February 04, 2022

Mr. Michael Carpenter, P.E.
Director of Division of Structural Design
Department of Highways
Division of Structural Design
1236 Wilkinson Boulevard
Frankfort, KY 40601-1200

RE: Geotechnical Roadway Report
Interstate 64/Interstate 75 Widening
Station 165+68.04 I-64/I-75 to Station 303+14.46 I-64/I-75 and Station 540+00 I-64/I-75 N.B to Station 576+00 I-64/I-75 N.B.
Fayette County
Item No.: 7-8909.00

Location and Description

An abbreviated geotechnical roadway report has been completed for the subject project. This project will widen the concurrency of Interstate 64 and Interstate 75 (I-64/I-75) from six (6) lanes to eight (8) lanes. The widening will add a lane to the north in the I-64 west bound (WB) and I-75 north bound (NB) direction and will add a lane to the south in the I-64 east bound (EB) and I-75 south bound (SB) direction within the project limits. The purpose of the investigation was to define the subsurface conditions along the proposed widening of I-64/I-75. Reduced size soil profile, cut stability, and embankment stability sheets are enclosed.

Geology

The project is located in the central portion of Fayette County, Kentucky within the Inner Bluegrass physiographic region of the Central Lowland Province of the United States. The Inner Bluegrass region is characterized as an upland area consisting of lightly rolling hills with low to moderate relief and fertile, phosphatic soils. The topography within Fayette County is gently rolling with local relief generally less than 100 feet with steeper terrain along the Kentucky River near the southern border with Madison County. Within Fayette County, elevation varies from approximately 549 feet above mean sea level (MSL) at the Valley View Ferry along the Kentucky River to over 1,000 feet above MSL at multiple locations within the county.

Available mapping by the Kentucky Geologic Survey (KGS) Geologic Map Service (2021) indicates the project site is underlain by bedrock belonging to the Ordovician-aged Millersburg Member and the Tanglewood Limestone Member No. 2, both often interbedded and

intertonguing subdivisions of the Lexington Limestone. The Millersburg Member consists of limestone and shale, both generally described as gray, fine- to medium-grained, bioclastic, and occurring in nodular to irregular beds. Minor amounts of tabular limestone and shale, along with green-gray claystone beds have been noted in the Millersburg Limestone. The Millersburg Limestone generally weathers to tan clay with fossiliferous limestone rubble, and thickness within Lexington East quadrangle is estimated at 12 to 30 feet thick. The Tanglewood Limestone Member No. 2 is described as predominately limestone, light-gray, medium- to coarse-grained, thin to thickly bedded, phosphatic, and bioclastic. Lesser amounts of shale occur within the member and are noted as medium-gray and mostly interbedded with fine-grained shaly limestone. The Tanglewood Member No. 2 most commonly weathers to red-brown clay and the thickness of the member within the Lexington East quadrangle is estimated at 12 to 75 feet thick.

Faults were not encountered during the subsurface investigation; however available mapping and data reports provided by the Kentucky Geological Survey (KGS) indicate a portion of the project is underlaid by the Georgetown-Gratz Fault System. The project fault map is enclosed within this report.

Drilling and Sampling

A total of 184 borings were advanced by Geotechnology, Inc. under HDR's guidance and supervision in March and April of 2021. Specifically, to assist with the abbreviated Geotechnical Roadway Report, seven (7) cut stability borings, thirty-seven (37) disturbed borings, and four (4) open face logs for cut slope locations were performed.

The disturbed soil borings were augered at approximately 400-foot intervals along the alignment while obtaining a 30-pound soil sample bag every 1,000 feet. The disturbed soil borings collected information regarding the existing soil thickness and type.

The cut slope stability borings and rock cores were performed to determine a proper roadway slope configuration recommendation. If the overburden depth in the core hole exceeded ten (10) feet, a soil boring at a distance corresponding to twice the overburden depth in the core hole was drilled to a minimum of 25 feet. The soil boring was drilled on the uphill side of the cut, perpendicular to and away from the alignment centerline. Disturbed and undisturbed samples, such as SPTs or thin-walled Shelby tube samples, respectively, were obtained appropriately based on the soil materials encountered.

Open face logs are performed by the Geologist to determine the integrity and condition of the exposed rock face. These logs and rock core laboratory tests guide the cut slope recommendations for the roadway and ramps.

Laboratory Testing

Results from laboratory analysis and boring logs indicate that overburdened materials vary throughout the project. The soil materials encountered were predominately lean clay, elastic silt, and silt, while the AASHTO soil classifications ranged from A-4 to A-7-6. Laboratory analysis yielded CBR values ranging from 4.1 to 19.1 with an average CBR value of 9.1.

