TRACE GRAVEL, WET (<i>continued</i>) @35.0'; SS-14 BECOMES GRAY			639.4	31	16 20 12	41	100	SS-13	-	-	-	-	-	-	-	-	14	A-3a (V)			
				32																	
				33																	
				34																	
				35																	
				36																	
				37																	
				38																	
				39																	
				40																	
STIFF TO HARD, GRAYISH BROWN, SILT , SOME CLAY, TRACE SAND, TRACE GRAVEL, DAMP TO MOIST			625.9	41	10 20 23	55	100	SS-15	-	-	-	-	-	-	-	-	21	A-3a (V)			
				42																	
				43																	
				44																	
				45																	
				46																	
				47																	
				48																	
				49																	
				50																	
STIFF, GRAYISH BROWN, SILT AND CLAY , TRACE SAND, TRACE GRAVEL, DAMP			611.2	50	2 6 8	18	100	SS-17	3.50	-	-	-	-	-	-	-	19	A-4b (V)			
				51																	
				52																	
				53																	
				54																	
				55																	
				56																	
				57																	
				58																	
				59																	
STIFF, GRAYISH BROWN, SILT AND CLAY , TRACE SAND, TRACE GRAVEL, DAMP			607.9	60	4 5 7	15	100	SS-19	1.70	-	-	-	-	-	-	-	22	A-6a (V)			
				61																	

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 20.0' DURING DRILLING. CAVE DEPTH 20.0'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:20 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 578+19, 7' RT.		START: 12/9/14		END: 12/9/14		PG 2 OF 2		B-164-0-14									
MATERIAL DESCRIPTION AND NOTES			ELEV. 665.5	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL			
										GR	CS	FS	SI	CL	LL	PL	PI						
LOOSE TO MEDIUM DENSE, BROWN, COARSE AND FINE SAND , TRACE GRAVEL, TRACE SILT, TRACE CLAY, CONTAINS BRICK FRAGMENTS, MOIST (continued) (FILL)			665.5	31	4 3	9	100	SS-12	-	-	-	-	-	-	-	-	-	11	A-3a (V)				
				32																			
				33																			
				34																			
@35.0'; SS-13 CONTAINS 2 RED BRICK FRAGMENTS			657.2	35	6																		
				36	6 7	20	11	SS-13	-	-	-	-	-	-	-	-	-	-	11				
LOOSE, BROWN, COARSE AND FINE SAND , TRACE SILT, TRACE CLAY, TRACE GRAVEL, MOIST TO WET			655.7	37																			
				38																			
				39																			
				40	2																		
				41	3 3	9	100	SS-14	-	-	-	-	-	-	-	-	-	-	-		10	A-3a (V)	
				42																			
				43																			
				44																			
				45	6																		
				46	7 12	29	100	SS-15	-	3	21	63	9	4	NP	NP	NP		15		A-3a (0)		
@45.0'; SS-15 TO SS-17 BECOME MEDIUM DENSE TO DENSE			637.0	47																			
				48																			
				49																			
				50																			
@50.0'; SS-16 TO SS-17 BECOME BROWN AND GRAY			637.0	51	3 2	8	15	100	SS-16	-	-	-	-	-	-	-	23	A-3a (V)					
				52																			
DENSE, GRAYISH BROWN, SANDY SILT , TRACE CLAY, TRACE GRAVEL, WET			634.0	53																			
				54																			
				55																			
				56	9 12 12	36	100	SS-17	-	-	-	-	-	-	-	-	-	-		18	A-3a (V)		
EOB			634.0	57																			
				58																			
				59																			
				60	6																		
				61	10 16	39	100	SS-18	-	0	0	49	44	7	NP	NP	NP			24	A-4a (3)		

NOTES: GROUNDWATER ENCOUNTERED AT 39.8' DURING DRILLING. CAVE DEPTH 32.3'

ABANDONMENT METHODS, MATERIALS, QUANTITIES: POURED .5 BAG CEMENT; SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:20 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 581+00, 22' LT.		START: 11/24/14		END: 11/25/14		PG 2 OF 2		B-166-0-14															
MATERIAL DESCRIPTION AND NOTES			ELEV. 657.0	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL									
										GR	CS	FS	SI	CL	LL	PL	PI												
BROWN AND GRAY, SILT, LITTLE CLAY, TRACE SAND, TRACE GRAVEL, WET (continued) @31.6'; UNIT WEIGHT: 126.6 PCF @ 25.6% MC			657.7	31			100	ST-12	-	0	0	2	87	11	NP	NP	NP	26	A-4b (8)	<V>									
MEDIUM DENSE TO VERY DENSE, BROWN, COARSE AND FINE SAND, LITTLE SILT, TRACE CLAY, TRACE GRAVEL, WET @40.0'; SS-14 TO SS-17 BECOMES GRAYISH BROWN				653.7	32																<V>								
			653.7		33																<V>								
					653.7	34																<V>							
						653.7	35	4															<V>						
							653.7	36	4 8	18	100	SS-13	-	-	-	-	-	-	-	-	-	24	A-3a (V)	<V>					
								653.7	37																<V>				
									653.7	38																<V>			
										653.7	39																<V>		
											653.7	40	4															<V>	
												653.7	41	5 12	26	100	SS-14	-	-	-	-	-	-	-	-	-	23	A-3a (V)	<V>
													653.7	42															
				653.7										43															
			653.7											44															
					653.7									45	7														
						653.7								46	10 13	35	100	SS-15	-	0	2	80	15	3	NP	NP	NP	22	A-3a (0)
							653.7							47															
								653.7						48															
									653.7					49															
										653.7				50	11														
											653.7			51	17 18	53	100	SS-16	-	-	-	-	-	-	-	-	-	20	A-3a (V)
												653.7		52															
													653.7	53															
				653.7										54															
			653.7											55	4														
					653.7									56	8 14	33	100	SS-17	-	-	-	-	-	-	-	-	-	26	A-3a (V)
						653.7								57															
							653.7							58															
STIFF, GRAY, SILT, SOME CLAY, TRACE SAND, TRACE GRAVEL, MOIST								628.5						59															
									628.5					60	5														
										628.5				61	6 6	18	100	SS-18	1.30	0	0	6	71	23	26	18	8	20	A-4b (8)
											628.5			62															
												628.5		63															
													628.5	64															
				628.5										65															
			628.5											66															
					628.5									67															
						628.5								68															
							628.5							69															
								628.5						70															
									628.5					71															
										628.5				72															
											628.5			73															
												628.5		74															
													628.5	75															
				628.5										76															
			628.5											77															
					628.5									78															
						628.5								79															
							628.5							80															
								628.5						81															
									628.5					82															
										628.5				83															
											628.5			84															
												628.5		85															
													628.5	86															
				628.5										87															
			628.5											88															
					628.5									89															
						628.5								90															
							628.5							91															
								628.5						92															
									628.5					93															
										628.5				94															
											628.5			95															
												628.5		96															
													628.5	97															
				628.5										98															
			628.5											99															
					628.5									100															
						628.5								101															
							628.5							102															
								628.5						103															
									628.5					104															
										628.5				105															
											628.5			106															
												628.5		107															
													628.5	108															
				628.5										109															
			628.5											110															
					628.5									111															
						628.5								112															
							628.5							113															
								628.5						114															
									628.5					115															
										628.5				116															
											628.5			117															
												628.5		118															
													628.5	119															
				628.5										120															
			628.5											121															
					628.5									122															
						628.5																							

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:21 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PID: 82380		SFN: _____		PROJECT: CUY-CCG3		STATION / OFFSET: 204+04, 92' LT.		START: 11/20/14		END: 11/21/14		PG 2 OF 2		B-167-0-14									
MATERIAL DESCRIPTION AND NOTES			ELEV. 641.9	DEPTHS	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL			
										GR	CS	FS	SI	CL	LL	PL	PI						
MEDIUM DENSE, BROWN, FINE SAND , TRACE SILT, TRACE COARSE SAND, TRACE CLAY, TRACE GRAVEL, DAMP (continued)			641.9	31	5 8 10	27	100	SS-13	-	-	-	-	-	-	-	-	-	6	A-3 (V)				
				32																			
				33																			
				34																			
				35	4 4 6	15	100	SS-14	-	0	3	91	4	2	NP	NP	NP	24	A-3 (0)				
MEDIUM DENSE, GRAYISH BROWN, COARSE AND FINE SAND , TRACE GRAVEL, TRACE SILT, TRACE CLAY, WET TO MOIST			633.6	36																			
				37																			
				38																			
				39																			
				40	3 3 7	15	100	SS-15	-	-	-	-	-	-	-	-	-	45	A-3a (V)				
MEDIUM DENSE TO DENSE, GRAYISH BROWN, SILT , LITTLE CLAY, TRACE SAND, TRACE GRAVEL, MOIST			618.6	41																			
				42																			
				43																			
				44																			
				45	3 5 7	18	100	SS-16	-	-	-	-	-	-	-	-	-	22	A-3a (V)				
MEDIUM DENSE TO DENSE, GRAYISH BROWN, SILT , LITTLE CLAY, TRACE SAND, TRACE GRAVEL, MOIST			610.4	46																			
				47																			
				48																			
				49																			
				50	8 11 14	38	100	SS-17	-	-	-	-	-	-	-	-	-	15	A-3a (V)				
			610.4	51																			
				52																			
				53																			
				54																			
				55	9 11 10	32	100	SS-18	-	-	-	-	-	-	-	-	-	25	A-4b (V)				
			610.4	56																			
				57																			
				58																			
				59																			
				60	4 7 7	21	100	SS-19	-	0	0	5	78	17	25	20	5	22	A-4b (8)				
				61																			

EOB

NOTES: GROUNDWATER ENCOUNTERED AT 17.5' DURING DRILLING, DRY AFTER DRILLING. CAVE DEPTH 19.6'.
 ABANDONMENT METHODS, MATERIALS, QUANTITIES: SHOVELED SOIL CUTTINGS

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:21 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1\ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 45B</u>	STATION / OFFSET: <u>56+24, 53' RT.</u>	EXPLORATION ID <u>B-169-0-14</u>
TYPE: <u>RETAINING WALL</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.LYON</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>CARNEGIE AVE</u>	PAGE 1 OF 2
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>671.9 (MSL)</u> EOB: <u>61.0 ft.</u>	
START: <u>11/18/14</u> END: <u>11/18/14</u>	SAMPLING METHOD: <u>SPT / ST</u>	ENERGY RATIO (%): <u>77.4</u>	LAT / LONG: <u>41.499079, -81.673039</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI				
3.0", ASPHALT MEDIUM DENSE, DARK BROWN, COARSE AND FINE SAND, LITTLE GRAVEL, LITTLE SILT, TRACE CLAY, CONTAINS BRICK FRAGMENTS, MOIST (FILL) @2.5'; SS-2 CHANGES TO BROWN	671.9																		
	671.7	1	6	21	56	SS-1	-	14	23	43	13	7	NP	NP	NP	11	A-3a (0)		
		2	8	8															
LOOSE TO MEDIUM DENSE, BROWN, FINE SAND, SOME COARSE SAND, TRACE GRAVEL, TRACE SILT, TRACE CLAY, DAMP	667.4	3	7	26	83	SS-2	-	-	-	-	-	-	-	-	-	11	A-3a (V)		
		4	8	12															
		5	4																
		6	7	18	83	SS-3	-	-	-	-	-	-	-	-	-	7	A-3 (V)		
		7																	
		8	4	5	14	83	SS-4	-	-	-	-	-	-	-	-	5	A-3 (V)		
		9		6															
		10	3	4	10	72	SS-5	-	9	35	50	4	2	NP	NP	NP	5	A-3 (0)	
		11		4															
		12																	
LOOSE TO MEDIUM DENSE, BROWN, COARSE AND FINE SAND, TRACE GRAVEL, TRACE SILT, TRACE CLAY, DAMP TO MOIST	659.9	13	3	10	89	SS-6	-	-	-	-	-	-	-	-	-	8	A-3a (V)		
		14	4	4															
		15	7																
		16	4	13	100	SS-7	-	-	-	-	-	-	-	-	-	15	A-3a (V)		
LOOSE TO MEDIUM DENSE, BROWN, FINE SAND, TRACE SILT, TRACE CLAY, TRACE GRAVEL, TRACE COARSE SAND, DAMP @22.5'; SS-10 BECOMES DENSE @25.0'; SS-11 TO SS-13 BECOME MEDIUM DENSE	654.9	17																	
		18	3	5	12	78	SS-8	-	-	-	-	-	-	-	-	7	A-3 (V)		
		19		4															
		20	8	4	10	89	SS-9	-	-	-	-	-	-	-	-	4	A-3 (V)		
		21		4															
		22																	
		23	9	15	43	94	SS-10	-	1	1	89	6	3	NP	NP	NP	5	A-3 (0)	
		24		18															
		25	8	9	22	94	SS-11	-	-	-	-	-	-	-	-	5	A-3 (V)		
		26		8															
		27																	
		28	7	6	22	100	SS-12	-	-	-	-	-	-	-	-	10	A-3 (V)		
		29		11															

STANDARD ODOT SOIL BORING LOG (8.5 X 11) - OH DOT.GDT - 6/22/22 14:21 - X:\ACTIVE PROJECTS\ACTIVE SOIL PROJECTS\1ARCHIVE BY YEAR\2017 ARCHIVE\CUY-CCG3 82380\GINT FILES

PROJECT: <u>CUY-CCG3</u>	DRILLING FIRM / OPERATOR: <u>BARR / T.GILBERT</u>	DRILL RIG: <u>CME 55</u>	STATION / OFFSET: <u>63+39, 55' RT.</u>	EXPLORATION ID <u>B-170-0-14</u>
TYPE: <u>BRIDGE</u>	SAMPLING FIRM / LOGGER: <u>BARR / D.KLIMKOWICZ</u>	HAMMER: <u>CME AUTOMATIC</u>	ALIGNMENT: <u>CARNEGIE AVE</u>	PAGE 1 OF 4
PID: <u>82380</u> SFN: _____	DRILLING METHOD: <u>3.25" HSA</u>	CALIBRATION DATE: <u>1/26/14</u>	ELEVATION: <u>666.9 (MSL)</u> EOB: <u>112.0 ft.</u>	
START: <u>2/25/15</u> END: <u>2/25/15</u>	SAMPLING METHOD: <u>SPT / ST</u>	ENERGY RATIO (%): <u>78.8</u>	LAT / LONG: <u>41.499394, -81.670458</u>	

MATERIAL DESCRIPTION AND NOTES	ELEV.	DEPTH	SPT/ RQD	N ₆₀	REC (%)	SAMPLE ID	HP (tsf)	GRADATION (%)					ATTERBERG			WC	ODOT CLASS (GI)	BACK FILL	
								GR	CS	FS	SI	CL	LL	PL	PI				
6.0", ASPHALT	666.9																		
12.0", CONCRETE	666.4																		
LOOSE TO MEDIUM DENSE, LIGHT BROWN, COARSE AND FINE SAND, SOME SILT, TRACE GRAVEL, TRACE CLAY, DAMP TO MOIST (FILL)	665.4	1																	
		2																	
		3	6	7	18	100	SS-1	-	-	-	-	-	-	-	-	6	A-3a (V)		
		4																	
		5																	
		6	3	2	7	100	SS-2	-	6	8	61	21	4	NP	NP	NP	5	A-3a (0)	
		7																	
		8	2	2	7	100	SS-3	-	-	-	-	-	-	-	-	-	12	A-3a (V)	
		9																	
		10																	
	@10.0'; SS-4 AND SS-5 CHANGE TO TRACE SILT		11	2	2	7	100	SS-4	-	0	5	83	8	4	NP	NP	NP	11	A-3a (0)
		12																	
		13	3	3	9	100	SS-5	-	-	-	-	-	-	-	-	10	A-3a (V)		
	652.4	14																	
HARD, GRAYISH BROWN, SILT, SOME CLAY, TRACE SAND, TRACE GRAVEL, MOIST		15	2	4	13	100	SS-6	4.50	0	1	6	70	23	27	19	8	20	A-4b (8)	
	649.9	16																	
MEDIUM DENSE, GRAYISH BROWN, FINE SAND, TRACE COARSE SAND, TRACE GRAVEL, TRACE SILT, TRACE CLAY, DAMP		17																	
		18	6	9	24	100	SS-7	-	-	-	-	-	-	-	-	7	A-3 (V)		
	647.4	19																	
MEDIUM DENSE TO DENSE, GRAYISH BROWN, SANDY SILT, TRACE CLAY, TRACE GRAVEL, WET		20	4	6	13	67	SS-8	-	-	-	-	-	-	-	-	19	A-4a (V)		
		21																	
		22																	
		23	8	15	41	100	SS-9	-	0	0	49	45	6	NP	NP	NP	20	A-4a (3)	
		24																	
		25																	
		26	13	18	49	100	SS-10	-	-	-	-	-	-	-	-	22	A-4a (V)		
		27																	
		28	7	13	37	100	SS-11	-	0	1	56	37	6	NP	NP	NP	20	A-4a (2)	
		29																	

Appendix D
GB1 Spreadsheets

OHIO DEPARTMENT OF TRANSPORTATION

OFFICE OF GEOTECHNICAL ENGINEERING

**PLAN SUBGRADES
Geotechnical Bulletin GB1**

**CUY-77/90-14.96/16.33
82380**

CUY-77/90-14.96/16.33 - CCG3 - IR-77

NEAS, Inc.

Prepared By: Brendan P. Andrews
Date prepared: Tuesday, July 28, 2020

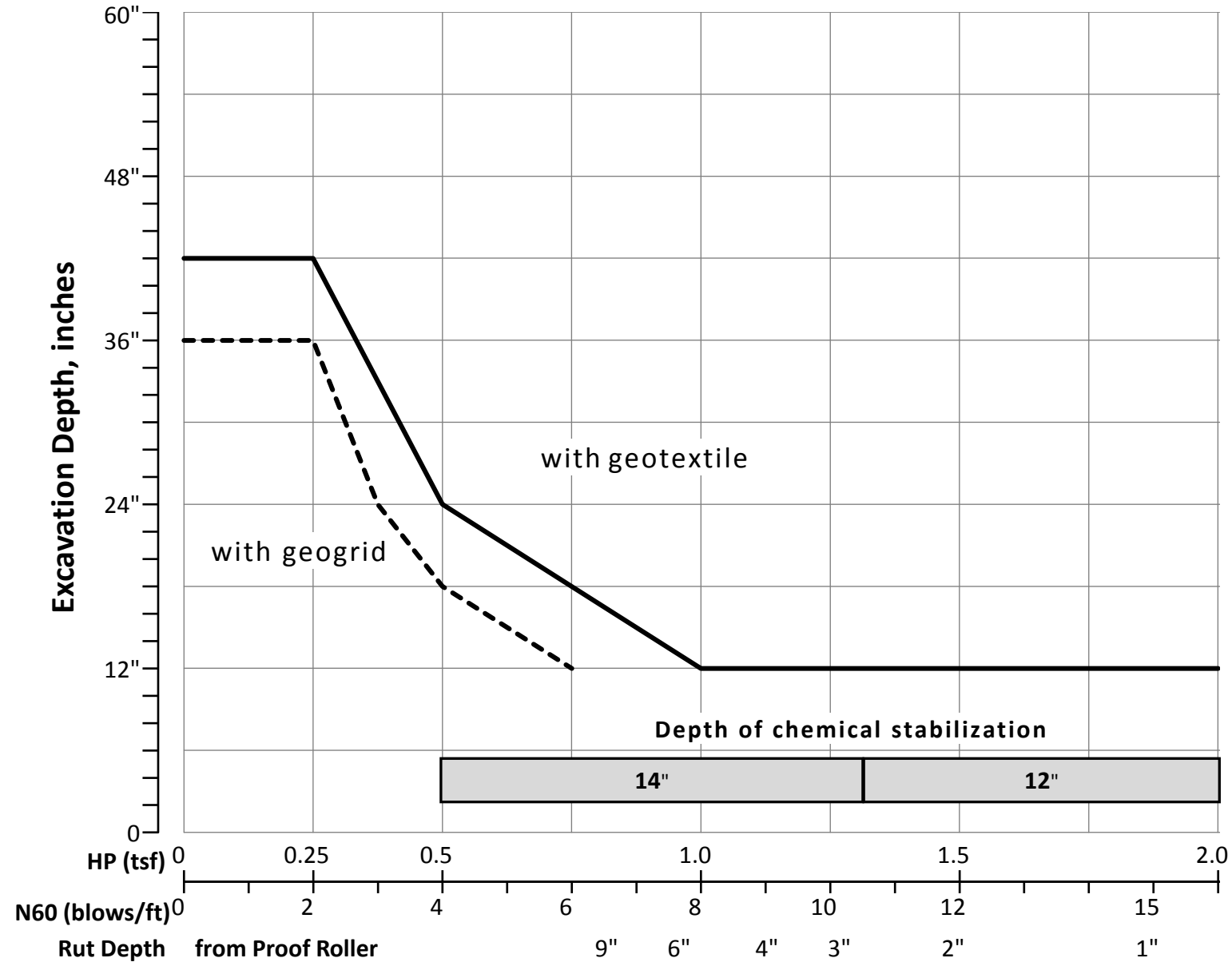
**Brendan P. Andrews
2868 East Kemper Road
Cincinnati, OH 45241**

**513.337.9823 Ext. 701
brendan.andrews@neasinc.com**

NO. OF BORINGS: **18**

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL	Cut Fill
1	B-002-0-14	CL IR-77	39+87	60	RT	CME 45B	77	697.3	694.5	2.8 C
2	B-004-0-14	Ramp H1	143+09	19	RT	CME 45B	77	691.5	690.9	0.6 C
3	B-010-0-14	CL IR-77	48+23	8	LT	MOBILE B-58	92	695.7	696.5	0.8 F
4	B-011-0-14	CL IR-77	49+42	44	LT	MOBILE B-58	92	696.3	698.4	2.1 F
5	B-021-0-14	CL IR-77	55+73	8	LT	MOBILE B-58	92	699.0	700.5	1.5 F
6	B-035-0-14	CL IR-77	56+93	46	RT	CME 45B	77	699.5	699.5	0.0
7	B-038-0-14	CL IR-77	57+62	48	RT	CME 45B	77	698.7	698.9	0.2 F
8	B-040-0-154	CL IR-77	58+48	49	RT	MOBILE B-58	92	697.8	698.1	0.3 F
9	B-043-0-14	CL IR-77	59+49	51	RT	CME 55	79	696.8	697.3	0.5 F
10	B-044-0-14	CL IR-77	61+01	47	LT	MOBILE B-58	92	694.5	695.7	1.2 F
11	B-048-0-14	Ramp H3	562+71	10	LT	CME 45B	77	693.7	694.5	0.8 F
12	B-057-0-14	CL IR-77	68+78	51	RT	MOBILE B-58	92	694.5	696.6	2.1 F
13	B-056-0-14	CL IR-77	69+71	52	LT	CME 55	79	694.8	697.1	2.3 F
14	B-060-0-14	CL IR-77	69+83	48	RT	CME 45B	77	694.8	697.2	2.4 F
15	B-063-0-14	CL IR-77	70+82	50	RT	MOBILE B-58	92	695.3	697.7	2.4 F
16	B-064-0-14	CL IR-77	73+09	49	RT	CME 45B	77	696.0	698.2	2.2 F
17	B-066-0-14	CL IR-77	73+32	9	RT	MOBILE B-58	92	696.4	698.1	1.7 F
18	B-068-0-14	CL IR-77	73+25	48	LT	MOBILE B-58	92	696.5	698.1	1.6 F

GB1 Figure B – Subgrade Stabilization



OVERRIDE TABLE

Calculated Average	New Values	Check to Override
2.43		<input type="checkbox"/> HP
20.78		<input type="checkbox"/> N60L

Average HP —
 Average N₆₀L —

The subgrade analysis workbook consists of five worksheets. Each worksheet functions independently. In all of the worksheets the fields are color coded as follows:

- Every yellow highlighted field indicates a field to be entered by the user.
- Every salmon field is to indicate a problem/issue.
- Every gray or green field is a heading/informational field.