Select Rock Quantities calculated by the design consultant indicates that an insufficient amount of excavated limestone is available to provide a rock roadbed for the entire project. Therefore, only the Paris Pike Ramps A & D and Newtown Pike Ramps C & D should be designed utilizing limestone for rock roadbed. Mainline I-64/I-75 roadway on the project should be designed utilizing a CBR of 4 soil with 12 inches of chemically stabilized subgrade. Chemical stabilization, in the form of cement, is the preferred method of subgrade improvement.

Where chemical stabilization is not possible, construct a 15-inch subgrade using Kentucky Coarse Aggregate No. 2's, 3's, or 23's. The coarse aggregates shall be wrapped in Fabric-Geotextile Class 1. For quantity estimating purposes only, a 15-inch Coarse Aggregate subgrade shall be calculated for 2,000 linear feet with a width of 36 feet of roadway construction. This results an estimated quantity of 5,850 tons of coarse aggregate and 16,566 square yards of fabric.

Excess limestone may be used as channel lining, embankments, working platforms, slope protections, and stabilizing embankment foundations. Nondurable shale was present within some of the advanced borings. The non-durable materials encountered shall not be used within areas that require select rock quantities or channel lining.

It's possible that due to stockpiling techniques or other unforeseen issues a sufficient quantity of rock from Roadway Excavation may not be available to complete the roadbed within the limits specified in the Geotechnical Recommendation section. The remaining roadbed may be completed using 2 feet of KY Coarse Aggregate No. 2's, 3's, or 23's. An estimated quantity of 7,715 tons should be included for this substitution.

Engineering Analysis

The stability analyses performed on the following cut sections yielded acceptable factors of safety as presented in the following tables:

Cut Slope Stability Results				
Station	Alignment	Slope Configuration	Factor of Safety	
			Intermediate	Long Term
231+50	I-64 WB/I-75 NB	2H:1V	2.2	1.6
254+00	I-64 EB/I-75 SB	2H:1V	2.4	1.4
104+00	Newtown Pike Ramp D	2H:1V	2.5	1.6

Based on the subsurface investigation, rock will be encountered towards the bottom of the proposed cuts at some locations. A slope inclination of 0.5H:1V is undesired when rock is encountered at these sections and the rock may be blasted at the proposed 2H:1V slope inclination.

Where soft and/or wet areas are encountered during embankment construction 2 feet of KY durable limestone rock from roadway excavation wrapped in Fabric-Geotextile, Class 2 (Separation)), may be utilized to serve as working platform for embankment stabilization. This

working platform should allow for drainage to prevent impoundment of water within the roadway embankment. These adjustments shall be as directed by the Engineer and may depend on seasonal fluctuations in the water table. For quantity estimating purposes only, a 2-foot working platform shall be calculated for 1,500 linear feet with a width of 90 feet of roadway construction, which is estimated at 17,500 tons and 30,700 square yards of fabric.

Geotechnical Recommendations

1. The Contractor is responsible for conducting any operations necessary to excavate the cut areas to the required typical section. These operations shall be incidental to Roadway Excavation or Embankment-in-Place and no additional compensation shall be made for this work.

2. Clearing and grubbing of roadway areas shall be completed in accordance with the requirements of Section 202 of the current Kentucky Department of Highways Standard Specifications for Road and Bridge Construction.

3. In accordance with Section 206 of the current Standard Specifications, the moisture content of embankment fill material shall not vary from the optimum moisture content as determined by KM 64-511 by more than +2 percent or less than –2 percent. This moisture content requirement shall have equal weight with the density requirement when determining the acceptability of embankment construction. Refer to the Family of Curves for moisture/density correlation.

4. All water wells or cisterns, septic tanks, catch basins, manholes, etc., that may be encountered within the limits of the construction, whether shown on plans or not, shall be plugged and/or capped in accordance with Section 708 of the current Kentucky Department of Highways Standard Specifications for Road and Bridge Construction.

5. All soils, whether from the roadway or borrow, may require manipulation to obtain proper moisture content prior to compaction. Direct payment shall not be permitted for re-handling, hauling, stockpiling, and/or manipulating soils.

6. The contractor shall conduct grading operations in such a manner that limestone and/or durable rock obtained from roadway excavation shall be stockpiled separately or otherwise manipulated so that quantities are available for those areas requiring said material. Limestone shall not be placed in the embankments or wasted until all rock roadbed construction is completed and without the approval of the Engineer. No direct payment for hauling, stockpiling, and/or manipulating excavated material shall be permitted.

7. Excavation of surface ditches and channel changes adjacent to embankment areas shall be performed prior to the placement of the adjacent embankments. The material excavated for the channel changes and surface ditches is suitable for embankment construction if dried to the proper moisture content in accordance with Section 206 of the current Standard Specifications.