IMPORTANT: The sequence of filling out the data needs to be followed as outlined below:

1. Cover Sheet: this worksheet is designed for the purpose of entering the project information. Enter all the following fields:

County-Route-Section	This includes the county, route, section number assigned to the project.
PID	the Project Identification Number
Project Description	See Cover Sheet for list of example details
Geotechnical Consultant	The Geotechnical Consultant performing the analysis.
Prepared By	The preparer of the subgrade analysis
Date prepared	The date the analysis is performed.
Contact Information	Name, address, telephone #, and email address
No. of Borings	Enter the total number of borings within the alignment that is being analyzed.

2. Boring Logs Entry Worksheet: this worksheet has a programming code that will run in the background every time the sheet is activated and will make the sheet unresponsive for less than a minute. The code is designed to read the total number of borings from the cover sheet and generate the needed number of fields.

- a. All yellow highlighted fields are user's entry.
- b. ODOT has developed a text table export from gINT (*GB 1 Borings Log Entry Tab*) that will allow for copy and paste of all highlighted fields with the exception of proposed subgrade elevation. The designer must provide a proposed subgrade elevation in order for the spreadsheet to function properly.
- c. The Cut/Fill field is a calculated field that, based on the difference between the boring elevation and the proposed subgrade elevation, will highlight the cell either gray and adds the letter "C" to the end in a cut situation or highlights the cell in light purple and adds the letter "F" to the end in a fill situation.
- d. Every duplicate boring ID will be highlighted in salmon background and red text.
- e. **IMPORTANT:** After entering all the borings' information, the user must click "Add Subgrade Analysis Entry Fields" button. This will generate all the required fields in the "Subgrade Analysis" Worksheet.

3. Subgrade Analysis Worksheet:

- a. The boring number and boring ID is read from the "Boring Logs Entry Worksheet" excluding every boring that has six feet or more of fill.
- b. All yellow highlighted fields are to be entered by the user and salmon highlighted fields indicates a problem or issue.
- c. Every sample that has a Sulfate Content greater than or equal to 3000 will be highlighted in light salmon background. Every sample that has a Sulfate Content greater than or equal to 8000 will be highlighted in darker salmon background. **Note the revised sulfate criteria in GB1 issued July 20, 2018.**

d. Unsuitable/Unstable:

- i. Unsuitable samples that are within 3 feet of the top of subgrade will be highlighted with salmon background and the class will be showing in this field.
- ii. Unstable Samples that are within 3 feet of top of subgrade will be highlighted with salmon background and text to indicate the problem as follows:

Criterion	Stabilization Need Check	Text displayed in the field
A-1-a, A-1-b, A-3, or A-3a Soil Class	No Stabilization is needed	
$HP \geq 1.875$	No Stabilization is needed	
$N_{60} \geq 15$	No Stabilization is needed	
$1.875 \geq HP \geq 1.5$ and $M_c \geq \text{Opt. } M_c + 3$	Unstable Subgrade	HP & M_c
$15 \geq N_{60} \geq 12$ and $M_c \geq \text{Opt. } M_c + 3$	Unstable Subgrade	N_{60} & M_c
$HP \leq 1.5$	Unstable Subgrade	HP
$N_{60} \leq 12$	Unstable Subgrade	N_{60}

- iii. The field is formulated to check for HP first and check for N_{60} second.

e. Excavate and Replace (Item 204) is going to be calculated based on the subgrade depth for each sample indicating an unsuitable or unstable problem.

f. Recommendation:

- i. Geotextile Option is calculated and rounded to a multiple of 3 inches based on the subgrade depth for every sample indicating an unsuitable or unstable problem.
- ii. GEOGRID Option is only offered in case of unstable subgrade problem and if the geotextile option indicates the need to excavate greater than 12 inches.

PLEASE NOTE: The Problem, Excavate & Replace, and Recommendation Fields are the responsibility of the Designer. These fields are being enhanced to attempt to capture the ODOT philosophy regarding the GB1 stabilization chart, but are considered still under development. If there are discrepancies between the spreadsheet output and the GB1 chart - the chart governs in conjunction with engineering judgement. Please contact Steve Taliaferro at stephen.taliaferro@dot.ohio.gov if you have any questions.

PLEASE NOTE: It is the Designer's responsibility to identify the most representative data when samples have been separated into multiple specimen (say 1.5 to 2.3 feet and 2.3 to 3.0 feet). The spreadsheet is not capable at this time of addressing this issue within a direct data export from gINT.

4. Results Summary:

All fields in this sheet are password protected and are either calculated or read from the other worksheets.

5. Graph Worksheet:

This worksheet is designed to read the average N_{60L} and the average HP from the Cover Sheet and plot a blue line for Average HP and orange line for Average N_{60L} on GB1 Figure B – Subgrade Stabilization. The Override Table can be used to enter HP and/or N_{60L} values that are different than the calculated averages. The Override values will change the global undercut recommendation in the Results Summary.

OHIO DEPARTMENT OF TRANSPORTATION

OFFICE OF GEOTECHNICAL ENGINEERING

**PLAN SUBGRADES
Geotechnical Bulletin GB1**

**CUY-77/90-14.96/16.33
82380**

CUY-77/90-14.96/16.33 - CCG3 - IR-90

NEAS, Inc.

Prepared By: Brendan P. Andrews
Date prepared: Tuesday, July 28, 2020

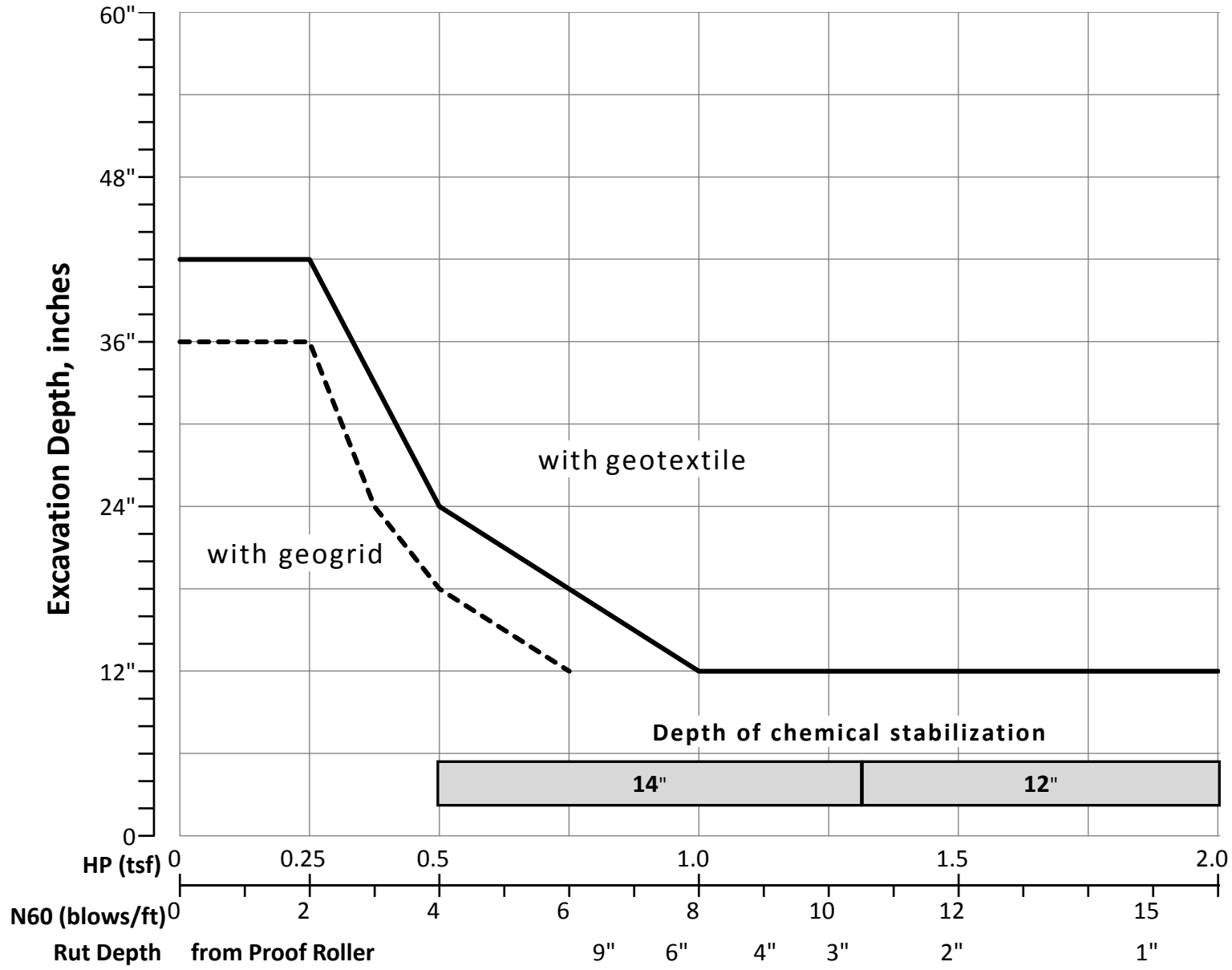
**Brendan P. Andrews
2868 East Kemper Road
Cincinnati, OH 45241**

**513.337.9823 Ext. 701
brendan.andrews@neasinc.com**

NO. OF BORINGS: **12**

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL	Cut Fill
1	B-075-0-14	Ramp B5	1506+49	1	RT	CME 45B	77	695.5	696.3	0.8 F
2	B-076-0-14	IR-90 WB	181+34	38	RT	MOBILE B-58	92	699.6	693.6	6.0 C
3	B-081-0-14	IR-90 EB	189+07	22	RT	MOBILE B-58	92	686.8	680.1	6.7 C
4	B-083-0-14	IR-90 EB	192+12	13	RT	CME 55	79	675.4	669.4	6.0 C
5	B-084-0-14	IR-90 EB	196+29	133	RT	MOBILE B-58	92	661.5	654.6	6.9 C
6	B-148-0-14	Ramp A2	434+78	9	RT	MOBILE B-58	92	667.3	671.5	4.2 F
7	B-149-0-14	Ramp A2	436+28	1	LT	MOBILE B-58	92	669.8	666.5	3.3 C
8	B-151-0-14	Ramp A2	438+67	2	RT	MOBILE B-58	92	665.4	658.2	7.2 C
9	B-162-0-14	RAMP B6	1619+33	76	LT	CME 45B	77	669.4	651.0	18.4 C
10	B-085-0-14	IR-90 EB	199+20	6	LT	CME 45B	77	650.6	646.0	4.6 C
11	B-167-0-14	IR-90 WB	204+04	92	LT	MOBILE B-58	92	671.9	639.9	32.0 C
12	B-169-0-14	Carnegie Ave.	56+24	53	RT	CME 45B	77	671.9	638.5	33.4 C

GB1 Figure B – Subgrade Stabilization



OVERRIDE TABLE

Calculated Average	New Values	Check to Override
	2.50	<input checked="" type="checkbox"/> HP
16.83		<input type="checkbox"/> N60L

Average HP —
Average N_{60L} —

OHIO DEPARTMENT OF TRANSPORTATION

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**PLAN SUBGRADES
Geotechnical Bulletin GB1**

**CUY-77/90-14.96/16.33
82380**

CUY-77/90-14.96/16.33 - CCG3 - Ramp A1

NEAS, Inc.

Prepared By: Brendan P. Andrews
Date prepared: Tuesday, July 28, 2020

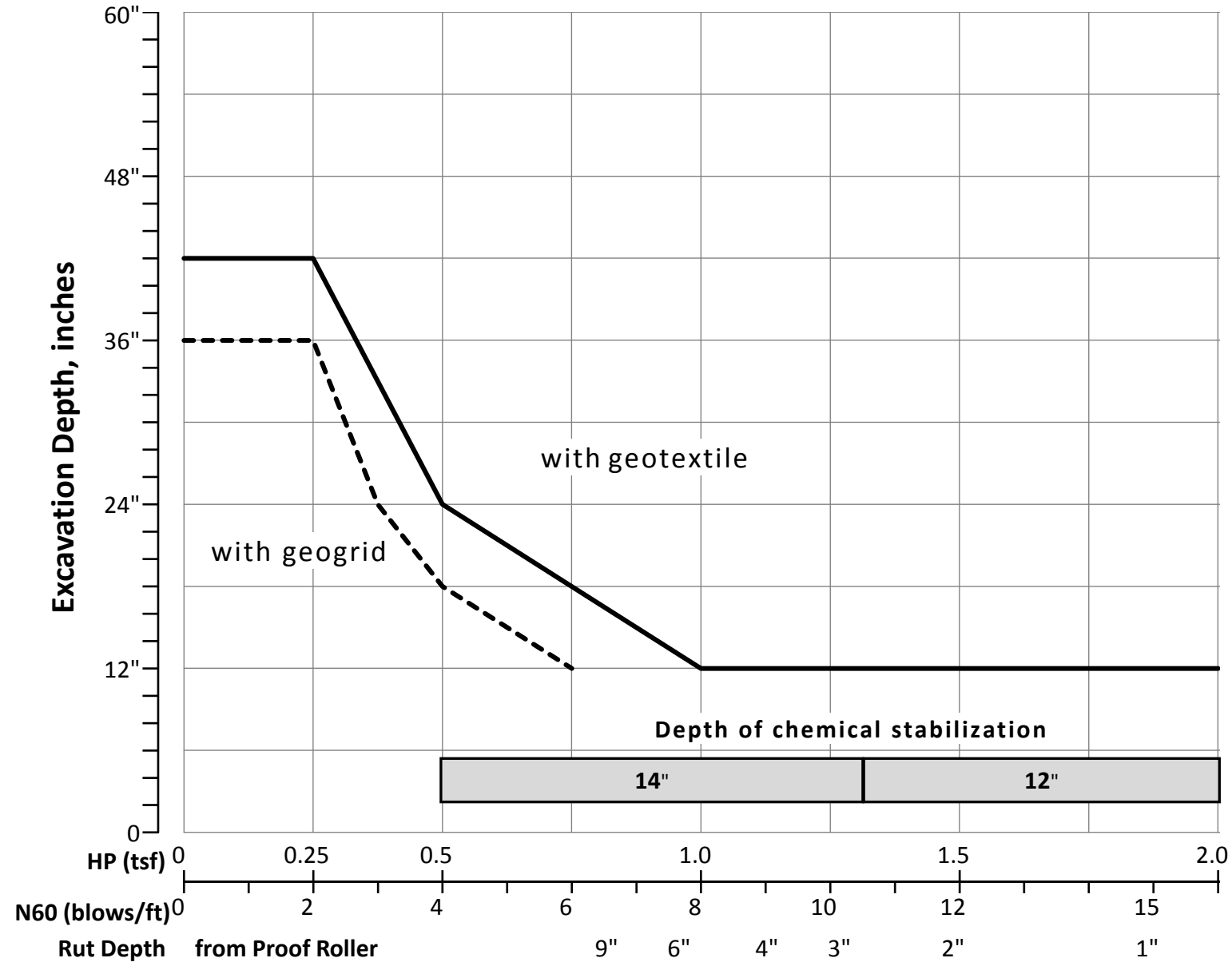
**Brendan P. Andrews
2868 East Kemper Road
Cincinnati, OH 45241**

**513.337.9823 Ext. 701
brendan.andrews@neasinc.com**

NO. OF BORINGS: **3**

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL	Cut Fill
1	B-148-0-14	Ramp A2	434+78	9	RT	MOBILE B-58	92	667.0	670.8	3.8 F
2	B-149-0-14	Ramp A2	436+28	1	LT	MOBILE B-58	92	669.8	667.5	2.3 C
3	B-151-0-14	Ramp A2	438+67	2	RT	MOBILE B-58	92	665.4	667.3	1.9 F

GB1 Figure B – Subgrade Stabilization



OVERRIDE TABLE

Calculated Average	New Values	Check to Override
	2.50	<input checked="" type="checkbox"/> HP
7.67	17.00	<input checked="" type="checkbox"/> N60L

Average HP —
Average N₆₀L —

OHIO DEPARTMENT OF TRANSPORTATION

OFFICE OF GEOTECHNICAL ENGINEERING

**PLAN SUBGRADES
Geotechnical Bulletin GB1**

**CUY-77/90-14.96/16.33
82380**

CUY-77/90-14.96/16.33 - CCG3 - Ramp A2

NEAS, Inc.

Prepared By: Brendan P. Andrews
Date prepared: Tuesday, July 28, 2020

**Brendan P. Andrews
2868 East Kemper Road
Cincinnati, OH 45241**

**513.337.9823 Ext. 701
brendan.andrews@neasinc.com**

NO. OF BORINGS: **3**

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL	Cut Fill
1	B-132-0-14	Ramp A2	406+54	4	RT	CME 45B	77	698.5	695.9	2.6 C
2	B-134-0-14	Ramp A2	408+56	22	RT	CME 45B	77	697.9	697.0	0.9 C
3	B-125-0-14	Ramp J3	26+94	19	RT	CME 55	79	697.1	699.9	2.8 F

PID: 82380

County-Route-Section: CUY-77/90-14.96/16.33

No. of Borings: 3

Geotechnical Consultant: NEAS, Inc.

Prepared By: Brendan P. Andrews

Date prepared: 7/28/2020

Chemical Stabilization Options		
320	Rubblize & Roll	Option
206	Cement Stabilization	No
	Lime Stabilization	Option
206	Depth	NA

Excavate and Replace Stabilization Options	
Global Geotextile Override(N60L): Average(HP):	12" 0"
Global Geogrid Override(N60L): Average(HP):	0" 0"

Design CBR	11
-----------------------	-----------

% Samples within 6 feet of subgrade			
$N_{60} \leq 5$	0%	$HP \leq 0.5$	0%
$N_{60} < 12$	0%	$0.5 < HP \leq 1$	0%
$12 \leq N_{60} < 15$	14%	$1 < HP \leq 2$	0%
$N_{60} \geq 20$	71%	$HP > 2$	14%
M+	14%		
Rock	0%		
Unsuitable	0%		

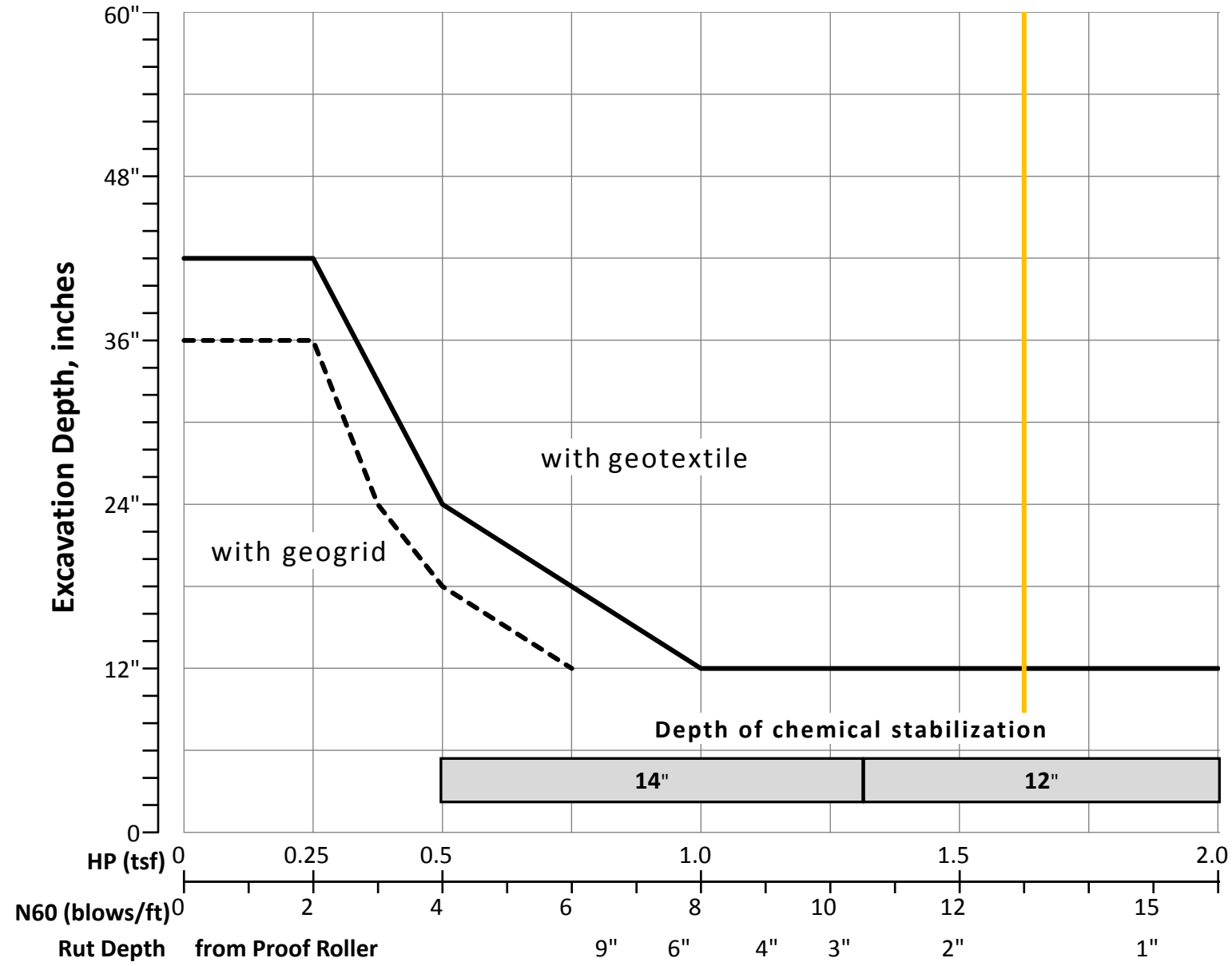
Excavate and Replace at Surface	
Average	0"
Maximum	0"
Minimum	0"

% Proposed Subgrade Surface	
Unstable & Unsuitable	25%
Unstable	25%
Unsuitable	0%

	N_{60}	N_{60L}	HP	LL	PL	PI	Silt	Clay	P 200	M_C	M_{OPT}	GI
Average	35	21	3.50				20	9	29	11	9	2
Maximum	67	30	3.50	0	0	0	21	11	31	17	14	10
Minimum	13	13	3.50	0	0	0	19	7	27	7	8	0

Classification Counts by Sample																			
ODOT Class	Rock	A-1-a	A-1-b	A-2-4	A-2-5	A-2-6	A-2-7	A-3	A-3a	A-4a	A-4b	A-5	A-6a	A-6b	A-7-5	A-7-6	A-8a	A-8b	Totals
Count	0	0	0	0	0	0	0	0	6	0	0	0	1	0	0	0	0	0	7
Percent	0%	0%	0%	0%	0%	0%	0%	0%	86%	0%	0%	0%	14%	0%	0%	0%	0%	0%	100%
% Rock Granular Cohesive	0%	86%										14%						100%	
Surface Class Count	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	0	4
Surface Class Percent	0%	0%	0%	0%	0%	0%	0%	0%	75%	0%	0%	0%	25%	0%	0%	0%	0%	0%	100%

GB1 Figure B – Subgrade Stabilization



OVERRIDE TABLE

Calculated Average	New Values	Check to Override
3.50		<input type="checkbox"/> HP
21.33	13.00	<input checked="" type="checkbox"/> N60L

Average HP —
 Average N₆₀L —

OHIO DEPARTMENT OF TRANSPORTATION

OFFICE OF GEOTECHNICAL ENGINEERING

**PLAN SUBGRADES
Geotechnical Bulletin GB1**

**CUY-77/90-14.96/16.33
82380**

CUY-77/90-14.96/16.33 - CCG3 - Ramp A3

NEAS, Inc.

Prepared By: Brendan P. Andrews
Date prepared: Tuesday, July 28, 2020

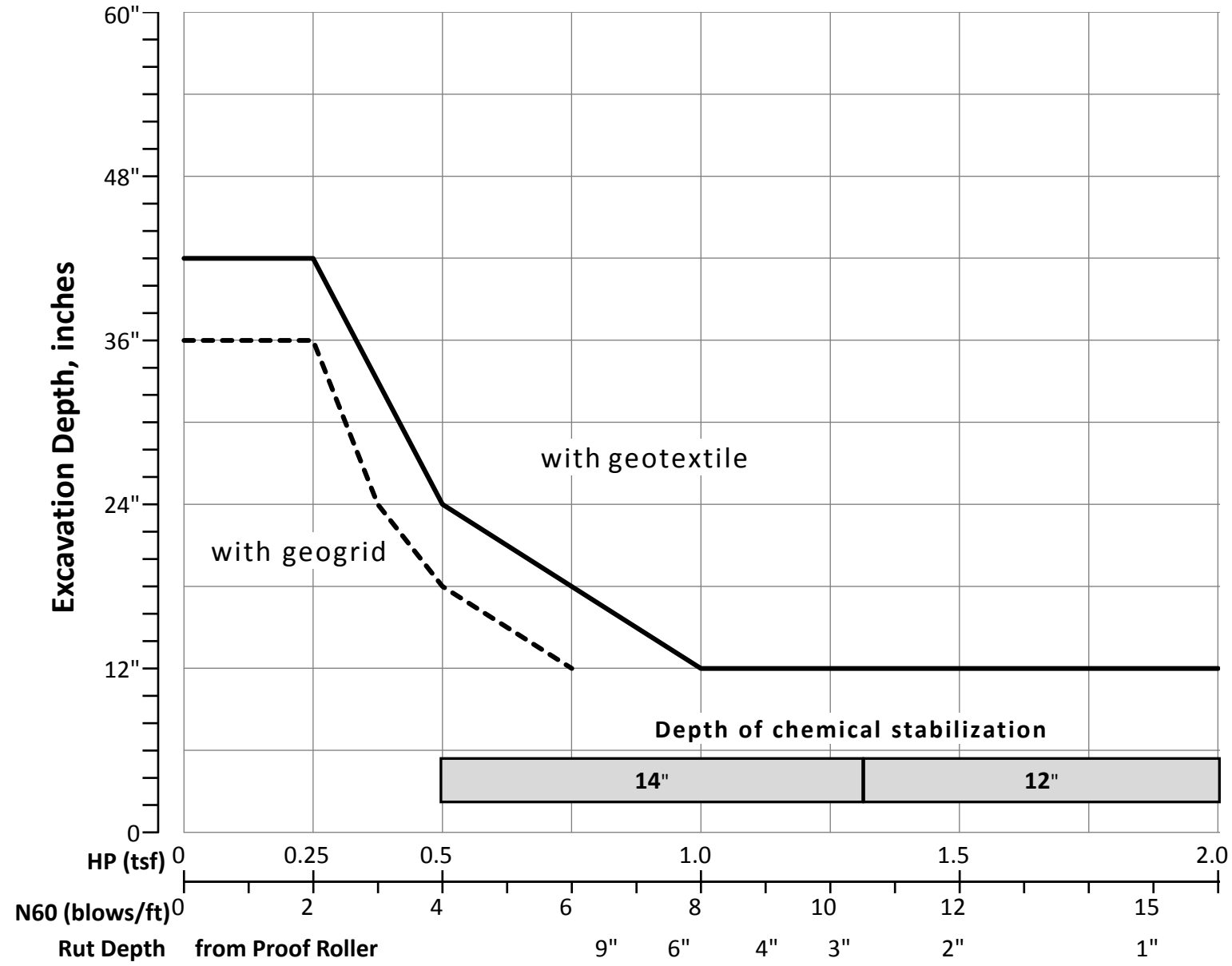
**Brendan P. Andrews
2868 East Kemper Road
Cincinnati, OH 45241**

**513.337.9823 Ext. 701
brendan.andrews@neasinc.com**

NO. OF BORINGS: **1**

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL.	Cut Fill
1	B-080-0-14	IR-90 WB	188+15	41	LT	MOBILE B58	92	669.4	662.8	6.6 C

GB1 Figure B – Subgrade Stabilization



OVERRIDE TABLE

Calculated Average	New Values	Check to Override
	2.50	<input checked="" type="checkbox"/> HP
6.00	17.00	<input checked="" type="checkbox"/> N60L

Average HP —
 Average N_{60L} —

OHIO DEPARTMENT OF TRANSPORTATION

OFFICE OF GEOTECHNICAL ENGINEERING

**PLAN SUBGRADES
Geotechnical Bulletin GB1**

**CUY-77/90-14.96/16.33
82380**

CUY-77/90-14.96/16.33 - CCG3 - Ramp B5

NEAS, Inc.

Prepared By: Brendan P. Andrews
Date prepared: Tuesday, July 28, 2020

**Brendan P. Andrews
2868 East Kemper Road
Cincinnati, OH 45241**

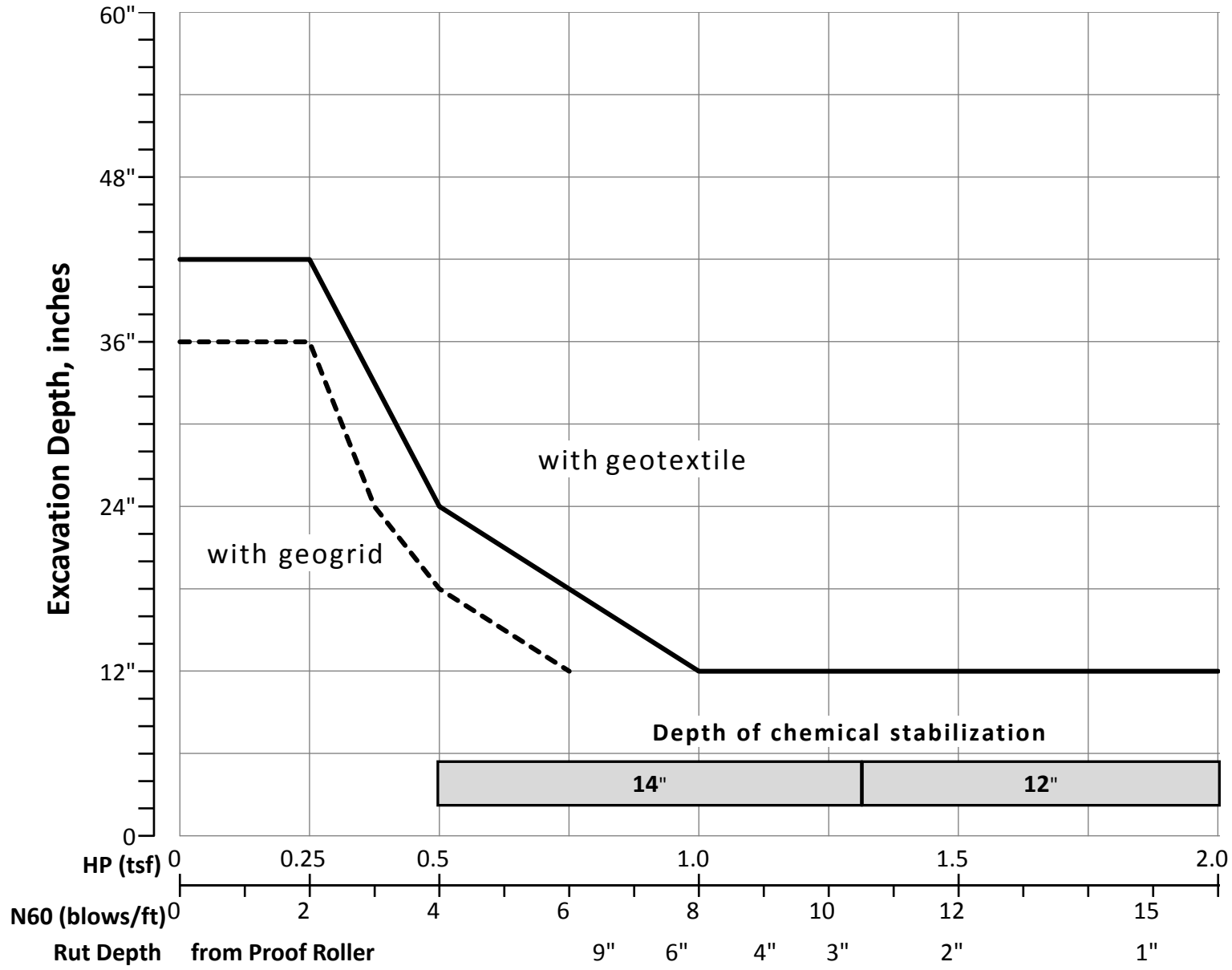
**513.337.9823 Ext. 701
brendan.andrews@neasinc.com**

NO. OF BORINGS: **5**

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL	Cut Fill
1	B-075-0-14	Ramp B5	1506+49	1	RT	CME 45B	77	695.5	696.4	0.9 F
2	B-154-0-14	Ramp B5	1516+72	2	LT	CME 55X	81	677.2	680.5	3.3 F
3	B-138-0-14	Ramp A2	414+82	26	LT	CME 55	79	685.5	674.5	11.0 C
4	B-155-0-14	Ramp B5	1522+36	12	LT	CME 45B	77	674.0	668.4	5.6 C
5	B-156-0-14	Ramp B5	1525+69	23	RT	CME 45B	77	673.8	667.4	6.4 C

#	Boring	Sample	Sample Depth		Subgrade Depth		Standard Penetration		HP (tsf)	Physical Characteristics						Moisture		Ohio DOT		Sulfate Content (ppm)	Problem		Excavate and Replace (Item 204)		Recommendation (Enter depth in inches)
			From	To	From	To	N ₆₀	N _{60L}		LL	PL	PI	% Silt	% Clay	P200	M _c	M _{OPT}	Class	GI		Unsuitable	Unstable	Unsuitable	Unstable	
1	B 075-0 14	SS-1	1.0	1.3	1.9	2.2	65	30		NP	NP	NP	9	3	12	9	6	A-1-b	0	6738					
		SS-2	3.0	4.5	3.9	5.4	57		19	17	2	24	9	33	9	8	A-3a	0							
2	B 154-0 14	SS-1	0.0	1.5	3.3	4.8	14	14								15	8	A-3a	0						
		SS-2	2.5	4.0	5.8	7.3	53			NP	NP	NP	17	8	25	10	8	A-3a							
3	B 138-0 14	SS-5	10.0	11.5	-1.0	0.5	16	12							14	8	A-3a	0							
		SS-6	12.5	14.0	1.5	3.0	12			NP	NP	NP	8	2	10	11	6	A-1-b	0						
		SS-7	15.0	16.5	4.0	5.5	12			NP	NP	NP	9	3	12	10	6	A-1-b	0						
4	B 155-0 14	SS-3	5.0	6.5	-0.6	0.9	10	9		NP	NP	NP	8	3	11	10	8	A-3a	0						
		SS-4	7.5	9.0	1.9	3.4	9								8	8	A-3a	0							
		SS-5	10.0	11.5	4.4	5.9	23		1.25	29	19	10	57	37	94	21	14	A-4b	8						
5	B 156-0 14	SS-3	5.0	6.5	-1.4	0.1	5	5								6		A-1-b	0						
		SS-4	7.5	9.0	1.1	2.6	5								12	6	A-1-b	0							
		SS-5	10.0	11.3	3.6	4.9	83			NP	NP	NP	9	3	12	18	6	A-1-b	0						

GB1 Figure B – Subgrade Stabilization



OVERRIDE TABLE

Calculated Average	New Values	Check to Override
1.25	2.50	<input checked="" type="checkbox"/> HP
14.00	17.00	<input checked="" type="checkbox"/> N60L

Average HP —
 Average N₆₀L —

OHIO DEPARTMENT OF TRANSPORTATION

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**PLAN SUBGRADES
Geotechnical Bulletin GB1**

**CUY-77/90-14.96/16.33
82380**

CUY-77/90-14.96/16.33 - CCG3 - Ramp B6

NEAS, Inc.

Prepared By: Brendan P. Andrews
Date prepared: Tuesday, July 28, 2020

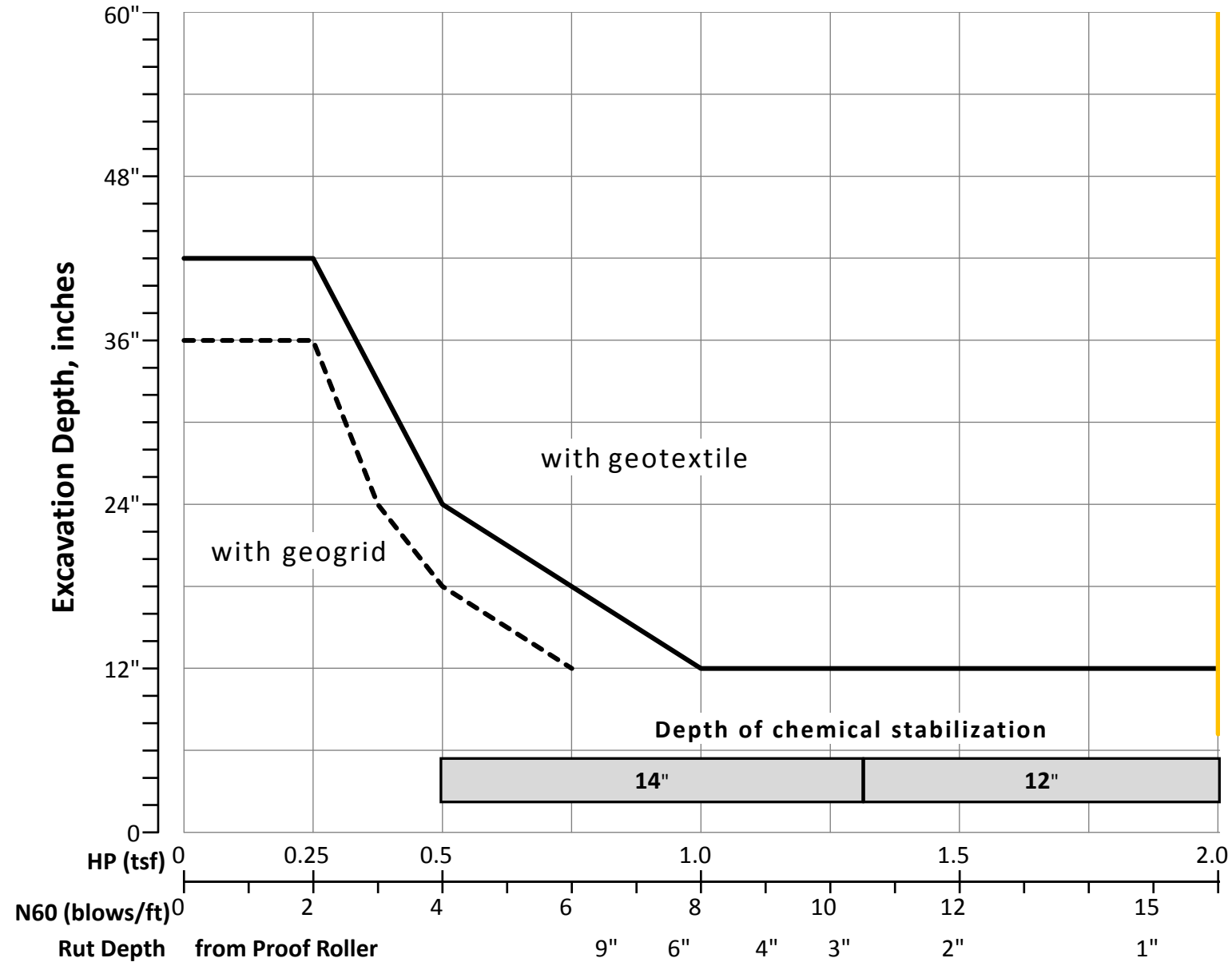
**Brendan P. Andrews
2868 East Kemper Road
Cincinnati, OH 45241**

**513.337.9823 Ext. 701
brendan.andrews@neasinc.com**

NO. OF BORINGS: **1**

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL.	Cut Fill
1	B-157-0-14	Ramp B6	1607+49	2	RT	CME 55X	81	694.4	695.0	0.6 F

GB1 Figure B – Subgrade Stabilization



OVERRIDE TABLE

Calculated Average	New Values	Check to Override
	2.50	<input checked="" type="checkbox"/> HP
16.00		<input type="checkbox"/> N60L

Average HP —
 Average N₆₀L —

OHIO DEPARTMENT OF TRANSPORTATION

OFFICE OF GEOTECHNICAL ENGINEERING

**PLAN SUBGRADES
Geotechnical Bulletin GB1**

**CUY-77/90-14.96/16.33
82380**

CUY-77/90-14.96/16.33 - CCG3 - Ramp H1

NEAS, Inc.