8. Foundation embankment benches shall be constructed in accordance with Standard Drawing RGX-010 at the locations listed below and/or as directed by the Engineer. Contrary to Standard Drawing RGX-010, the typical rise height for benching into soil/earth slopes shall be four (4) to six (6) feet. Benches in earth slopes shall be constructed one at a time beginning with the lowest bench, and each bench shall be backfilled prior to excavation of the next bench. If water is encountered during benching, construct a minimum one (1) foot thick drainage blanket as directed by the Engineer, or contact the Geotechnical Branch for guidance. The drainage blanket shall consist of Kentucky Coarse Aggregate No. 2 in accordance with Section 805 of the current Standard Specifications, or other available material deemed suitable by the Engineer. The drainage blanket shall extend to the toe of slope to provide positive drainage and shall be wrapped with Fabric-Geotextile Class 2 (Subsurface Drainage) in accordance with Sections 214 and 843 of the current Standard Specifications.

I-64/I-75 Mainline
Station 182+25 to 184+25 Right
Station 211+00 to 213+00 Left
Station 211+25 to 211+75 Right
Station 224+50 to 225+50 Left

Parris Pike Ramp A
Station 35+50 to 41+50 Right

Parris Pike Ramp D
Station 41+25 to 49+25 Right

I-64/I-75 Northbound Merge
Station 542+75 to 543+25 Left
Station 559+50 to 560+50 Left

Newtown Pike Ramp C
Station 3+25 to 3+75 Right

9. As directed by the Engineer, adequate drainage shall be provided for any natural spring outlets encountered within the construction limits, whether shown on plans or not. Adequate drainage shall be provided by constructing spring box inlets, if there is a defined throat, in accordance with the Kentucky Department of Highway Standard Drawings RDX-010-05 or RDX-011-05. The outlet pipes should extend to the downstream embankment toes for the discharge of water onto exterior grades. If there is no defined throat then a one (1) foot drainage blanket wrapped with Fabric-Geotextile, Class 1 (Subsurface Drainage) shall be used in accordance with Sections 214 & 843 of the current Standard Specifications.

10. Perforated pipe for subgrade drainage shall be placed in vertical sags in accordance with Standard Drawing RDP-005 at the following approximate locations, and/or where designated by the Engineer.

I-64/I-75 Mainline
Station 187+63
Station 229+95

Newtown Pike Ramp D
Station 103+04

Newtown Pike Ramp D (Merge)
Station 50+18

Paris Pike Ramp A
Station 29+52

Paris Pike Ramp D
Station 48+25

North Bound I-64 Merge
Station 544+88

11. Construct a 2-foot rock roadbed for the Paris Pike Ramps A & D and Newtown Pike Ramps C & D consisting of limestone from Roadway Excavation, and underlain with Fabric-Geotextile, Class 1 (Stabilization) in accordance with Sections 214 & 843 of the current Standard

Specifications. The Geotextile Fabric may be omitted when the base of the rock roadbed is on bedrock. The granular material shall extend from shoulder to shoulder in fills and ditchline to ditchline in the cuts, or under the curb and gutter where applicable. All available limestone from Roadway Excavation shall be utilized for the rock roadbed for the ramps. However, if there is insufficient rock from Roadway Excavation to complete the roadbed, the remaining roadbed may be completed using 2 feet of KY Coarse Aggregate No. 2, 3, or 23. The Coarse Aggregate shall be in accordance with Section 805 of the current Standard Specifications for Road and Bridge Construction. The Coarse Aggregate shall be wrapped with Fabric-Geotextile, Class 1 (Stabilization), in accordance with Section 214 and 843 of the current Standard Specification. Where soft and/or wet subgrade is encountered during construction, the thickness of the rock roadbed may need to be adjusted to also serve as a working platform for subgrade stabilization. These adjustments, as directed by the Engineer, may depend on seasonal fluctuations in the water table.

12. Shale (above or below the RDZ, durable or non-durable) cannot be used in the top 2 feet of the subgrade.

13. The Contractor shall conduct grading operations in such a manner that soil (free of rock larger than 4 inches and shale) from roadway excavation be stockpiled separately or otherwise manipulated so that ample quantities are available for a chemically stabilized roadbed meeting the requirements of Section 208 of the current Standard Specifications for Road and Bridge Construction. No direct payment will be allowed for such necessary manipulating as stockpiling, hauling and/or handling the material.

14. Construct a 12-inch cement stabilized soil subgrade for the project's I-64/I-75 mainline. The chemical cement stabilization shall be applied in accordance with Section 208 of the current Standard Specifications for Road and Bridge Construction. Where soft and/or wet subgrade is encountered during construction, the thickness of the chemically stabilized layer may be increased (up to 16-inches) to also serve as a working platform for subgrade stabilization. These adjustments shall be as directed by the Engineer and may depend on seasonal fluctuations in the water table.