Prepared By: Brendan P. Andrews
Date prepared: Tuesday, July 28, 2020

**Brendan P. Andrews
2868 East Kemper Road
Cincinnati, OH 45241**

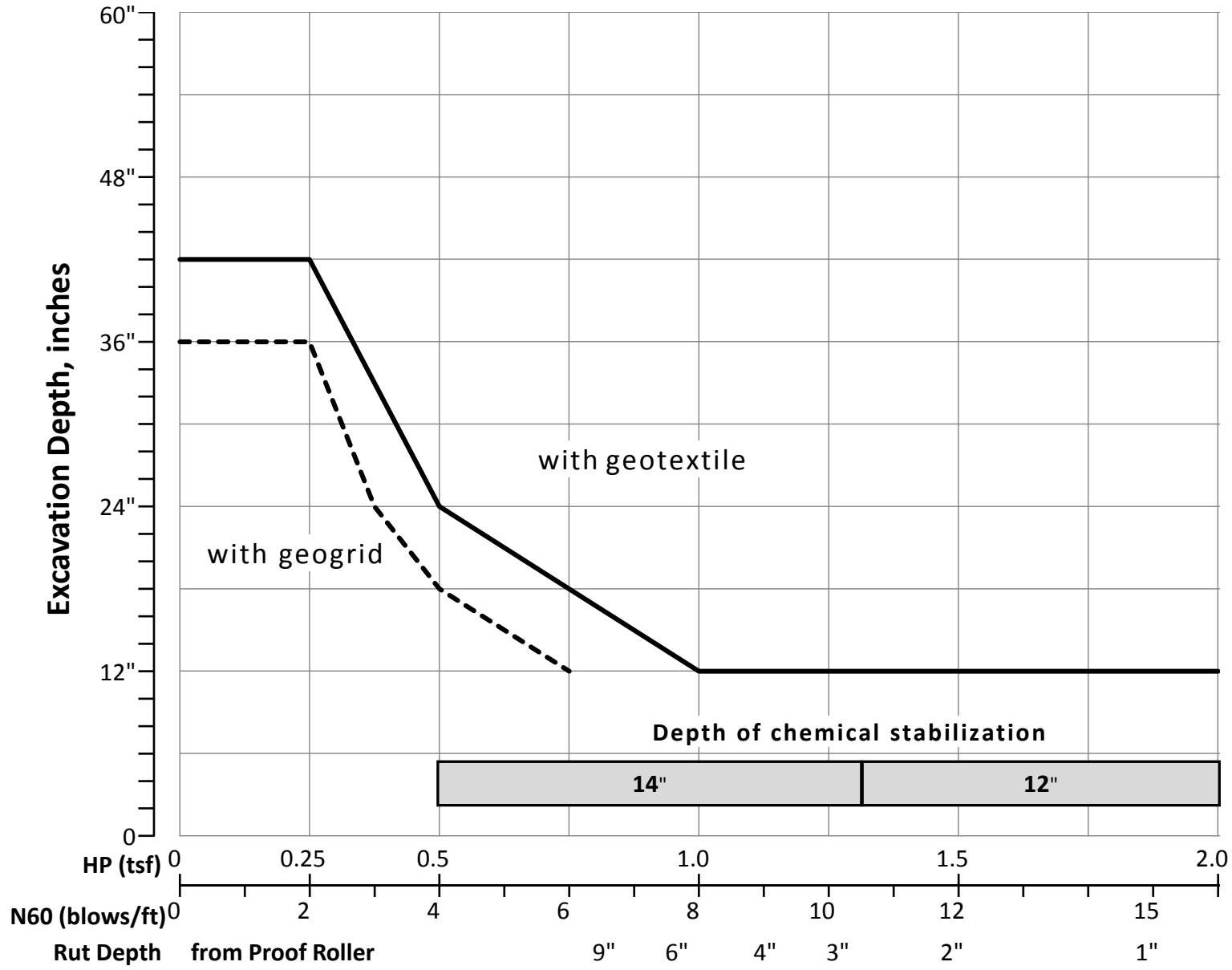
**513.337.9823 Ext. 701
brendan.andrews@neasinc.com**

NO. OF BORINGS: **4**

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL	Cut Fill
1	B-002-0-14	CL IR-77	39+87	60	RT	CME 45B	77	697.3	696.7	0.6 C
2	B-004-0-14	Ramp H1	143+09	19	RT	CME 45B	77	691.5	694.1	2.6 F
3	B-014-0-14	Woodland Ave.	728+11	10	RT	CME 45B	77	678.4	677.5	0.9 C
4	B-023-0-14	Woodland Ave.	725.05	12	RT	CME 45B	77	678.9	677.1	1.8 C

#	Boring	Sample	Sample Depth		Subgrade Depth		Standard Penetration		HP (tsf)	Physical Characteristics					Moisture		Ohio DOT		Sulfate Content (ppm)	Problem		Excavate and Replace (Item 204)		Recommendation (Enter depth in inches)	
			From	To	From	To	N ₆₀	N _{60L}		LL	PL	PI	% Silt	% Clay	P200	M _c	M _{OPT}	Class		GI	Unsuitable	Unstable	Unsuitable		Unstable
1	B 002-0 14	SS-1	1.5	3.0	0.9	2.4	32	30		NP	NP	NP	18	6	24	10	8	A-3a	0	138					
		SS-2	3.0	4.5	2.4	3.9	34								11	8	A-3a	0							
		SS-3	4.5	6.0	3.9	5.4	36			NP	NP	NP	21	12	33	9	8	A-3a	0						
		SS-4	6.0	7.5	5.4	6.9	45								7	8	A-3a								
2	B 004-0 14	SS-1	1.0	2.5	3.6	5.1	31	30		NP	NP	NP	18	6	24	12	8	A-3a	0						
		SS-2	2.5	4.0	5.1	6.6	44								11	8	A-3a								
3	B 014-0 14	SS-1	2.5	4.0	1.6	3.1	10	5		NP	NP	NP	10	6	16	6	8	A-3a	0	293					
		SS-2	4.0	5.5	3.1	4.6	6			NP	NP	NP	4	3	7	7	8	A-3	0						
		SS-3	5.5	7.0	4.6	6.1	5								6	8	A-3	0							
4	B 023-0 14	SS-1	2.0	3.5	0.2	1.7	12	5		NP	NP	NP	10	4	14	6	6	A-1-b	0	116					
		SS-2	3.5	5.0	1.7	3.2	17			NP	NP	NP	9	3	12	6	6	A-1-b	0						
		SS-3	5.0	6.5	3.2	4.7	8								7	8	A-3a	0							
		SS-4	6.5	8.0	4.7	6.2	5								6	8	A-3a	0							

GB1 Figure B – Subgrade Stabilization



OVERRIDE TABLE

Calculated Average	New Values	Check to Override
	2.50	<input checked="" type="checkbox"/> HP
17.50		<input type="checkbox"/> N60L

Average HP —
Average N_{60L} —

OHIO DEPARTMENT OF TRANSPORTATION

OFFICE OF GEOTECHNICAL ENGINEERING

**PLAN SUBGRADES
Geotechnical Bulletin GB1**

**CUY-77/90-14.96/16.33
82380**

CUY-77/90-14.96/16.33 - CCG3 - Ramp H2

NEAS, Inc.

Prepared By: Brendan P. Andrews
Date prepared: Tuesday, July 28, 2020

**Brendan P. Andrews
2868 East Kemper Road
Cincinnati, OH 45241**

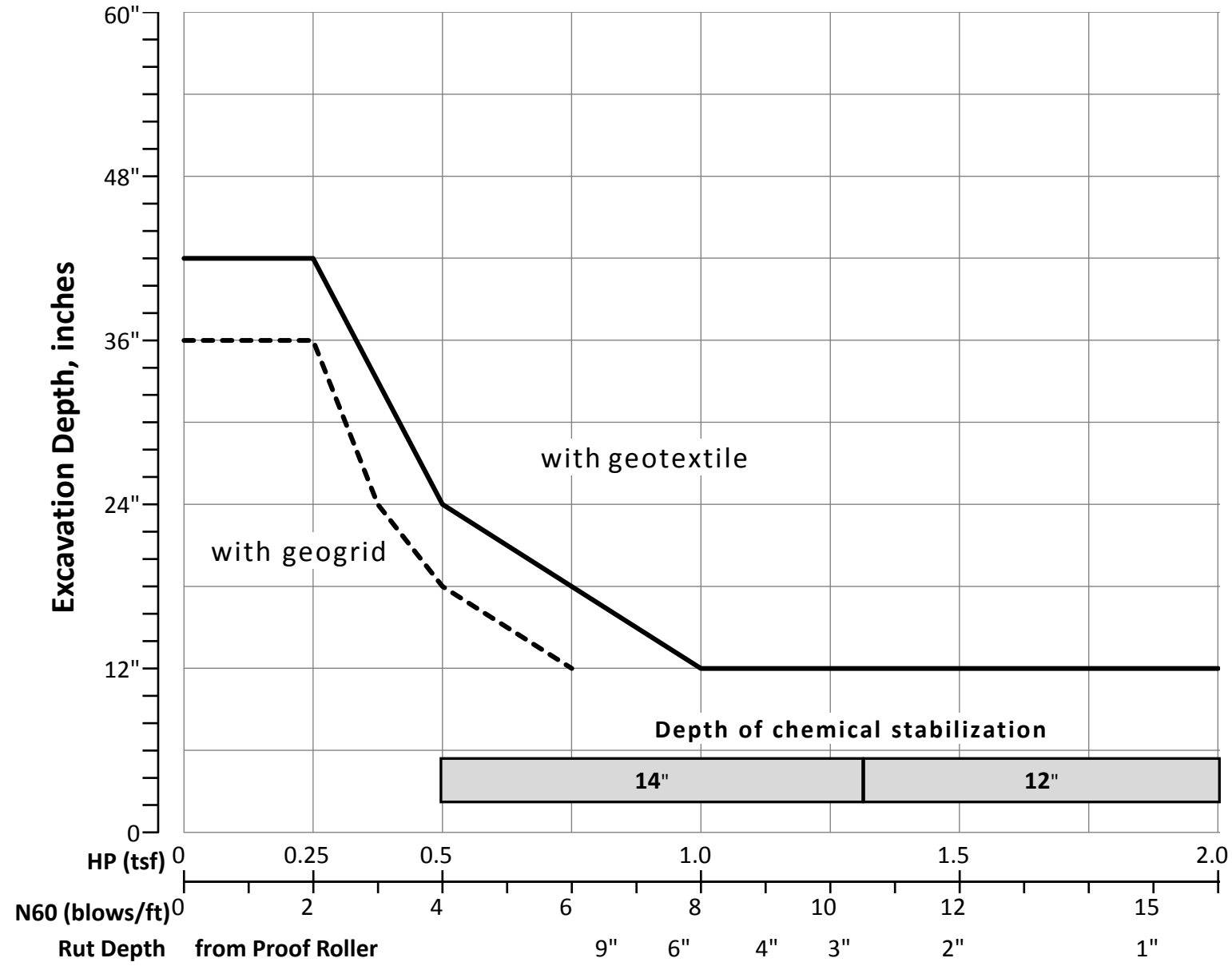
**513.337.9823 Ext. 701
brendan.andrews@neasinc.com**

NO. OF BORINGS: **10**

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL	Cut Fill
1	B-002-0-14	CL IR-77	39+87	60	RT	CME 45B	77	697.3	696.3	1.0 C
2	B-004-0-14	Ramp H1	143+09	19	RT	CME 45B	77	691.5	693.1	1.6 F
3	B-051-0-14	CL IR-77	65+15	9	LT	MOBILE B-58	92	693.2	671.1	22.1 C
4	B-054-0-14	CL IR-77	66+85	50	RT	CME 55	79	693.4	671.4	22.0 C
5	B-053-0-14	CL IR-77	66+75	83	LT	CME 55	79	675.0	672.0	3.0 C
6	B-058-0-14	Ramp J2	5444+06	4	RT	CME 45B	77	680.6	674.4	6.2 C
7	B-056-0-14	CL IR-77	69+71	52	LT	CME 55	79	694.8	674.4	20.4 C
8	B-061-0-14	Ramp J2	5443+15	2	RT	CME 45B	77	680.0	674.3	5.7 C
9	B-062-0-14	Ramp J2	5442+72	24	LT	CME 55	79	679.3	674.1	5.2 C
10	B-068-0-14	CL IR-77	73+25	48	LT	MOBILE B-58	92	696.5	674.4	22.1 C

#	Boring	Sample	Sample Depth		Subgrade Depth		Standard Penetration		HP (tsf)	Physical Characteristics					Moisture		Ohio DOT		Sulfate Content (ppm)	Problem		Excavate and Replace (Item 204)		Recommendation (Enter depth in inches)		
			From	To	From	To	N ₆₀	N _{60L}		LL	PL	PI	% Silt	% Clay	P200	M _c	M _{OPT}	Class		GI	Unsuitable	Unstable	Unsuitable		Unstable	
1	B 002-0 14	SS-1	1.5	3.0	0.5	2.0	32	30		NP	NP	NP	18	6	24	10	8	A-3a	0	138						
		SS-2	3.0	4.5	2.0	3.5	34										11	8	A-3a	0						
		SS-3	4.5	6.0	3.5	5.0	36			NP	NP	NP	21	12	33	9	8	A-3a	0							
		SS-4	6.0	7.5	5.0	6.5	45									7	8	A-3a	0							
2	B 004-0 14	SS-1	1.0	2.5	2.6	4.1	31	30		NP	NP	NP	18	6	24	12	8	A-3a	0							
		SS-2	2.5	4.0	4.1	5.6	44										11	8	A-3a	0						
3	B 051-0 14	SS-9	22.5	24.0	0.4	1.9	11	9		NP	NP	NP	4	1	5	6	8	A-3	0	169						
		SS-10	25.0	26.5	2.9	4.4	9										7	8	A-3	0						
		SS-11	27.5	29.0	5.4	6.9	11										6	8	A-3							
4	B 054-0 14	SS-10	22.5	24.0	0.5	2.0	14	14								6	8	A-3	0							
		SS-11	25.0	26.5	3.0	4.5	17			NP	NP	NP	7	4	11	7	8	A-3a	0							
		SS-12	27.5	29.0	5.5	7.0	14										7	8	A-3							
5	B 053-0 14	SS-2	2.5	4.0	-0.5	1.0	13	7		NP	NP	NP	3	3	6	8	8	A-3	0							
		SS-3	5.0	6.5	2.0	3.5	8										8	8	A-3	0						
		SS-4	7.5	9.0	4.5	6.0	7										7	8	A-3	0						
6	B 058-0 14	SS-2	5.0	6.5	-1.2	0.3	9	6								22	6	A-1-a	0							
		SS-3	7.5	9.0	1.3	2.8	6										6	8	A-3	0						
		SS-4	10.0	11.5	3.8	5.3	9			NP	NP	NP	4	2	6	6	8	A-3	0							
7	B 056-0 14	SS-9	20.0	21.5	-0.4	1.1	17	12								6	8	A-3a	0							
		SS-10	22.5	24.0	2.1	3.6	12										5	8	A-3	0						
		SS-11	25.0	26.5	4.6	6.1	12			NP	NP	NP	4	2	6	5	8	A-3	0							
8	B 061-0 14	SS-2	5.0	6.5	-0.7	0.8	12	10								5	8	A-3	0	262						
		SS-3	7.5	9.0	1.8	3.3	10			NP	NP	NP	4	2	6	6	8	A-3	0							
		SS-4	10.0	11.5	4.3	5.8	13										5	8	A-3	0						
9	B 062-0 14	SS-2	5.0	6.5	-0.2	1.3	18	8								8	6	A-1-b	0							
		SS-3	7.5	9.0	2.3	3.8	11										8	8	A-3	0						
		SS-4	10.0	11.5	4.8	6.3	8										7	8	A-3	0						

GB1 Figure B – Subgrade Stabilization



OVERRIDE TABLE

Calculated Average	New Values	Check to Override
	2.50	<input checked="" type="checkbox"/> HP
13.80	17.00	<input checked="" type="checkbox"/> N60L

Average HP —
Average N₆₀L —

OHIO DEPARTMENT OF TRANSPORTATION**OFFICE OF GEOTECHNICAL ENGINEERING****PLAN SUBGRADES
Geotechnical Bulletin GB1****CUY-77/90-14.96/16.33
82380****CUY-77/90-14.96/16.33 - CCG3 - Ramp H3****NEAS, Inc.****Prepared By:** Brendan P. Andrews
Date prepared: Tuesday, July 28, 2020**Brendan P. Andrews
2868 East Kemper Road
Cincinnati, OH 45241****513.337.9823 Ext. 701
brendan.andrews@neasinc.com****NO. OF BORINGS:** **7**

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL	Cut Fill
1	B-033-0-14	Ramp H2	356+92	15	LT	CME 45B	77	676.3	676.1	0.2 C
2	B-034-0-14	Ramp H2	357+86	43	LT	CME 55	79	678.0	678.7	0.7 F
3	B-036-0-14	Ramp H2	358+28	11	LT	CME 55	79	678.8	679.7	0.9 F
4	B-039-0-14	Ramp H3	557+93	8	LT	CME 55	79	681.7	682.7	1.0 F
5	B-042-0-14	Ramp H3	558+95	10	LT	CME 45B	77	688.1	687.7	0.4 C
6	B-046-0-14	Ramp H3	560+71	4	RT	CME 45B	77	693.2	693.2	0.0
7	B-048-0-14	Ramp H3	562+71	10	LT	CME 45B	77	693.7	693.5	0.2 C

#	Boring	Sample	Sample Depth		Subgrade Depth		Standard Penetration		HP (tsf)	Physical Characteristics					Moisture		Ohio DOT		Sulfate Content (ppm)	Problem		Excavate and Replace (Item 204)		Recommendation (Enter depth in inches)			
			From	To	From	To	N ₆₀	N _{60L}		LL	PL	PI	% Silt	% Clay	P200	M _c	M _{OPT}	Class		GI	Unsuitable	Unstable	Unsuitable		Unstable		
1	B 033-0 14	SS-1	0.0	1.5	-0.2	1.3	18								15	10	A-2-4	0									
		SS-2	2.5	2.8	2.3	2.6	65								6	6	A-1-a	0			Mc						
		SS-3	5.0	5.4	4.8	5.2	65								7	6	A-1-b	0									
									18																		
2	B 034-0 14	SS-1	0.0	1.5	0.7	2.2	12								9	6	A-1-b	0									
		SS-2	2.5	4.0	3.2	4.7	25								7	6	A-1-b	0									
		SS-3	5.0	6.5	5.7	7.2	9								9	8	A-3										
									9																		
3	B 036-0 14	SS-1	0.0	1.5	0.9	2.4	5								12	8	A-3a	0									
		SS-2	2.5	4.0	3.4	4.9	29																				
		SS-3	5.0	6.5	5.9	7.4	14								7	8	A-3a										
									5																		
4	B 039-0 14	SS-1	0.0	1.5	1.0	2.5	17								11	6	A-1-b	0									
		SS-2	2.5	4.0	3.5	5.0	22																				
									17																		
5	B 042-0 14	SS-1	0.0	1.5	-0.4	1.1	15								10	8	A-3a	0									
		SS-2	2.5	4.0	2.1	3.6	19								3.5	15	16	A-6b	16								
		SS-3	5.0	6.5	4.6	6.1	34																				
									15																		
6	B 046-0 14	SS-1	1.0	2.5	1.0	2.5	18								12	8	A-3a	0									
		SS-2	2.5	4.0	2.5	4.0	6								9	6	A-1-b	0									
		SS-3	5.0	6.5	5.0	6.5	49								2.95	28	17	11	30	18	48	14	14	A-6a	3		
									6																		
7	B 048-0 14	SS-1	1.5	3.0	1.3	2.8	8								10	8	A-3a	0									
		SS-2	3.0	4.5	2.8	4.3	12								2.63	28	15	13	42	32	74	14	14	A-6a	9		
		SS-3	5.0	6.5	4.8	6.3	13								4.5							12	14	A-6a	10		
									8																		

PID: 82380

County-Route-Section: CUY-77/90-14.96/16.33

No. of Borings: 7

Geotechnical Consultant: NEAS, Inc.

Prepared By: Brendan P. Andrews

Date prepared: 7/28/2020

Chemical Stabilization Options		
320	Rubblize & Roll	No
206	Cement Stabilization	Option
	Lime Stabilization	No
206	Depth	12"

Excavate and Replace Stabilization Options	
Global Geotextile Override(N60L): Average(HP):	0" 0"
Global Geogrid Override(N60L): Average(HP):	0" 0"

Design CBR	10
-----------------------	-----------

% Samples within 6 feet of subgrade			
$N_{60} \leq 5$	5%	$HP \leq 0.5$	0%
$N_{60} < 12$	20%	$0.5 < HP \leq 1$	0%
$12 \leq N_{60} < 15$	20%	$1 < HP \leq 2$	0%
$N_{60} \geq 20$	35%	$HP > 2$	20%
M+	5%		
Rock	0%		
Unsuitable	0%		

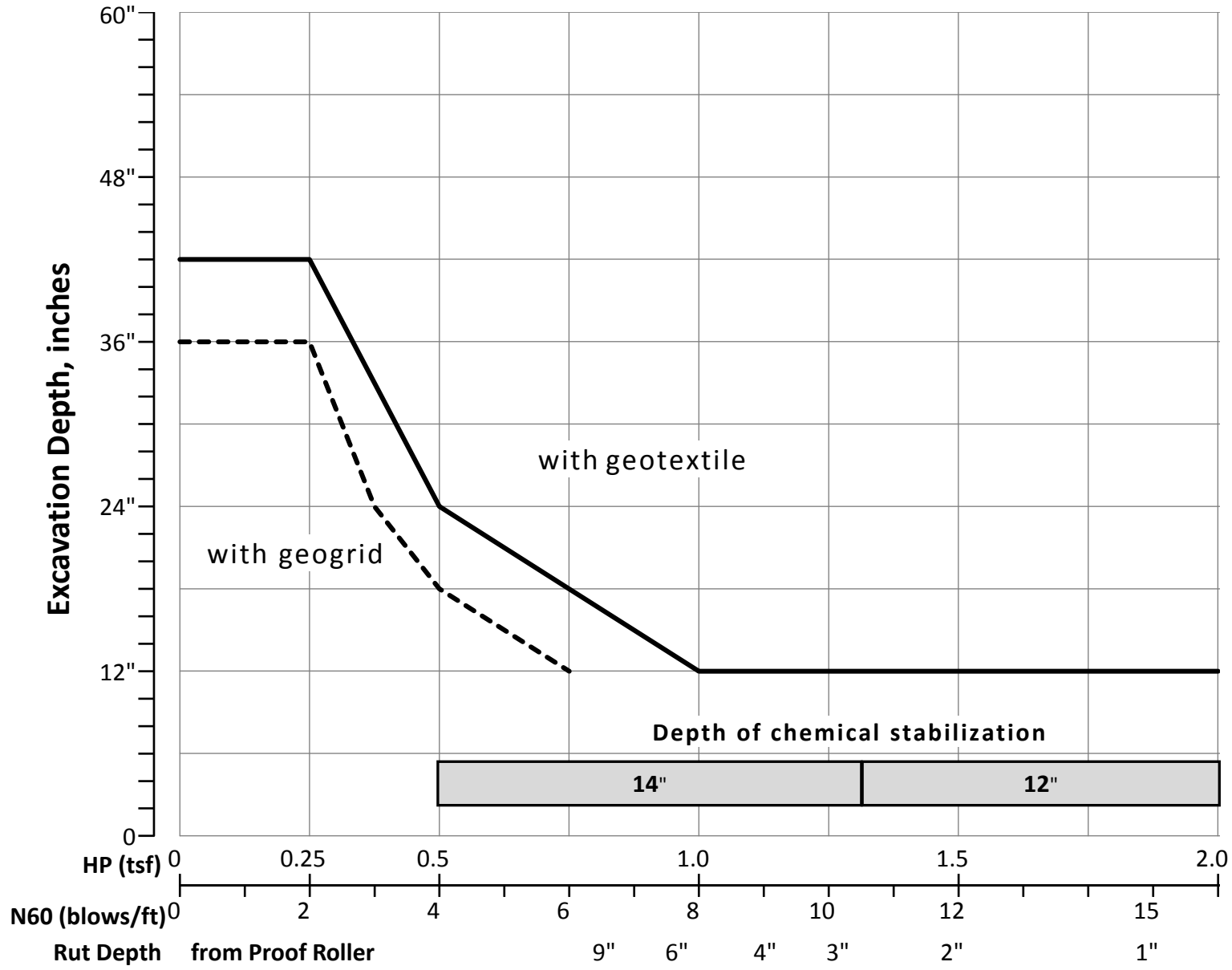
Excavate and Replace at Surface	
Average	0"
Maximum	0"
Minimum	0"

% Proposed Subgrade Surface	
Unstable & Unsuitable	10%
Unstable	10%
Unsuitable	0%

	N_{60}	N_{60L}	HP	LL	PL	PI	Silt	Clay	P 200	M_C	M_{OPT}	GI
Average	23	11	3.39	28	16	12	22	15	37	11	9	2
Maximum	65	18	4.50	28	17	13	42	32	74	15	16	16
Minimum	5	5	2.63	28	15	11	12	7	19	6	6	0

Classification Counts by Sample																			
ODOT Class	Rock	A-1-a	A-1-b	A-2-4	A-2-5	A-2-6	A-2-7	A-3	A-3a	A-4a	A-4b	A-5	A-6a	A-6b	A-7-5	A-7-6	A-8a	A-8b	Totals
Count	0	1	7	2	0	0	0	1	5	0	0	0	3	1	0	0	0	0	20
Percent	0%	5%	35%	10%	0%	0%	0%	5%	25%	0%	0%	0%	15%	5%	0%	0%	0%	0%	100%
% Rock Granular Cohesive	0%	80%										20%							100%
Surface Class Count	0	1	3	1	0	0	0	0	4	0	0	0	0	1	0	0	0	0	10
Surface Class Percent	0%	10%	30%	10%	0%	0%	0%	0%	40%	0%	0%	0%	0%	10%	0%	0%	0%	0%	100%

GB1 Figure B – Subgrade Stabilization



OVERRIDE TABLE

Calculated Average	New Values	Check to Override
3.39		<input type="checkbox"/> HP
11.14	18.00	<input checked="" type="checkbox"/> N60L

Average HP —
 Average N₆₀L —

OHIO DEPARTMENT OF TRANSPORTATION

OFFICE OF GEOTECHNICAL ENGINEERING

**PLAN SUBGRADES
Geotechnical Bulletin GB1**

**CUY-77/90-14.96/16.33
82380**

CUY-77/90-14.96/16.33 - CCG3 - Ramp H4

NEAS, Inc.

Prepared By: Brendan P. Andrews
Date prepared: Tuesday, July 28, 2020

**Brendan P. Andrews
2868 East Kemper Road
Cincinnati, OH 45241**

**513.337.9823 Ext. 701
brendan.andrews@neasinc.com**

NO. OF BORINGS: **7**

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL	Cut Fill
1	B-074-0-14	CL IR-77	75+26	51	RT	CME 55	79	695.1	696.5	1.4 F
2	B-123-0-14	Ramp H4	778+00	11	LT	CME 45B	77	693.6	692.0	1.6 C
3	B-118-0-14	Ramp H4	778+96	19	LT	MOBILE B-58	92	691.8	686.4	5.4 C
4	B-119-0-14	Ramp H4	780+93	11	LT	CME 55X	81	684.5	675.3	9.2 C
5	B-111-0-14	Ramp H5	980+67	13	LT	CME 45B	77	682.6	674.4	8.2 C
6	B-104-0-14	E 14th St	19+18	50	RT	CME 45B	77	672.4	673.3	0.9 F
7	B-120-0-14	Ramp H5	982+26	17	LT	CME 55	79	670.8	670.8	0.0

PID: 82380

County-Route-Section: CUY-77/90-14.96/16.33

No. of Borings: 7

Geotechnical Consultant: NEAS, Inc.

Prepared By: Brendan P. Andrews

Date prepared: 7/28/2020

Chemical Stabilization Options		
320	Rubblize & Roll	Option
206	Cement Stabilization	Option
	Lime Stabilization	No
206	Depth	NA

Excavate and Replace Stabilization Options	
Global Geotextile Override(N60L): Average(HP):	0" 0"
Global Geogrid Override(N60L): Average(HP):	0" 0"

Design CBR	12
-----------------------	-----------

% Samples within 6 feet of subgrade			
N ₆₀ ≤ 5	19%	HP ≤ 0.5	0%
N ₆₀ < 12	29%	0.5 < HP ≤ 1	0%
12 ≤ N ₆₀ < 15	5%	1 < HP ≤ 2	0%
N ₆₀ ≥ 20	52%	HP > 2	5%
M+	0%		
Rock	0%		
Unsuitable	0%		

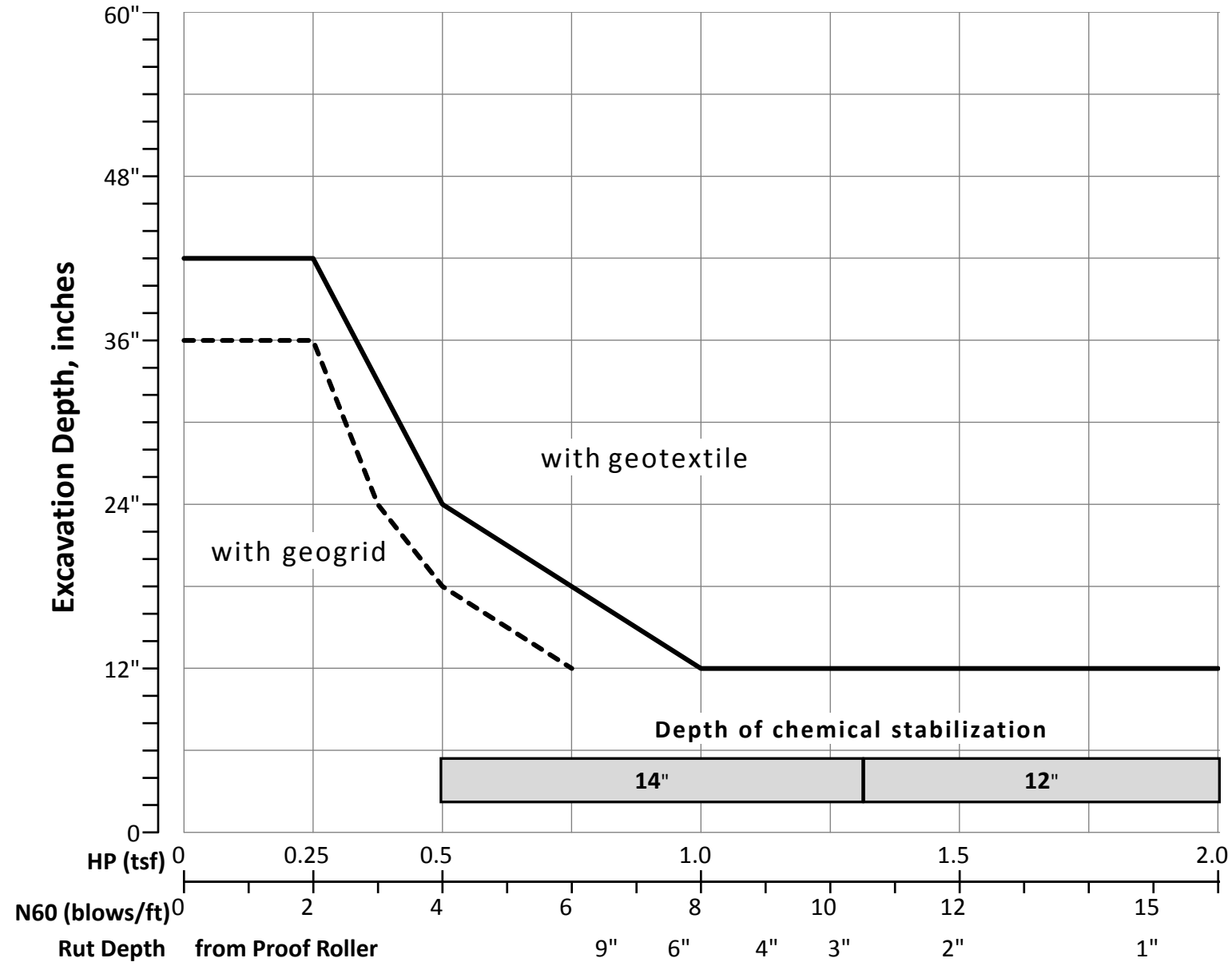
Excavate and Replace at Surface	
Average	0"
Maximum	0"
Minimum	0"

% Proposed Subgrade Surface	
Unstable & Unsuitable	0%
Unstable	0%
Unsuitable	0%

	N ₆₀	N _{60L}	HP	LL	PL	PI	Silt	Clay	P 200	M _C	M _{OPT}	GI
Average	28	18	3.25	32	18	14	14	9	23	9	8	0
Maximum	91	30	3.25	32	18	14	32	28	60	15	14	7
Minimum	3	3	3.25	32	18	14	5	3	8	5	6	0

Classification Counts by Sample																			
ODOT Class	Rock	A-1-a	A-1-b	A-2-4	A-2-5	A-2-6	A-2-7	A-3	A-3a	A-4a	A-4b	A-5	A-6a	A-6b	A-7-5	A-7-6	A-8a	A-8b	Totals
Count	0	0	1	0	0	0	0	6	13	0	0	0	1	0	0	0	0	0	21
Percent	0%	0%	5%	0%	0%	0%	0%	29%	62%	0%	0%	0%	5%	0%	0%	0%	0%	0%	100%
% Rock Granular Cohesive	0%	95%										5%						100%	
Surface Class Count	0	0	0	0	0	0	0	3	4	0	0	0	1	0	0	0	0	0	8
Surface Class Percent	0%	0%	0%	0%	0%	0%	0%	38%	50%	0%	0%	0%	13%	0%	0%	0%	0%	0%	100%

GB1 Figure B – Subgrade Stabilization



OVERRIDE TABLE

Calculated Average	New Values	Check to Override
3.25		<input type="checkbox"/> HP
18.00	30.00	<input checked="" type="checkbox"/> N60L

Average HP —
 Average N₆₀L —

OHIO DEPARTMENT OF TRANSPORTATION

OFFICE OF GEOTECHNICAL ENGINEERING

**PLAN SUBGRADES
Geotechnical Bulletin GB1**

**CUY-77/90-14.96/16.33
82380**

CUY-77/90-14.96/16.33 - CCG3 - Ramp H5

NEAS, Inc.

Prepared By: Brendan P. Andrews
Date prepared: Tuesday, July 28, 2020

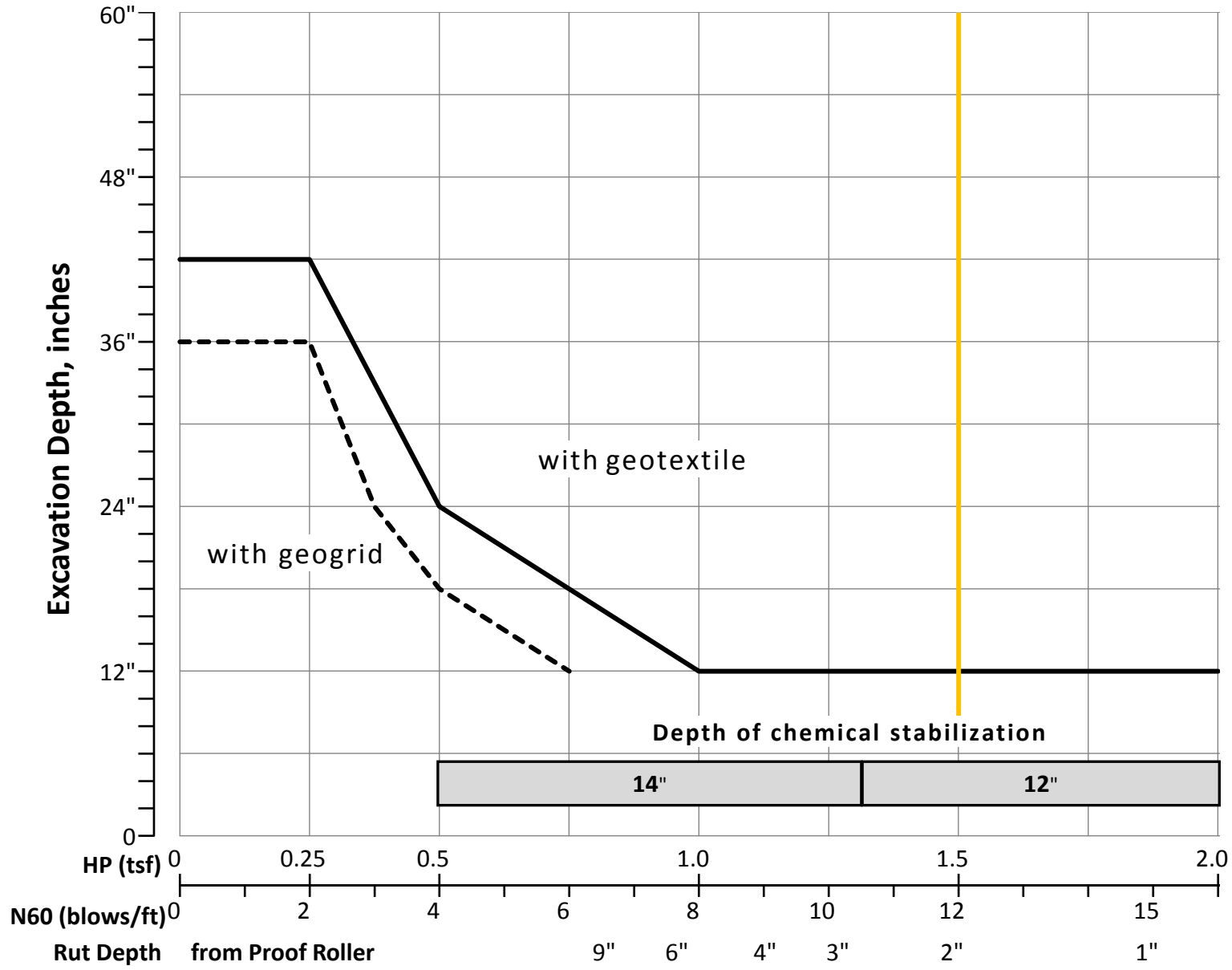
**Brendan P. Andrews
2868 East Kemper Road
Cincinnati, OH 45241**

**513.337.9823 Ext. 701
brendan.andrews@neasinc.com**

NO. OF BORINGS: **3**

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL	Cut Fill
1	B-111-0-14	Ramp H5	980+67	13	LT	CME 45B	77	682.6	686.4	3.8 F
2	B-122-0-14	Ramp H5	990+36	22	LT	CME 55X	81	676.0	673.1	2.9 C
3	B-159-0-14	Ramp B6	1613+21	14	RT	CME 55	79	672.0	672.1	0.1 F

GB1 Figure B – Subgrade Stabilization



OVERRIDE TABLE

Calculated Average	New Values	Check to Override
	2.50	<input checked="" type="checkbox"/> HP
11.67	12.00	<input checked="" type="checkbox"/> N60L

Average HP —
 Average N₆₀L —

OHIO DEPARTMENT OF TRANSPORTATION

OFFICE OF GEOTECHNICAL ENGINEERING

**PLAN SUBGRADES
Geotechnical Bulletin GB1**

**CUY-77/90-14.96/16.33
82380**

CUY-77/90-14.96/16.33 - CCG3 - Ramp H6

NEAS, Inc.

Prepared By: Brendan P. Andrews
Date prepared: Tuesday, July 28, 2020

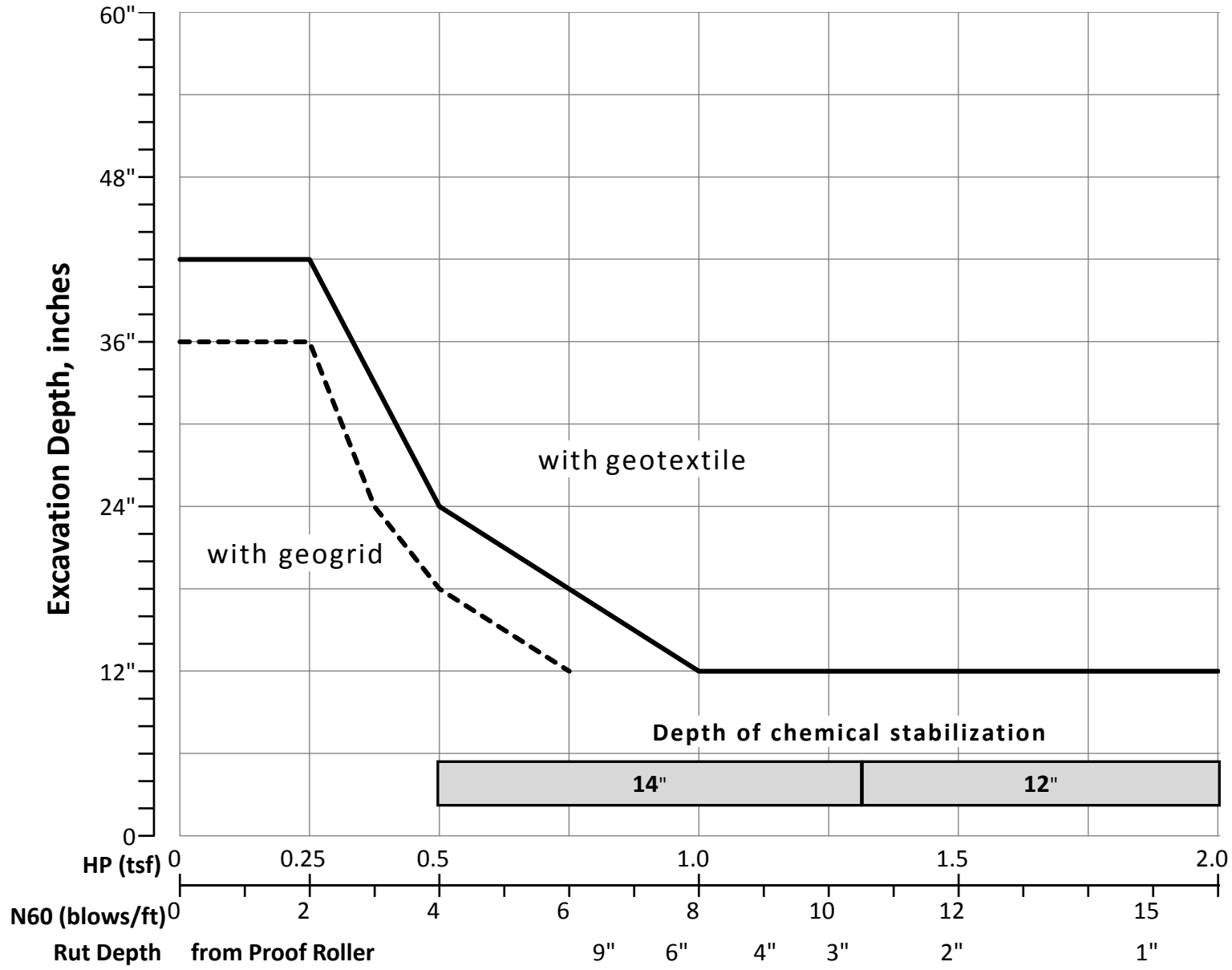
**Brendan P. Andrews
2868 East Kemper Road
Cincinnati, OH 45241**

**513.337.9823 Ext. 701
brendan.andrews@neasinc.com**

NO. OF BORINGS: **2**

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL	Cut Fill
1	B-113-0-14	Ramp H6	1187+81	28	RT	CME 45B	77	677.1	672.0	5.1 C
2	B-114-0-14	Ramp H6	1190+08	39	RT	CME 45B	77	674.5	671.0	3.5 C

GB1 Figure B – Subgrade Stabilization



OVERRIDE TABLE

Calculated Average	New Values	Check to Override
	2.50	<input checked="" type="checkbox"/> HP
5.00	17.00	<input checked="" type="checkbox"/> N60L

Average HP —
 Average N₆₀L —

OHIO DEPARTMENT OF TRANSPORTATION

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**PLAN SUBGRADES
Geotechnical Bulletin GB1**

**CUY-77/90-14.96/16.33
82380**

CUY-77/90-14.96/16.33 - CCG3 - Ramp J2

NEAS, Inc.