15. Where chemical stabilization is not possible (such as maintenance of traffic, tie-ins, narrow part-width construction, crossovers, etc.), the subgrade shall be constructed with a 15-inch subgrade using Kentucky Coarse Aggregate No. 2's, 3's, or 23's wrapped in Fabric-Geotextile, Class 1 (Stabilization). These 15-inch aggregate subgrade locations will be determined by the Engineer during construction.

16. Any saturated, soft foundation areas, and/or drainage swales within embankment foundation limits shall be drained if necessary and stabilized with durable limestone rock from roadway excavation underlain with Fabric-Geotextile, Class 2 (Separation). A thickness of 2 feet is estimated for this treatment, for quantity estimation purposes only. Soft, saturated foundation areas and/or drainage swales were not noted but may be present based on seasonal water table fluctuations. The actual locations will be determined by the Engineer during construction.

17. The retaining wall and noise walls at the locations below will affect the cut slope and/or embankment construction. For this area, please refer to the structural plans for specific instructions for cut slope and embankment construction.

I-64/I-75 Mainline
Station 189+09.8 to 223+33 Right
Station 234+00 to 256+25 Left
Station 233+75.6 to 271+23.8 Right

Newtown Pike Ramp D
Station 101+75 to 103+50 Right

18. As directed by the Engineer, existing bituminous concrete located at a distance greater than three feet below the proposed subgrade elevation within the limits of new roadway embankments, shall be scarified or broken until all cleavage planes are destroyed, or the pavement shall be removed entirely as conditions demand. This shall be performed in compliance with Section 206 of the Standard Specifications for Road and Bridge Construction.

19. Existing bituminous concrete that is not being overlaid and is located at a distance less than three feet below the proposed subgrade elevation within the limits of new roadway embankments, shall be removed entirely. This shall be performed in compliance with Section 206 of the Standard Specifications for Road and Bridge Construction.

20. Borrow material, if required for subgrade, shall meet the minimum CBR design value of 4.

21. Some of the soil horizons and slopes on the project are subject to erosion. Necessary procedures in accordance with Sections 212 and 213 of the current Standard Specifications shall be followed on construction.

22. It is possible that springs or wet weather drainage discharge areas will be encountered during construction. If springs are encountered, a one (1) foot thick drainage blanket wrapped in Geotextile Fabric, Type IV shall be constructed beneath the embankment to ensure positive drainage. The Type IV fabric shall be in accordance with Sections 214 & 843 of the current Standard Specifications for Road and Bridge Construction. The drainage blanket material shall consist of Coarse Aggregate for Rock Drainage Blanket in accordance with Section 805 of the current Standard Specifications, except natural sand will not be permitted. If a defined area of flow can be located, a spring box with a pipe outlet at the toe of the slope shall also be constructed, as determined by the Engineer.

23. If sinkholes are encountered during construction, please contact the Department's Geotechnical Branch for mitigation procedures.

Design Recommendations

1. Select Rock Quantities calculated by the design consultant indicate limestone is available from roadway excavation for construction purposes. The calculated amount is only sufficient to provide a rock roadbed for Paris Pike Ramps A & D and Newtown Pike Ramps C & D. These ramps should be designed utilizing limestone for rock roadbed. Excess limestone may be used

as channel lining, embankments, working platforms, slope protection, and stabilizing embankment foundations. Nondurable shale was present within some of the advanced borings. The non-durable materials encountered shall not be used within areas that require select rock quantities or channel lining.

2. Based on the summary of rock quantities provided by the design consultant, adequate quantities of limestone from roadway excavation is available for a rock roadbed for Paris Pike Ramps A & D and Newtown Pike Ramps C & D. A two-foot-thick rock roadbed comprised of limestone utilizing a C.B.R. design value of 9 is recommended.

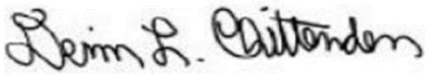
3. The main lanes should be designed for a chemically stabilized subgrade. A CBR design value of 4.0 is recommended for the soil beneath the chemically modified subgrade. Chemical treatment for the top 12 inches of subgrade is recommended. The appropriate chemical for treating the soil types encountered on this project is cement. It is suggested that 6 percent, by dry mass, be utilized to determine plan quantities, using an average maximum dry density of 100.3 pcf. The cement shall be applied in accordance with Section 208 of the current edition of Standard Specifications for Road and Bridge Construction.

4. An average soil shrinkage value of two (2) percent is estimated for this project. This value should be applied to the formula for calculating the Apparent Shrinkage as outlined in the Design Manual. The recommended rock swell is estimated to be ten (10) percent for material excavated below the rock disintegration zone (RDZ).