Prepared By: Brendan P. Andrews
Date prepared: Tuesday, July 28, 2020

**Brendan P. Andrews
2868 East Kemper Road
Cincinnati, OH 45241**

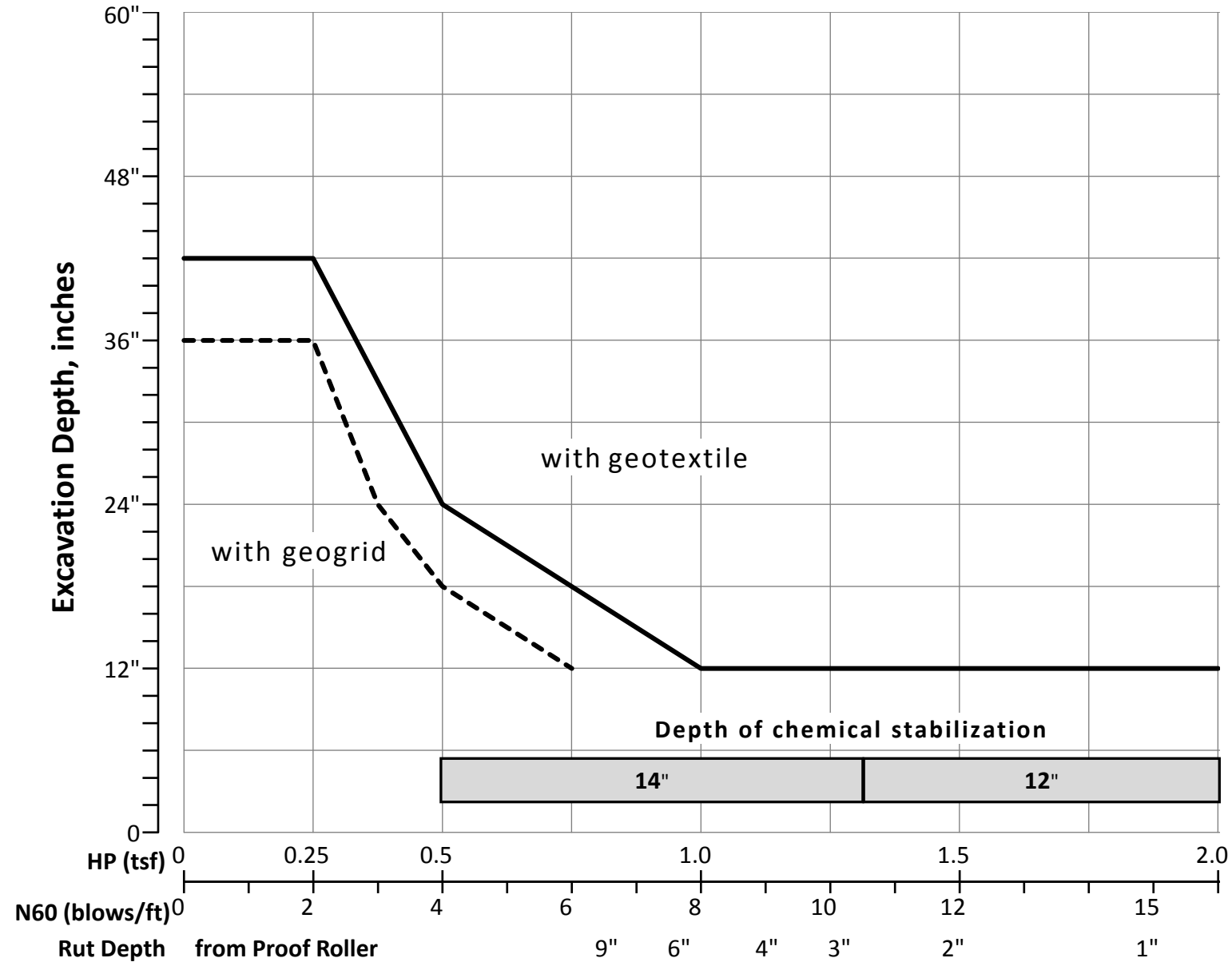
**513.337.9823 Ext. 701
brendan.andrews@neasinc.com**

NO. OF BORINGS: **3**

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL	Cut Fill
1	B-058-0-14	Ramp J2	5444+06	4	RT	CME 45B	77	680.6	680.8	0.2 F
2	B-055-0-14	Orange Ave EB	414+21.7	22	LT	CME 45B	77	679.2	677.1	2.1 C
3	B-050-0-14	Orange Ave EB	416+03	14	RT	CME 45B	77	678.3	676.5	1.8 C

#	Boring	Sample	Sample Depth		Subgrade Depth		Standard Penetration		HP (tsf)	Physical Characteristics					Moisture		Ohio DOT		Sulfate Content (ppm)	Problem		Excavate and Replace (Item 204)		Recommendation (Enter depth in inches)	
			From	To	From	To	N ₆₀	N _{60L}		LL	PL	PI	% Silt	% Clay	P200	M _c	M _{OPT}	Class		GI	Unsuitable	Unstable	Unsuitable		Unstable
1	B 058-0 14	SS-1	2.5	4.0	2.7	4.2	14	9		NP	NP	NP	19	2	21	24	8	A-3a	0						
		SS-2	5.0	6.5	5.2	6.7	9										22	6	A-1-a						
2	B 055-0 14	SS-2	2.5	4.0	0.4	1.9	59	14								9	6	A-1-b	0						
		SS-3	5.0	6.5	2.9	4.4	19			NP	NP	NP	8	4	12	7	8	A-3a	0						
		SS-4	7.5	9.0	5.4	6.9	14										5	8	A-3						
3	B 050-0 14	SS-1	2.0	3.5	0.2	1.7	19	8		NP	NP	NP	7	6	13	5	8	A-3a	0	100					
		SS-2	3.5	5.0	1.7	3.2	13										6	8	A-3a	0					
		SS-3	5.0	6.5	3.2	4.7	8			NP	NP	NP	6	5	11	6	8	A-3a	0						
		SS-4	6.5	8.0	4.7	6.2	8										6	8	A-3a	0					

GB1 Figure B – Subgrade Stabilization



OVERRIDE TABLE

Calculated Average	New Values	Check to Override
	2.50	<input checked="" type="checkbox"/> HP
10.33	17.00	<input checked="" type="checkbox"/> N60L

Average HP —
Average N₆₀L —

OHIO DEPARTMENT OF TRANSPORTATION

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**PLAN SUBGRADES
Geotechnical Bulletin GB1**

**CUY-77/90-14.96/16.33
82380**

CUY-77/90-14.96/16.33 - CCG3 - Ramp J3

NEAS, Inc.

Prepared By: Brendan P. Andrews
Date prepared: Tuesday, July 28, 2020

**Brendan P. Andrews
2868 East Kemper Road
Cincinnati, OH 45241**

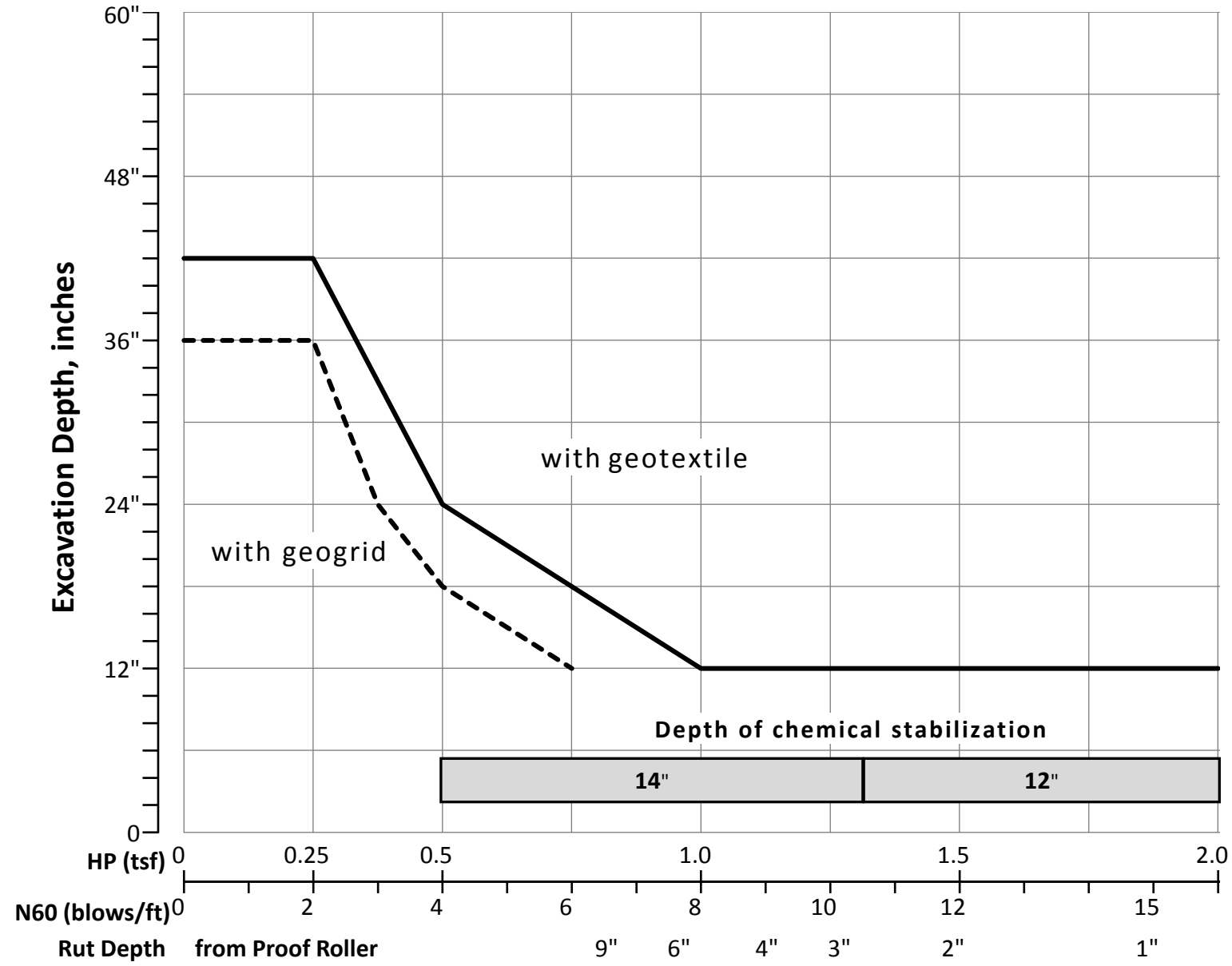
**513.337.9823 Ext. 701
brendan.andrews@neasinc.com**

NO. OF BORINGS: **3**

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL	Cut Fill
1	B-125-0-14	Ramp J3	26+93.89	19	RT	CME 55	79	697.1	696.5	0.6 C
2	B-152-0-14	Ramp B5	1514+63	63	LT	CME 55X	81	675.7	676.8	1.1 F
3	B-102-0-14	Ramp J3	16+42	15	LT	MOBILE B-58	92	679.0	665.5	13.5 C

#	Boring	Sample	Sample Depth		Subgrade Depth		Standard Penetration		HP (tsf)	Physical Characteristics					Moisture		Ohio DOT		Sulfate Content (ppm)	Problem		Excavate and Replace (Item 204)		Recommendation (Enter depth in inches)	
			From	To	From	To	N ₆₀	N _{60L}		LL	PL	PI	% Silt	% Clay	P200	M _c	M _{OPT}	Class		GI	Unsuitable	Unstable	Unsuitable		Unstable
1	B 125-0 14	SS-1	2.5	4.0	1.9	3.4	67	29		NP	NP	NP	20	7	27	8	8	A-3a	0						
		SS-2	5.0	6.5	4.4	5.9	29										10	8	A-3a	0					
2	B 152-0 14	SS-1	0.0	1.5	1.1	2.6	22	22								11	8	A-3a	0						
		SS-2	2.5	4.0	3.6	5.1	34			NP	NP	NP	20	8	28	14	8	A-3a	0						
		SS-3	5.0	6.5	6.1	7.6	38			NP	NP	NP	9	4	13	11	6	A-1-b							
3	B 102-0 14	SS-6	12.5	14.0	-1.0	0.5	6	6								10	8	A-3	0						
		SS-7	15.0	16.5	1.5	3.0	9			NP	NP	NP	4	1	5	5	8	A-3	0						
		SS-8	17.5	19.0	4.0	5.5	28								5	8	A-3a	0							

GB1 Figure B – Subgrade Stabilization



OVERRIDE TABLE

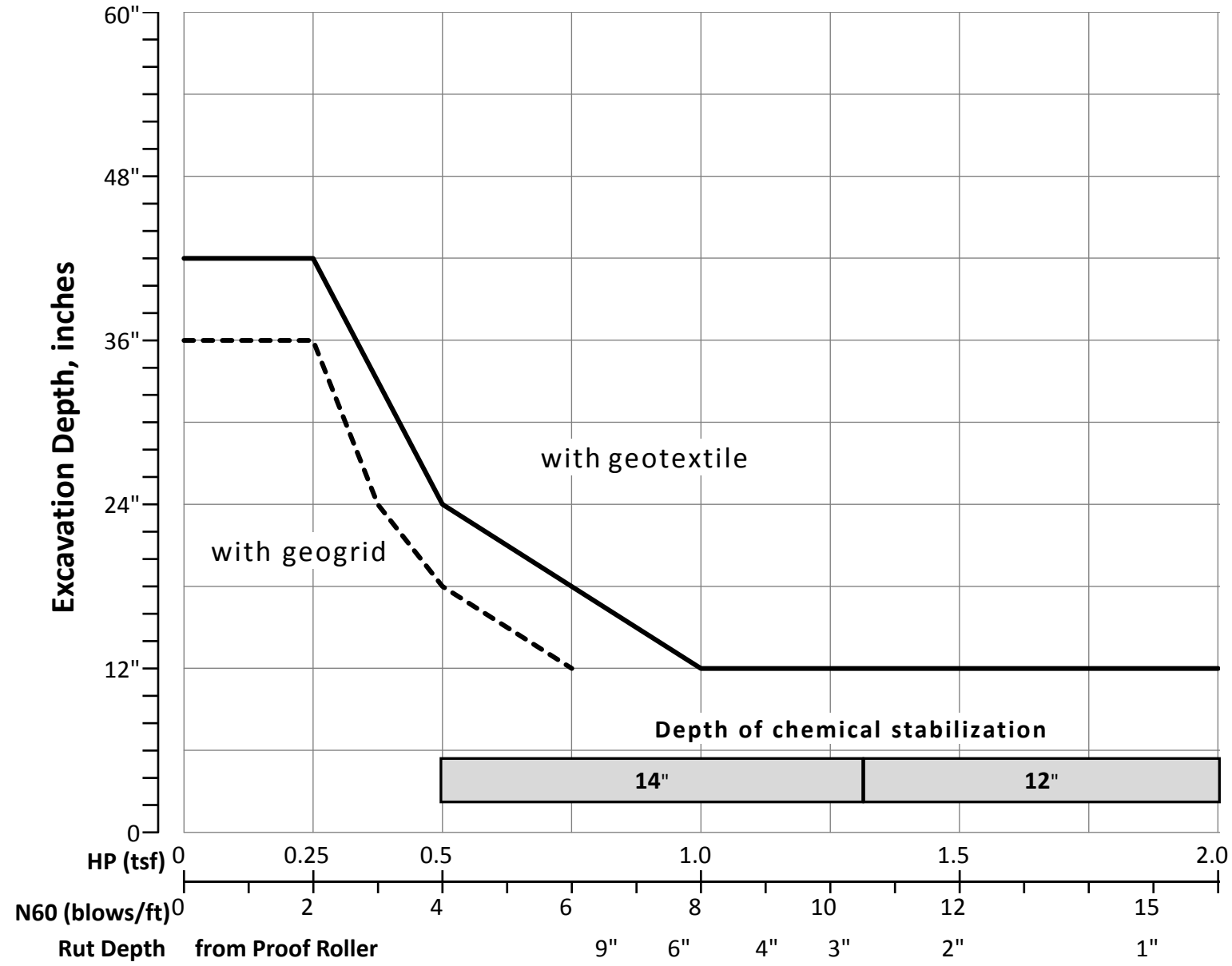
Calculated Average	New Values	Check to Override
	2.50	<input checked="" type="checkbox"/> HP
19.00		<input type="checkbox"/> N60L

Average HP —
Average N_{60L} —

OHIO DEPARTMENT OF TRANSPORTATION**OFFICE OF GEOTECHNICAL ENGINEERING****PLAN SUBGRADES
Geotechnical Bulletin GB1****CUY-77/90-14.96/16.33
82380****CUY-77/90-14.96/16.33 - CCG3 - Ramp J4****NEAS, Inc.****Prepared By:** Brendan P. Andrews
Date prepared: Tuesday, July 28, 2020**Brendan P. Andrews
2868 East Kemper Road
Cincinnati, OH 45241****513.337.9823 Ext. 701
brendan.andrews@neasinc.com****NO. OF BORINGS:** **2**

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL	Cut Fill
1	B-007-0-14	Ramp J4	247+91	27	RT	CME 55X	81	689.2	692.1	2.9 F
2	B-018-0-14	Ramp J4	251+24	10	LT	CME 45B	77	680.3	684.0	3.7 F

GB1 Figure B – Subgrade Stabilization



OVERRIDE TABLE

Calculated Average	New Values	Check to Override
0.00	2.50	<input checked="" type="checkbox"/> HP
19.00		<input type="checkbox"/> N60L

Average HP —
Average N₆₀L —

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**PLAN SUBGRADES
Geotechnical Bulletin GB1**

**CUY-77/90-14.96/16.33
82380**

CUY-77/90-14.96/16.33 - CCG3 - Carnegie Ave.

NEAS, Inc.

Prepared By: Brendan P. Andrews
Date prepared: Tuesday, July 28, 2020

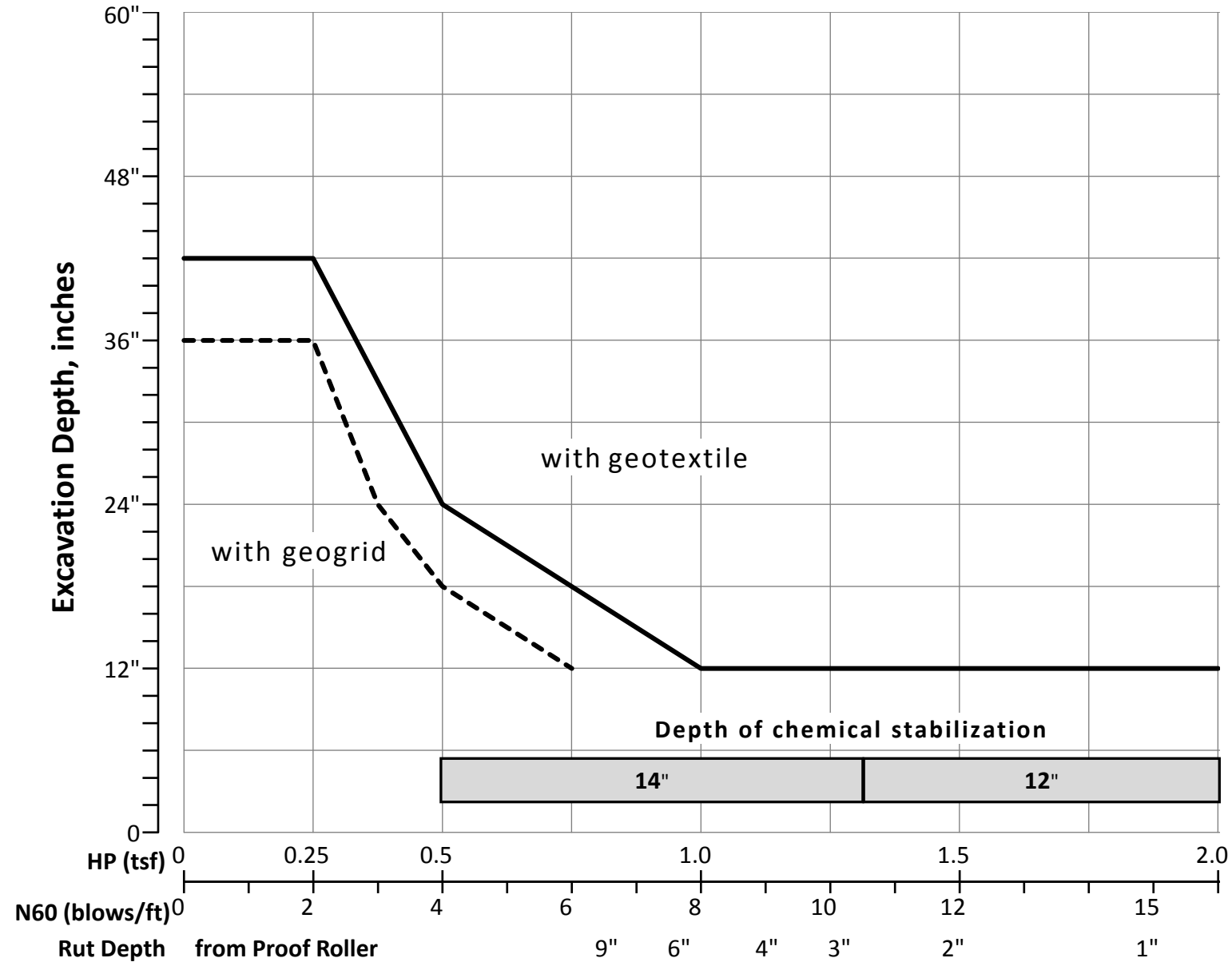
**Brendan P. Andrews
2868 East Kemper Road
Cincinnati, OH 45241**

**513.337.9823 Ext. 701
brendan.andrews@neasinc.com**

NO. OF BORINGS: **10**

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL	Cut Fill
1	B-095-0-14	Carnegie Ave.	29+11	29	RT	CME 45B	77	671.4	669.9	1.5 C
2	B-096-0-14	Carnegie Ave.	31+14	0	RT	CME 55	79	672.3	670.8	1.5 C
3	B-097-0-14	Carnegie Ave.	36+06	32	RT	CME 55	79	672.0	671.9	0.1 C
4	B-098-0-14	Carnegie Ave.	39+50	12	LT	CME 55	79	680.8	680.1	0.7 C
5	B-099-0-14	Carnegie Ave.	43+78	6	RT	CME 55	79	670.4	668.9	1.5 C
6	B-100-0-14	Carnegie Ave.	47+11	41	RT	CME 55	79	670.8	670.6	0.2 C
7	B-101-0-14	EX E 21ST ST	8+71	4	LT	CME 55	79	671.2	671.3	0.1 F
8	B-108-0-14	Carnegie Ave.	53+98	6	LT	CME 55	79	671.6	669.8	1.8 C
9	B-169-0-14	Carnegie Ave.	56+24	53	RT	CME 45B	77	671.9	669.8	2.1 C
10	B-170-0-14	Carnegie Ave.	63+40	55	RT	CME 55	79	666.9	666.9	0.0

GB1 Figure B – Subgrade Stabilization



OVERRIDE TABLE

Calculated Average	New Values	Check to Override
	2.50	<input checked="" type="checkbox"/> HP
7.80	17.00	<input checked="" type="checkbox"/> N60L

Average HP —
 Average N₆₀L —

OHIO DEPARTMENT OF TRANSPORTATION

OFFICE OF GEOTECHNICAL ENGINEERING

**PLAN SUBGRADES
Geotechnical Bulletin GB1**

**CUY-77/90-14.96/16.33
82380**

CUY-77/90-14.96/16.33 - CCG3 - East 14th St

NEAS, Inc.

Prepared By: Brendan P. Andrews
Date prepared: Tuesday, July 28, 2020

**Brendan P. Andrews
2868 East Kemper Road
Cincinnati, OH 45241**

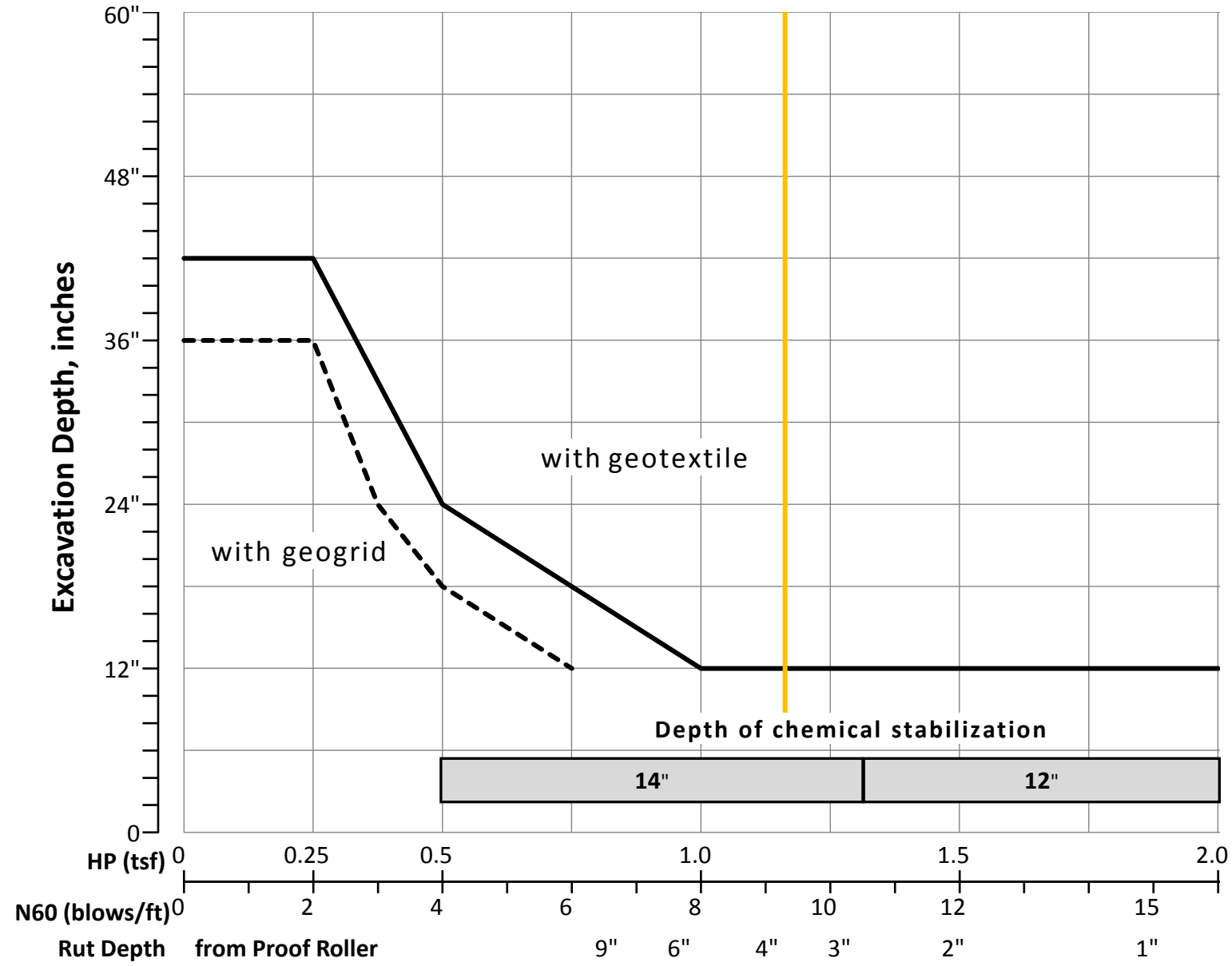
**513.337.9823 Ext. 701
brendan.andrews@neasinc.com**

NO. OF BORINGS: **10**

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL	Cut Fill
1	B-077-0-09	E 14th	12+66	3	RT	MOBILE B61 TRUCK	89	677.7	674.6	3.1 C
2	B-0104-0-14	E 14th	19+18	50	RT	CME 45B	77	672.4	673.5	1.1 F
3	B-120-0-14	Ramp H5	982+26	17	LT	CME 55	79	670.8	672.1	1.3 F
4	B-128-0-14	Ramp J3	21+49	34	LT	CME 55X	81	675.4	671.8	3.6 C
5	B-103-0-14	E 14th	23+64	14	RT	CME 45B	77	677.3	669.3	8.0 C
6	B-102-0-143	Ramp J3	16+42	15	LT	MOBILE B-58	92	679.0	666.6	12.4 C
7	B-158-0-14	Ramp B6	1608+85	38	RT	CME 55	79	678.6	665.9	12.7 C
8	B-078-0-14	IR 90 EB	86+36.4	27	LT	CME 45B	77	670.9	662.7	8.2 C
9	B-080-0-14	IR 90 WB	188+15	41	LT	MOBILE B-58	92	669.4	663.4	6.0 C
10	B-098-0-14	Carnegie Ave.	39+50	12	LT	CME 55	79	670.8	669.8	1.0 C

#	Boring	Sample	Sample Depth		Subgrade Depth		Standard Penetration		HP (tsf)	Physical Characteristics					Moisture		Ohio DOT		Sulfate Content (ppm)	Problem		Excavate and Replace (Item 204)		Recommendation (Enter depth in inches)	
			From	To	From	To	N ₆₀	N _{60L}		LL	PL	PI	% Silt	% Clay	P200	M _c	M _{OPT}	Class		GI	Unsuitable	Unstable	Unsuitable		Unstable
10	B	SS-1	2.0	3.5	1.0	2.5	8							7	8	A-3	0	100							
		098-0	SS-2	3.5	5.0	2.5	4.0	8		NP	NP	NP	5	4	9	7	6	A-1-b	0						
	14	SS-3	5.0	6.5	4.0	5.5	13							8	8	A-3	0								
		SS-4	6.5	8.0	5.5	7.0	12	8		NP	NP	NP	4	3	7	6	8	A-3							

GB1 Figure B – Subgrade Stabilization



OVERRIDE TABLE

Calculated Average	New Values	Check to Override
	2.50	<input checked="" type="checkbox"/> HP
9.30		<input type="checkbox"/> N60L

Average HP —
 Average N₆₀L —

OHIO DEPARTMENT OF TRANSPORTATION

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**PLAN SUBGRADES
Geotechnical Bulletin GB1**

**CUY-77/90-14.96/16.33
82380**

CUY-77/90-14.96/16.33 - CCG3 - East 22nd St (STA 27+32 to 37+45)

NEAS, Inc.

Prepared By: Brendan P. Andrews
Date prepared: Tuesday, July 28, 2020

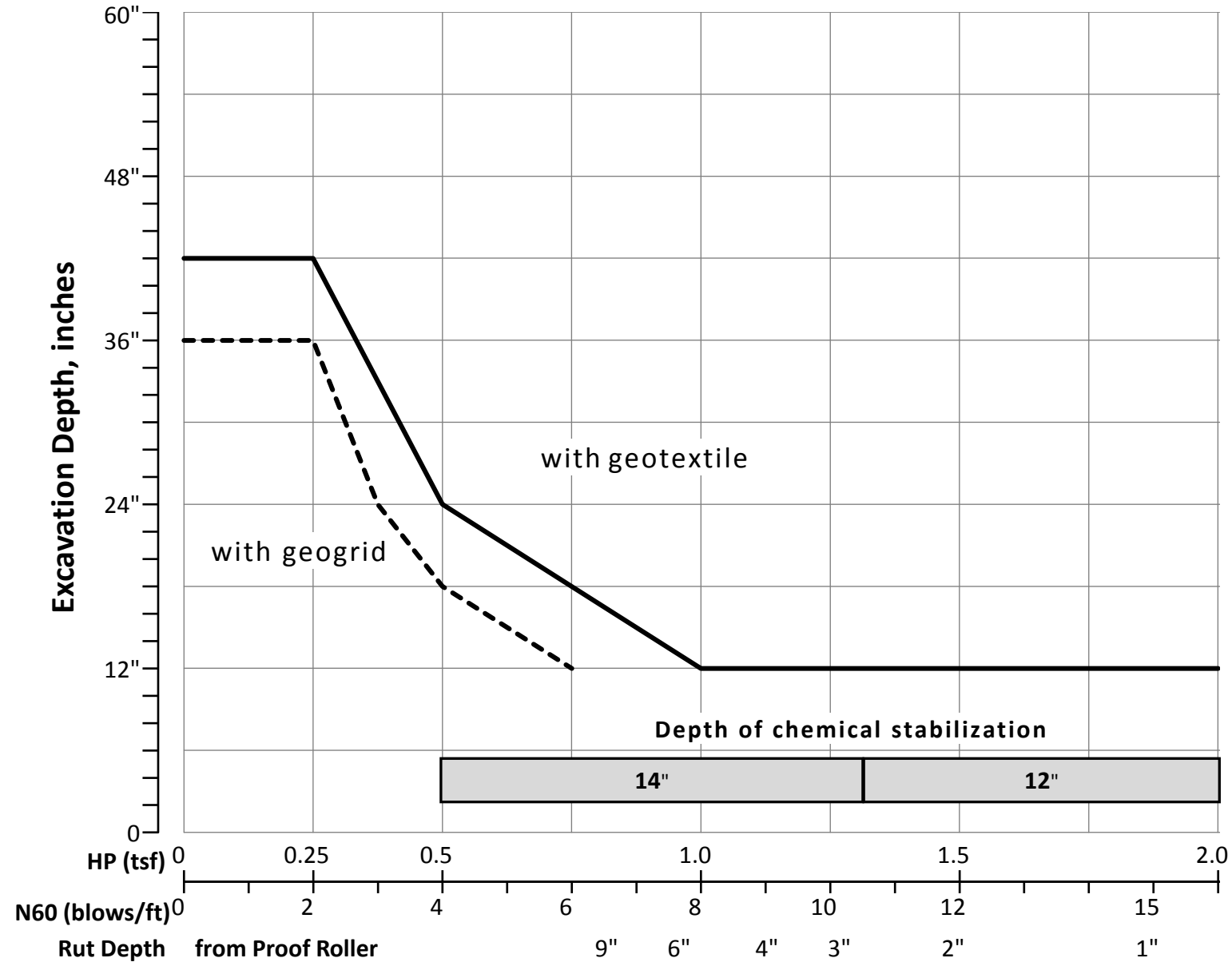
**Brendan P. Andrews
2868 East Kemper Road
Cincinnati, OH 45241**

**513.337.9823 Ext. 701
brendan.andrews@neasinc.com**

NO. OF BORINGS: 5

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL	Cut Fill
1	B-105-0-14	E 22nd St	29+96	36	RT	CME 45B	77	669.7	667.7	2.0 C
2	B-106-0-14	Ex. Central Ave.	26+08	1	RT	CME 45B	77	668.9	667.3	1.6 C
3	B-107-0-14	E 22nd St.	31+89	27	LT	CME 45B	77	668.8	668.6	0.2 C
4	B-108-0-14	Carnegie Ave.	53+98	6	LT	CME 55	79	671.6	669.7	1.9 C
5	B-109-0-14	Ex. 22nd St. N	29+00	13	LT	CME 55	79	669.6	669.9	0.3 F

GB1 Figure B – Subgrade Stabilization



OVERRIDE TABLE

Calculated Average	New Values	Check to Override
	2.50	<input checked="" type="checkbox"/> HP
8.00	17.00	<input checked="" type="checkbox"/> N60L

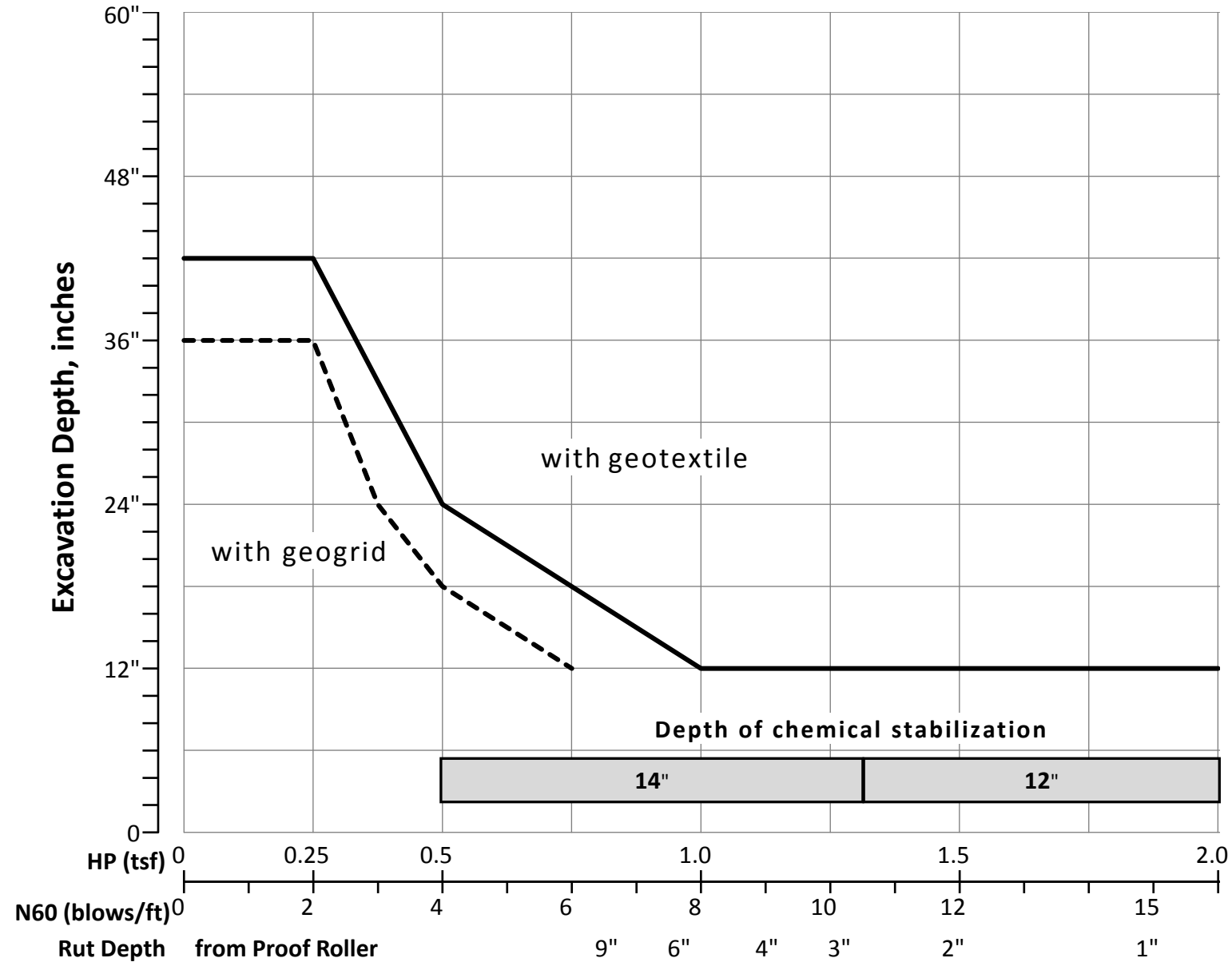
Average HP —
 Average N_{60L} —

OHIO DEPARTMENT OF TRANSPORTATION**OFFICE OF GEOTECHNICAL ENGINEERING****PLAN SUBGRADES
Geotechnical Bulletin GB1****CUY-77/90-14.96/16.33
82380****CUY-77/90-14.96/16.33 - CCG3 - East 22nd St (STA 10+00 to 15+50)****NEAS, Inc.****Prepared By:** Brendan P. Andrews
Date prepared: Tuesday, July 28, 2020**Brendan P. Andrews
2868 East Kemper Road
Cincinnati, OH 45241****513.337.9823 Ext. 701
brendan.andrews@neasinc.com****NO. OF BORINGS:** **4**

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL	Cut Fill
1	B-071-0-14	Orange Ave EB	406+27	48	RT	CME 45B	77	678.2	676.3	1.9 C
2	B-067-0-14	CL IR-77	74+35	68	RT	MOBILE B-58	92	675.9	673.1	2.8 C
3	B-070-0-14	Woodland Ave.	700+58	41	LT	CME 45B	77	676.8	674.3	2.5 C
4	B-072-0-14	E 22nd St.	16+30	9	LT	CME 45B	77	676.0	674.8	1.2 C

#	Boring	Sample	Sample Depth		Subgrade Depth		Standard Penetration		HP (tsf)	Physical Characteristics					Moisture		Ohio DOT		Sulfate Content (ppm)	Problem		Excavate and Replace (Item 204)		Recommendation (Enter depth in inches)	
			From	To	From	To	N ₆₀	N _{60L}		LL	PL	PI	% Silt	% Clay	P200	M _c	M _{OPT}	Class		GI	Unsuitable	Unstable	Unsuitable		Unstable
1	B 071-0 14	SS-2	2.0	3.5	0.1	1.6	14								10	8	A-3a	0	449						
		SS-3	3.5	5.0	1.6	3.1	8		NP	NP	NP	13	6	19	12	8	A-3a	0							
		SS-4	5.0	6.5	3.1	4.6	9								7	8	A-3a	0							
		SS-5	6.5	8.0	4.6	6.1	9	8							12	8	A-3	0							
2	B 067-0 14	SS-1	2.5	4.0	-0.3	1.2	9			NP	NP	NP	7	3	10	8	8	A-3	0						
		SS-2	5.0	6.5	2.2	3.7	8								7	8	A-3	0							
		SS-3	7.5	9.0	4.7	6.2	9								7	6	A-1-b	0							
								8																	
3	B 070-0 14	SS-2	2.0	3.5	-0.5	1.0	5			NP	NP	NP	10	7	17	15	8	A-3a	0	100					
		SS-3	3.5	5.0	1.0	2.5	6								14	8	A-3a	0							
		SS-4	5.0	6.5	2.5	4.0	6			NP	NP	NP	3	2	5	8	8	A-3	0						
		SS-5	6.5	8.0	4.0	5.5	10	5							8	8	A-3a	0							
4	B 072-0 14	SS-1	2.0	3.5	0.8	2.3	8			NP	NP	NP	4	4	8	7	8	A-3	0	133					
		SS-2	3.5	5.0	2.3	3.8	5								6	8	A-3	0							
		SS-3	5.0	6.5	3.8	5.3	3			NP	NP	NP	3	3	6	7	8	A-3	0						
		SS-4	6.5	8.0	5.3	6.8	6	3							7	8	A-3								

GB1 Figure B – Subgrade Stabilization



OVERRIDE TABLE

Calculated Average	New Values	Check to Override
	2.50	<input checked="" type="checkbox"/> HP
6.00	17.00	<input checked="" type="checkbox"/> N60L

Average HP —
 Average N₆₀L —

OHIO DEPARTMENT OF TRANSPORTATION

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**PLAN SUBGRADES
Geotechnical Bulletin GB1**

**CUY-77/90-14.96/16.33
82380**

CUY-77/90-14.96/16.33 - CCG3 - East 30th St

NEAS, Inc.