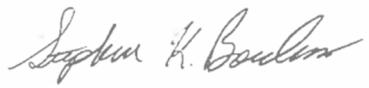
5. A shrink/swell value of zero (0) percent should be applied to RDZ material.

Sincerely,

HDR ENGINEERING, Inc.



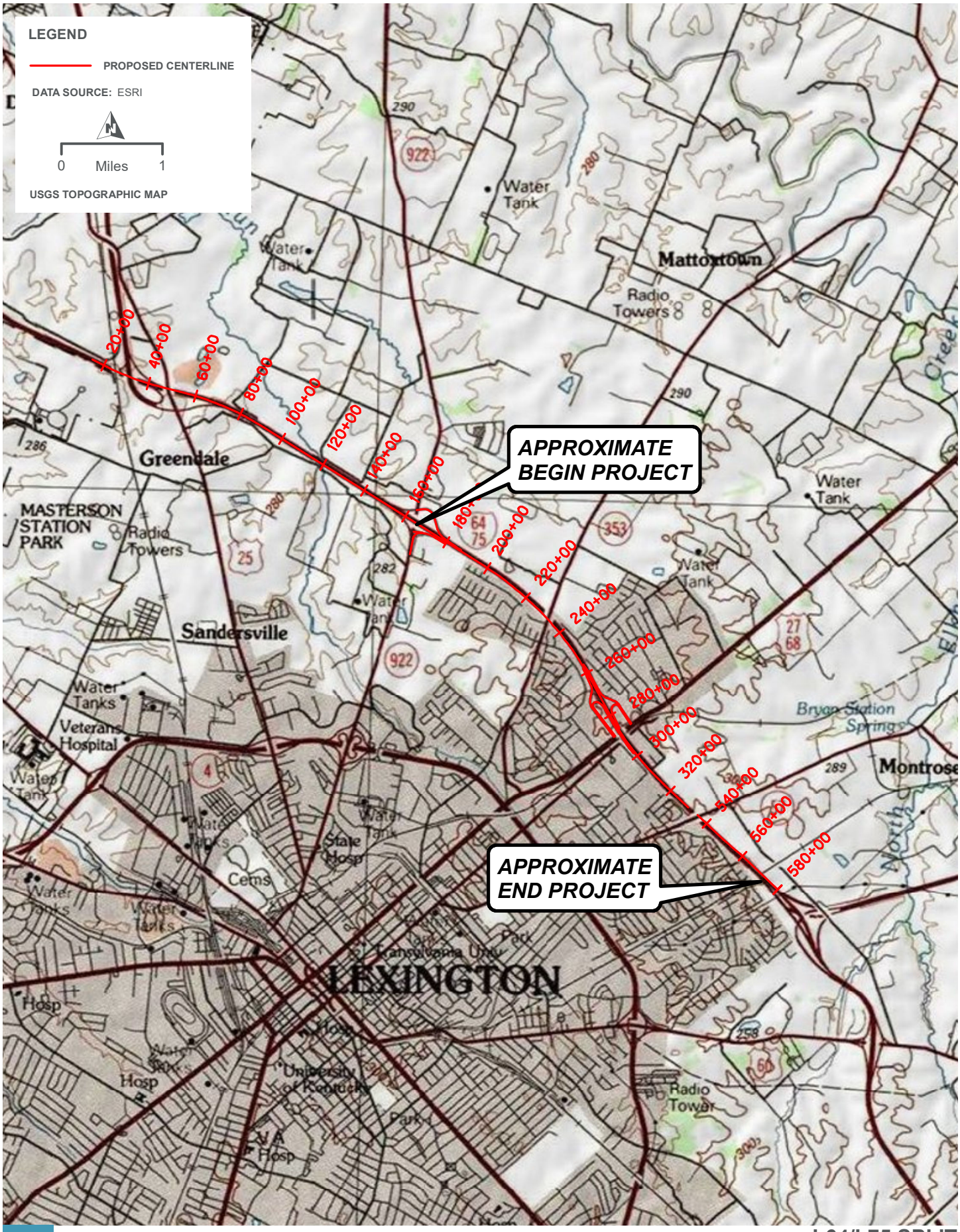
Devin L. Chittenden, P.E.
Geotechnical Section Manager



Stephen K. Borders, P.E.
Senior Geotechnical Engineer

Attachments:

- **Attachment A: Project Location Map and Coordinate Data Sheet**
- **Attachment B: Boring Logs and Lab Data**
- **Attachment C: Geotechnical Notes, Soil Profile, and Stability Sections**