Prepared By: Brendan P. Andrews
Date prepared: Tuesday, July 28, 2020

**Brendan P. Andrews
2868 East Kemper Road
Cincinnati, OH 45241**

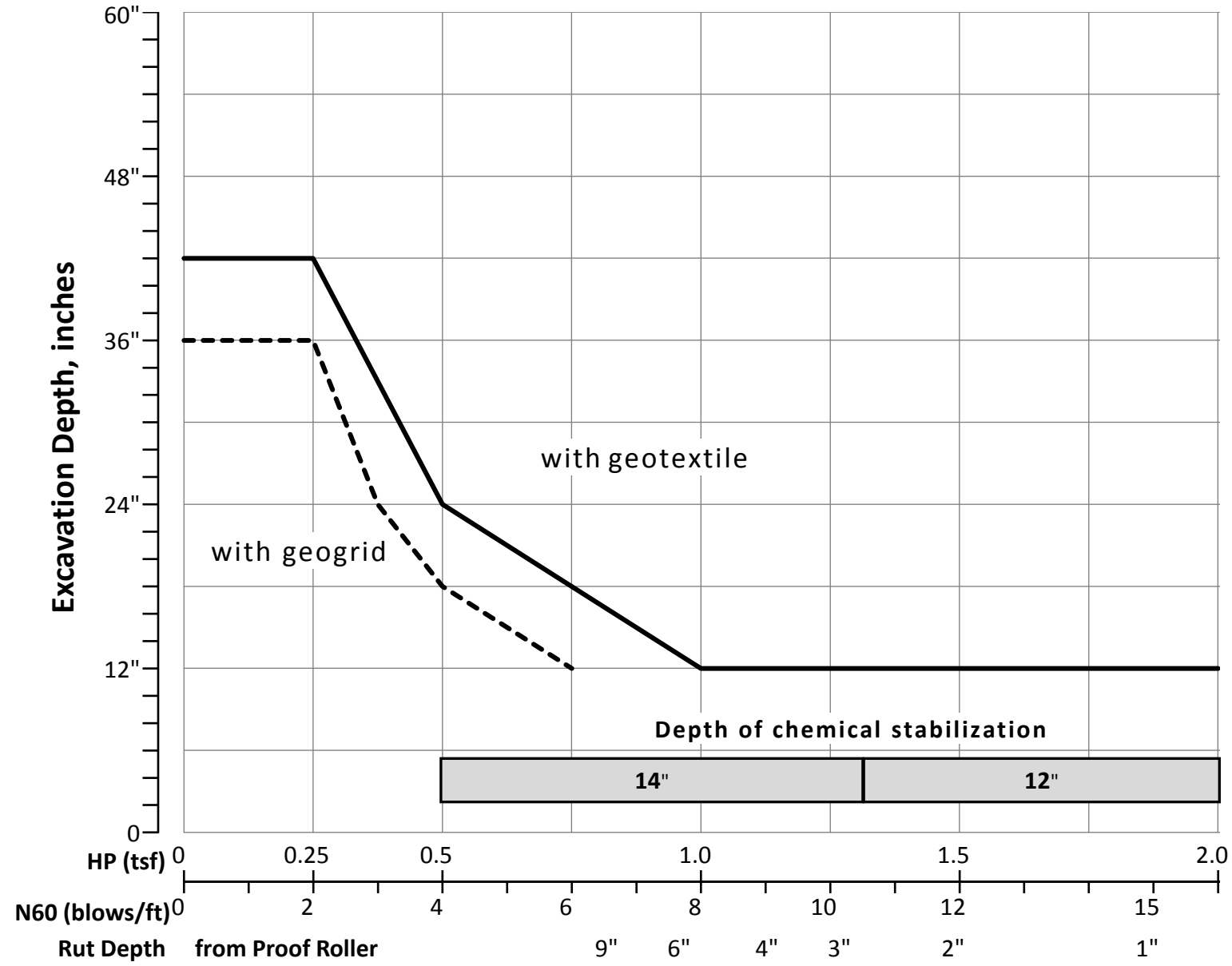
**513.337.9823 Ext. 701
brendan.andrews@neasinc.com**

NO. OF BORINGS: **4**

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL	Cut Fill
1	B-016-0-14	E 30th St.	9+80	16	LT	CME 45B	77	668.4	667.0	1.4 C
2	B-032-0-14	Orange Ave. EB	426+07	35	RT	CME 45B	77	678.6	675.3	3.3 C
3	B-028-0-14	CL IR-77	54+79	56	LT	CME 55	79	678.9	676.3	2.6 C
4	B-031-0-14	E 30th St.	21+07	35	LT	CME 45B	77	682.6	680.9	1.7 C

#	Boring	Sample	Sample Depth		Subgrade Depth		Standard Penetration		HP (tsf)	Physical Characteristics					Moisture		Ohio DOT		Sulfate Content (ppm)	Problem		Excavate and Replace (Item 204)		Recommendation (Enter depth in inches)		
			From	To	From	To	N ₆₀	N _{60L}		LL	PL	PI	% Silt	% Clay	P200	M _c	M _{OPT}	Class		GI	Unsuitable	Unstable	Unsuitable		Unstable	
1	B 016-0 14	SS-1	2.0	3.5	0.6	2.1	13	13		NP	NP	NP	6	3	9	5	6	A-1-b	0	100						
		SS-2	3.5	5.0	2.1	3.6	30			NP	NP	NP	7	3	10	4	8	A-3	0							
		SS-3	5.0	6.5	3.6	5.1	22			NP	NP	NP	7	2	9	4	6	A-1-b	0							
		SS-4	6.5	8.0	5.1	6.6	23									5	6	A-1-b								
2	B 032-0 14	SS-2	2.0	3.5	-1.3	0.2	10	4								7	8	A-3a	0	100						
		SS-3	3.5	5.0	0.2	1.7	4									7	8	A-3a	0							
		SS-4	5.0	6.5	1.7	3.2	5			NP	NP	NP	6	5	11	9	8	A-3a	0							
3	B 028-0 14	SS-2	2.5	4.0	-0.1	1.4	11	11		NP	NP	NP	4	3	7	7	8	A-3	0	100						
		SS-3	5.0	6.5	2.4	3.9	11									6	8	A-3	0							
		SS-4	7.5	9.0	4.9	6.4	11									7	8	A-3	0							
4	B 031-0 14	SS-1	2.0	3.5	0.3	1.8	35	30		NP	NP	NP	11	8	19	9	8	A-3a	0							
		SS-2	3.5	5.0	1.8	3.3	35			NP	NP	NP	9	6	15	7	8	A-3a	0							
		SS-3	5.0	5.8	3.3	4.1	65									8	8	A-3a	0							
		SS-4	6.5	8.0	4.8	6.3	40									8	8	A-3a	0							

GB1 Figure B – Subgrade Stabilization



OVERRIDE TABLE

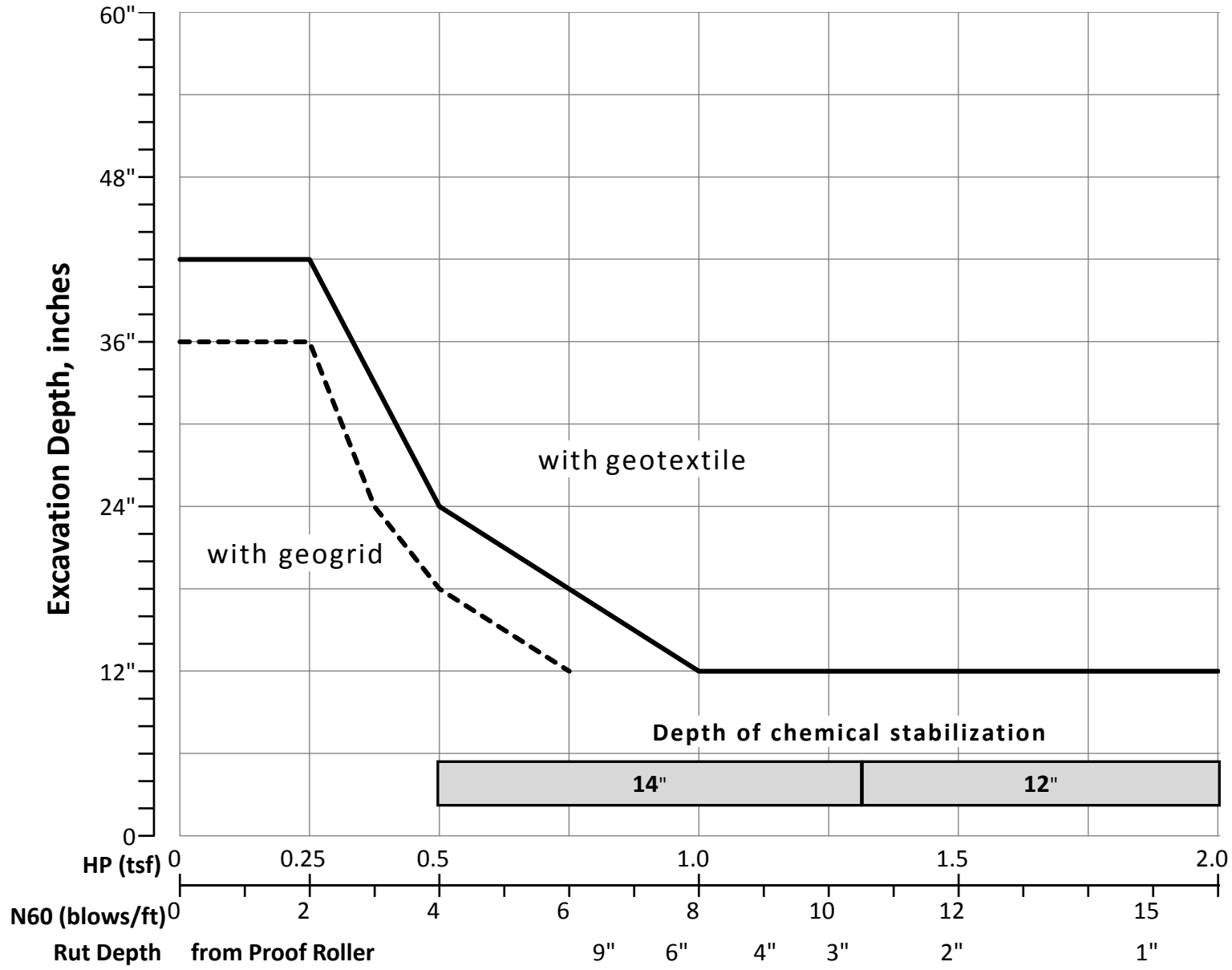
Calculated Average	New Values	Check to Override
	2.50	<input checked="" type="checkbox"/> HP
14.50	17.00	<input checked="" type="checkbox"/> N60L

Average HP —
 Average N_{60L} —

OHIO DEPARTMENT OF TRANSPORTATION**OFFICE OF GEOTECHNICAL ENGINEERING****PLAN SUBGRADES
Geotechnical Bulletin GB1****CUY-77/90-14.96/16.33
82380****CUY-77/90-14.96/16.33 - CCG3 - Orange Avenue/Ontario Street****NEAS, Inc.****Prepared By:** Brendan P. Andrews
Date prepared: Tuesday, July 28, 2020**Brendan P. Andrews
2868 East Kemper Road
Cincinnati, OH 45241****513.337.9823 Ext. 701
brendan.andrews@neasinc.com****NO. OF BORINGS:** **13**

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL	Cut Fill
1	B-090-0-14	Ontario St.	16+33	36	RT	CME 45B	77	674.0	673.9	0.1 C
2	B-089-0-14	Ontario St.	12+35	38	RT	CME 45B	77	676.4	675.2	1.2 C
3	B-077-0-09	E 14th St.	12+66	3	RT	MOBILE B61 TRUCK	89	677.7	676.4	1.3 C
4	B-088-0-14	Orange Ave. WB	804+33	25	LT	CME 45B	77	678.2	676.8	1.4 C
5	B-131-0-14	Orange Ave. WB	404+49	25	LT	CME 55	79	678.0	676.4	1.6 C
6	B-071-0-14	Orange Ave. EB	406+27	48	RT	CME 45B	77	678.2	676.1	2.1 C
7	B-062-0-14	Ramp J2	5442+72	24	LT	CME 55	79	679.3	677.8	1.5 C
8	B-061-0-14	Ramp J2	5443+15	2	RT	CME 45B	77	680.0	678.0	2.0 C
9	B-058-0-14	Ramp J2	5444+06	4	RT	CME 45B	77	680.6	678.1	2.5 C
10	B-055-0-14	Orange Ave. EB	14+21.6	22	LT	CME 45B	77	679.2	677.4	1.8 C
11	B-050-0-14	Orange Ave. EB	416+03	14	RT	CME 45B	77	678.3	676.8	1.5 C
12	B-041-0-14	Orange Ave. EB	422+17	14	LT	CME 45B	77	685.1	678.3	6.8 C
13	B-032-0-14	Orange Ave. EB	426+07	35	RT	CME 45B	77	678.6	676.6	2.0 C

GB1 Figure B – Subgrade Stabilization



OVERRIDE TABLE

Calculated Average	New Values	Check to Override
	2.50	<input checked="" type="checkbox"/> HP
10.15	17.00	<input checked="" type="checkbox"/> N60L

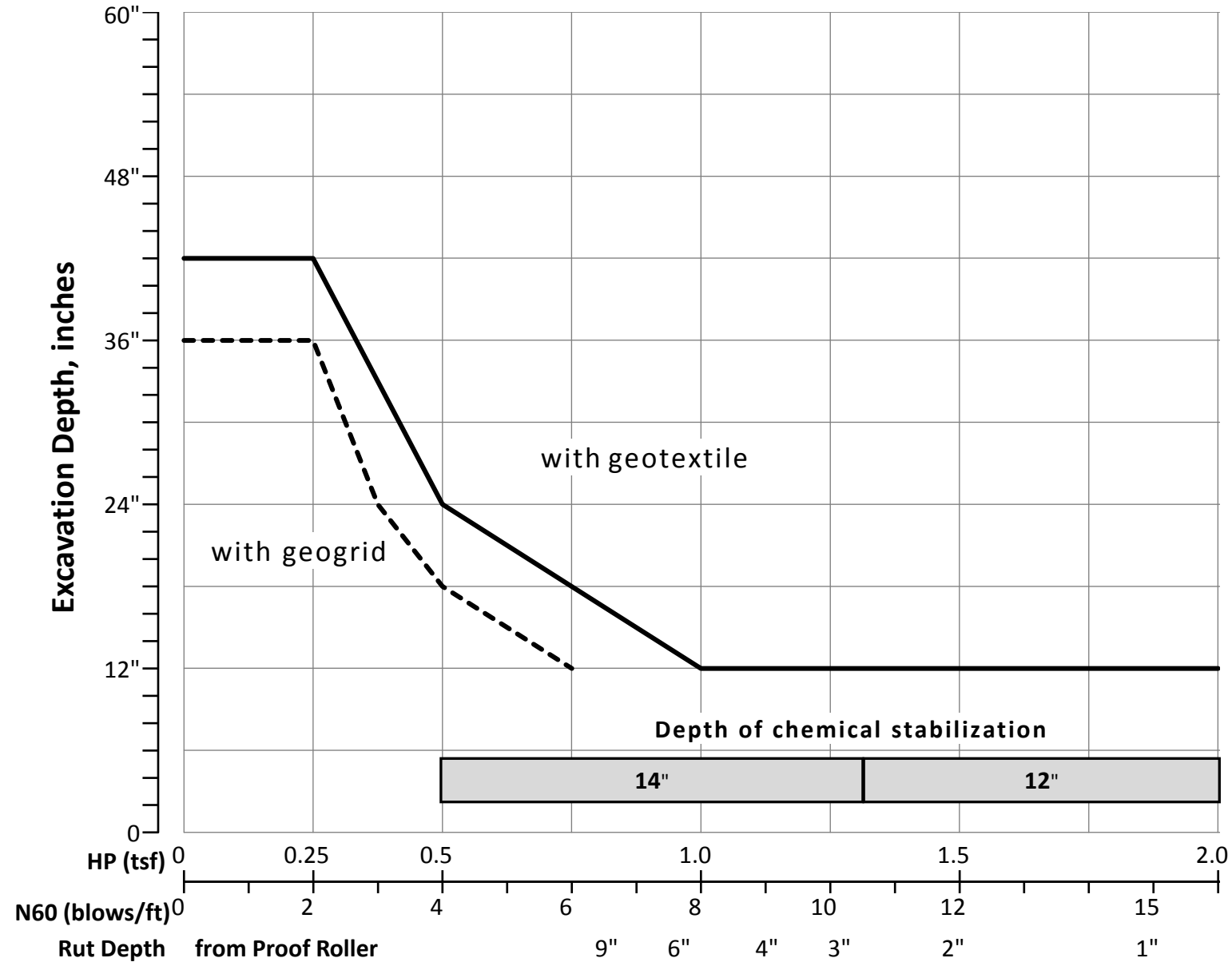
Average HP —
 Average N_{60L} —

OHIO DEPARTMENT OF TRANSPORTATION**OFFICE OF GEOTECHNICAL ENGINEERING****PLAN SUBGRADES
Geotechnical Bulletin GB1****CUY-77/90-14.96/16.33
82380****CUY-77/90-14.96/16.33 - CCG3 - Woodland Avenue****NEAS, Inc.****Prepared By:** Brendan P. Andrews
Date prepared: Tuesday, July 28, 2020**Brendan P. Andrews
2868 East Kemper Road
Cincinnati, OH 45241****513.337.9823 Ext. 701
brendan.andrews@neasinc.com****NO. OF BORINGS:** **9**

#	Boring ID	Alignment	Station	Offset	Dir	Drill Rig	ER	Boring EL.	Proposed Subgrade EL	Cut Fill
1	B-070-0-14	Woodland Ave.	700+58	41	LT	CME 45B	77	676.8	674.2	2.6 C
2	B-059-0-14	Woodland Ave.	705+78	3	LT	CME 45B	77	675.8	673.9	1.9 C
3	B-052-0-14	Woodland Ave.	708+58	8	LT	CME 45B	77	675.7	674.1	1.6 C
4	B-047-0-14	Ramp H2	362+55	25	RT	CME 45B	77	675.5	673.9	1.6 C
5	B-045-0-14	Ramp H2	361+58	24	RT	CME 45B	77	675.7	674.0	1.7 C
6	B-037-0-14	Woodland Ave.	717+13	51	LT	CME 45B	77	676.7	676.1	0.6 C
7	B-033-0-14	Ramp H2	356+92	15	LT	CME 45B	77	676.3	675.8	0.5 C
8	B-023-0-14	Woodland Ave.	725+05	12	RT	CME 45B	77	678.9	677.7	1.2 C
9	B-014-0-14	Woodland Ave.	728+11	10	RT	CME 45B	77	678.4	676.8	1.6 C

#	Boring	Sample	Sample Depth		Subgrade Depth		Standard Penetration		HP (tsf)	Physical Characteristics					Moisture		Ohio DOT		Sulfate Content (ppm)	Problem		Excavate and Replace (Item 204)		Recommendation (Enter depth in inches)		
			From	To	From	To	N ₆₀	N _{60L}		LL	PL	PI	% Silt	% Clay	P200	M _c	M _{OPT}	Class		GI	Unsuitable	Unstable	Unsuitable		Unstable	
1	B 070-0 14	SS-2	2.0	3.5	-0.6	0.9	5	5		NP	NP	NP	10	7	17	15	8	A-3a	0	100						
		SS-3	3.5	5.0	0.9	2.4	6									14	8	A-3a	0							
		SS-4	5.0	6.5	2.4	3.9	6			NP	NP	NP	3	2	5	8	8	A-3	0							
		SS-5	6.5	8.0	3.9	5.4	10									8	8	A-3a	0							
2	B 059-0 14	SS-1	1.5	3.0	-0.4	1.1	10	6		NP	NP	NP	8	5	13	6	6	A-1-b	0	187						
		SS-2	3.0	4.5	1.1	2.6	8			NP	NP	NP	2	2	4	5	8	A-3	0							
		SS-3	4.5	6.0	2.6	4.1	6									5	8	A-3	0							
		SS-4	6.0	7.5	4.1	5.6	6									4	8	A-3	0							
3	B 052-0 14	SS-1	2.0	3.5	0.4	1.9	9	5		NP	NP	NP	8	5	13	8	6	A-1-b	0	100						
		SS-2	3.5	5.0	1.9	3.4	5			NP	NP	NP	6	1	7	6	8	A-3	0							
		SS-3	5.0	6.5	3.4	4.9	10									7	6	A-1-b	0							
		SS-4	6.5	8.0	4.9	6.4	8									8	8	A-3a	0							
4	B 047-0 14	SS-1	1.5	3.0	-0.1	1.4	10	6		NP	NP	NP	9	5	14	6	8	A-3a	0	100						
		SS-2	3.0	4.5	1.4	2.9	6									6	8	A-3a	0							
		SS-3	4.5	6.0	2.9	4.4	9			NP	NP	NP	10	5	15	9	8	A-3a	0							
		SS-4	6.0	7.5	4.4	5.9	6									6	8	A-3	0							
5	B 045-0 14	SS-1	2.5	4.0	0.8	2.3	13	10		NP	NP	NP	5	3	8	4	8	A-3	0							
		SS-2	5.0	6.5	3.3	4.8	10									4	8	A-3	0							
6	B 037-0 14	SS-1	0.5	2.0	-0.1	1.4	9	5		NP	NP	NP	9	5	14	10	8	A-3a	0	100						
		SS-2	2.0	3.5	1.4	2.9	5									12	8	A-3a	0							
		SS-3	3.5	5.0	2.9	4.4	6									14	8	A-3a	0							
		SS-4	5.0	6.5	4.4	5.9	6			NP	NP	NP	6	1	7	10	8	A-3	0							
7	B 033-0 14	SS-1	0.0	1.5	-0.5	1.0	18	18								15	10	A-2-4	0			Mc				
		SS-2	2.5	2.8	2.0	2.3	65									6	6	A-1-a	0							
		SS-3	5.0	5.3	4.5	4.8	65									7	6	A-1-b	0							
8	B 023-0 14	SS-1	2.0	3.5	0.8	2.3	12	5		NP	NP	NP	10	4	14	6	6	A-1-b	0	116						
		SS-2	3.5	5.0	2.3	3.8	17			NP	NP	NP	9	3	12	6	6	A-1-b	0							
		SS-3	5.0	6.5	3.8	5.3	8									7	8	A-3a	0							
		SS-4	6.5	8.0	5.3	6.8	5									6	8	A-3a								
9	B 014-0 14	SS-1	2.5	4.0	0.9	2.4	10	4		NP	NP	NP	10	6	16	6	8	A-3a	0	293						
		SS-2	4.0	5.5	2.4	3.9	6			NP	NP	NP	4	3	7	7	8	A-3	0							
		SS-3	5.5	7.0	3.9	5.4	5									6	8	A-3	0							
		SS-4	7.0	8.5	5.4	6.9	4									6	8	A-3								

GB1 Figure B – Subgrade Stabilization



OVERRIDE TABLE

Calculated Average	New Values	Check to Override
	2.50	<input checked="" type="checkbox"/> HP
7.11	18.00	<input checked="" type="checkbox"/> N60L

Average HP —
Average N₆₀L —