I-64/I-75 SPLIT

KENTUCKY - FAYETTE COUNTY

SITE LOCATION MAP

SUBSURFACE INVESTIGATION

COORDINATE DATA SUBMISSION FORM
KYTC DIVISION OF MATERIALS -- GEOTECHNICAL BRANCH

County FAYETTE **Date** 5/12/2021

Road Number I-64/I-75

Survey Crew / Consultant HDR

Contact Person Jim Guinn

Item # 7-8909.00

MARS # 12FO C35 D265 07 FD52 1550 034 E143 9394301D

Project # FD52 034 0004 008-011

Notes:

Elevation Datum (Sea Level) Assumed (circle one)

HOLE NUMBER	STATION	OFFSET	ELEVATION (ft)	LATITUDE (Decimal Degrees)	LONGITUDE (Decimal Degrees)
DISTURBED SOIL BORINGS					
MAINLINE - I-64/I-75					
D-101	183+00	85 RT	948.45	38.09678805	84.48023878
D-102	187+00	75 LT	948.51	38.09657560	84.47876390
D-103	191+00	95 RT	943.94	38.09559620	84.47790066
D-104	195+00	70 LT	954.05	38.09539568	84.47641870
D-105	199+00	70 RT	957.81	38.09448614	84.47550125
D-106	203+00	90 LT	959.39	38.09425080	84.47403311
D-107	207+00	90 RT	963.41	38.09321536	84.47325437
D-108	211+00	90 LT	961.59	38.09295216	84.47176703
D-109	215+00	90 RT	962.48	38.09188000	84.47107219
D-110	219+00	90 LT	958.36	38.09154360	84.46960861
D-111	223+00	90 RT	948.06	38.09043922	84.46900047
D-112	227+00	70 RT	948.10	38.08971979	84.46795925
D-113	231+00	95 LT	957.17	38.08924646	84.46657910
D-114	235+00	90 LT	962.47	38.08841938	84.46564860

HOLE NUMBER	STATION	OFFSET	ELEVATION (ft)	LATITUDE (Decimal Degrees)	LONGITUDE (Decimal Degrees)
D-115	239+00	90 LT	966.11	38.08757888	84.46473875
D-116	243+00	90 RT	961.83	38.08641273	84.46435710
D-117	247+00	80 LT	958.29	38.08581593	84.46304969
D-118	251+00	90 RT	962.37	38.08464935	84.46273292
D-119	254+00	90 RT	965.98	38.08396778	84.46216057
D-120	257+00	90 RT	966.32	38.08327579	84.46160886
NORTHBOUND I-64 MERGE					
D-121	541+00	40 LT	973.68	38.06555708	84.44330749
D-122	545+00	40 LT	972.48	38.06480531	84.44229425
D-123	549+00	50 LT	972.67	38.06407351	84.44125772
D-124	560+00	50 LT	981.87	38.06208750	84.43838834
D-125	564+00	60 LT	982.62	38.06136163	84.43733221
NEWTOWN PIKE - RAMP C					
D-126	8+50	50 RT	958.66	38.09795466	84.48113319
D-127	12+50	40 LT	959.06	38.09863721	84.48223935
NEWTOWN PIKE - RAMP D					
D-128	99+01	21 RT	927.21	38.09713946	84.48585719
D-129	102+50	10 RT	928.28	38.09806654	84.48560595
D-130	105+00	25 RT	936.57	38.09840237	84.48494821
D-131	109+00	25 RT	955.04	38.09825854	84.48361851
PARIS PIKE - RAMP A					
D-132	27+37	11 RT	974.22	38.08019055	84.45857078
D-133	31+38	10 RT	972.65	38.08109872	84.45932718
D-134	33+88	53 RT	964.66	38.08175370	84.45962205
PARIS PIKE - RAMP D					
D-135	43+50	40 RT	956.84	38.08223260	84.46095973
D-136	47+50	CL	969.36	38.08128603	84.46024425
D-137	50+00	30 RT	980.03	38.08062297	84.46020414

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021*** Item Number: ***07-08909.00***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway*** Project Manager:

Hole Number ***D-101***	Immediate Water Depth ***NA***	Start Date ***03/16/2021***	Hole Type ***cut profile***
Surface Elevation ***948.5'***	Static Water Depth ***NA***	End Date ***03/16/2021***	Rig_Number ***TD-6***
Total Depth ***10.0'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.096788***	
Location ***183+00.00 85.0' Rt.***	Geologist	Longitude(83) ***-84.480239***	

Elevation	Depth	Description	Jar #	NMC (%)
			NMC #D-101-1 @ 2'	26.0
		Brown, silty clay Bag #3		
			NMC #D-101-2 @ 7'	30.1
938.5	10.0	(No Refusal)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-102***	Immediate Water Depth ***NA***	Start Date ***04/16/2021***	Hole Type ***cut profile***
Surface Elevation ***948.5'***	Static Water Depth ***NA***	End Date ***04/16/2021***	Rig_Number ***TD-6***
Total Depth ***5.0'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.096576***	
Location ***187+00.00 75.0' Lt.***	Geologist	Longitude(83) ***-84.478764***	

Elevation	Depth	Description	Jar #	NMC (%)
943.5	5.0	Soil Type #3	NMC #D-102-1 @ 2'	17.8
		(No Refusal)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-103***	Immediate Water Depth ***NA***	Start Date ***03/16/2021***	Hole Type ***cut profile***
Surface Elevation ***943.9'***	Static Water Depth ***NA***	End Date ***03/16/2021***	Rig_Number ***TD-6***
Total Depth ***5.1'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.095596***	
Location ***191+00.00 95.0' Rt.***	Geologist	Longitude(83) ***-84.477901***	

Elevation	Depth	Description	Jar #	NMC (%)
938.8	5.1	Brown, clay with silt Bag #4	NMC #D-103-1 @ 2'	27.9
		(Refusal @ 5.1)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-104***	Immediate Water Depth ***NA***	Start Date ***04/16/2021***	Hole Type ***cut profile***
Surface Elevation ***954.1'***	Static Water Depth ***NA***	End Date ***04/16/2021***	Rig_Number ***TD-6***
Total Depth ***5.0'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.095396***	
Location ***195+00.00 70.0' Lt.***	Geologist	Longitude(83) ***-84.476419***	

Elevation	Depth	Description	Jar #	NMC (%)
949.1	5.0	Soil Type #4	NMC #D-104-1 @ 2'	24.2
		(No Refusal)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-105***	Immediate Water Depth ***NA***	Start Date ***03/17/2021***	Hole Type ***cut profile***
Surface Elevation ***957.8'***	Static Water Depth ***NA***	End Date ***03/17/2021***	Rig_Number ***TD-6***
Total Depth ***5.0'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.094486***	
Location ***199+00.00 70.0' Rt.***	Geologist	Longitude(83) ***-84.475501***	

Elevation	Depth	Description	Jar #	NMC (%)
952.8	5.0	Brown and gray, silty clay Bag #5	NMC #D-105-1 @ 2'	20.8
		(No Refusal)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-106***	Immediate Water Depth ***NA***	Start Date ***04/16/2021***	Hole Type ***cut profile***
Surface Elevation ***959.4'***	Static Water Depth ***NA***	End Date ***04/16/2021***	Rig_Number ***TD-6***
Total Depth ***2.7'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.094251***	
Location ***203+00.00 90.0' Lt.***	Geologist	Longitude(83) ***-84.474033***	

Elevation	Depth	Description	Jar #	NMC (%)
956.7	2.7	Soil Type #5 (Refusal @ 2.7)	NMC #D-106-1 @ 2'	22.0

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-107***	Immediate Water Depth ***NA***	Start Date ***03/18/2021***	Hole Type ***sounding***
Surface Elevation ***963.4'***	Static Water Depth ***NA***	End Date ***03/18/2021***	Rig_Number ***TD-6***
Total Depth ***1.3'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.093215***	
Location ***207+00.00 90.0' Rt.***	Geologist	Longitude(83) ***-84.473254***	

Elevation	Depth	Description				Jar #	NMC (%)	
		(Refusal @ 1.3)						
5								5
10								10
15								15
20								20
25								25
30								30
35								35
40								40
45								45
50								50

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-108***	Immediate Water Depth ***NA***	Start Date ***04/15/2021***	Hole Type ***fill profile***
Surface Elevation ***961.6'***	Static Water Depth ***NA***	End Date ***04/15/2021***	Rig_Number ***TD-6***
Total Depth ***5.0'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.092952***	
Location ***211+00.00 90.0' Lt.***	Geologist	Longitude(83) ***-84.471767***	

Elevation	Depth	Description	Jar #	NMC (%)
956.6	5.0	Soil Type #6	NMC #D-108-1 @ 2'	17.2
		(No Refusal)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021*** Item Number: ***07-08909.00***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway*** Project Manager:

Hole Number ***D-109***	Immediate Water Depth ***NA***	Start Date ***03/22/2021***	Hole Type ***cut profile***
Surface Elevation ***962.5'***	Static Water Depth ***NA***	End Date ***03/22/2021***	Rig_Number ***TD-6***
Total Depth ***2.5'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.091880***	
Location ***215+00.00 90.0' Rt.***	Geologist	Longitude(83) ***-84.471072***	

Elevation	Depth	Description	Jar #	NMC (%)
960.0	2.5	Brown, silty, sandy clay Bag #6	NMC #D-109-1 @ 2'	30.8
		(Refusal @ 2.5)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-110***	Immediate Water Depth ***NA***	Start Date ***04/15/2021***	Hole Type ***cut profile***
Surface Elevation ***958.4'***	Static Water Depth ***NA***	End Date ***04/15/2021***	Rig_Number ***TD-6***
Total Depth ***6.2'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.091544***	
Location ***219+00.00 90.0' Lt.***	Geologist	Longitude(83) ***-84.469609***	

Elevation	Depth	Description	Jar #	NMC (%)
952.2	6.2	Soil Type #6	NMC #D-110-1 @ 2'	23.9
		(Refusal @ 6.2)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021*** Item Number: ***07-08909.00***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway*** Project Manager:

Hole Number ***D-111***	Immediate Water Depth ***NA***	Start Date ***03/23/2021***	Hole Type ***cut profile***
Surface Elevation ***948.1'***	Static Water Depth ***NA***	End Date ***03/23/2021***	Rig_Number ***TD-6***
Total Depth ***4.1'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.090439***	
Location ***223+00.00 90.0' Rt.***	Geologist	Longitude(83) ***-84.469000***	

Elevation	Depth	Description	Jar #	NMC (%)
944.0	4.1	Dark brown, silty clay Bag #7	NMC #D-111-1 @ 2'	25.5
		(Refusal @ 4.1)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-112***	Immediate Water Depth ***NA***	Start Date ***03/23/2021***	Hole Type ***cut profile***
Surface Elevation ***948.1'***	Static Water Depth ***NA***	End Date ***03/23/2021***	Rig_Number ***TD-6***
Total Depth ***5.0'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.089720***	
Location ***227+00.00 70.0' Rt.***	Geologist	Longitude(83) ***-84.467959***	

Elevation	Depth	Description	Jar #	NMC (%)
943.1	5.0	Soil Type #7	NMC #D-112-1 @ 2'	25.3
		(No Refusal)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-113***	Immediate Water Depth ***NA***	Start Date ***04/15/2021***	Hole Type ***sounding***
Surface Elevation ***957.2'***	Static Water Depth ***NA***	End Date ***04/15/2021***	Rig_Number ***TD-6***
Total Depth ***1.1'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.089246***	
Location ***231+00.00 95.0' Lt.***	Geologist	Longitude(83) ***-84.466579***	

Elevation	Depth	Description				Jar #	NMC (%)	
		(Refusal @ 1.1)						
	5							5
	10							10
	15							15
	20							20
	25							25
	30							30
	35							35
	40							40
	45							45
	50							50

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021*** Item Number: ***07-08909.00***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway*** Project Manager:

Hole Number ***D-114***	Immediate Water Depth ***NA***	Start Date ***04/13/2021***	Hole Type ***sounding***
Surface Elevation ***962.5'***	Static Water Depth ***NA***	End Date ***04/13/2021***	Rig_Number ***TD-6***
Total Depth ***1.8'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.088419***	
Location ***235+00.00 90.0' Lt.***	Geologist	Longitude(83) ***-84.465649***	

Elevation	Depth	Description				Jar #	NMC (%)	
		(Refusal @ 1.8)						
5								5
10								10
15								15
20								20
25								25
30								30
35								35
40								40
45								45
50								50

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021*** Item Number: ***07-08909.00***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway*** Project Manager:

Hole Number ***D-115***	Immediate Water Depth ***NA***	Start Date ***04/13/2021***	Hole Type ***sounding***
Surface Elevation ***966.1'***	Static Water Depth ***NA***	End Date ***04/13/2021***	Rig_Number ***TD-6***
Total Depth ***1.2'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.087579***	
Location ***239+00.00 90.0' Lt.***	Geologist	Longitude(83) ***-84.464739***	

Elevation	Depth	Description				Jar #	NMC (%)	
		(Refusal @ 1.2)						
5								5
10								10
15								15
20								20
25								25
30								30
35								35
40								40
45								45
50								50

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-116***	Immediate Water Depth ***NA***	Start Date ***03/26/2021***	Hole Type ***cut profile***
Surface Elevation ***961.8'***	Static Water Depth ***NA***	End Date ***03/26/2021***	Rig_Number ***TD-6***
Total Depth ***5.0'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.086413***	
Location ***243+00.00 90.0' Rt.***	Geologist	Longitude(83) ***-84.464357***	

Elevation	Depth	Description	Jar #	NMC (%)
956.8	5.0	Brown, clay Bag #9	NMC #D-116-1 @ 2'	33.8
		(Refusal @ 5)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-117***	Immediate Water Depth ***NA***	Start Date ***04/12/2021***	Hole Type ***fill profile***
Surface Elevation ***958.3'***	Static Water Depth ***NA***	End Date ***04/12/2021***	Rig_Number ***TD-6***
Total Depth ***5.0'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.085816***	
Location ***247+00.00 80.0' Lt.***	Geologist	Longitude(83) ***-84.463050***	

Elevation	Depth	Description	Jar #	NMC (%)
953.3	5.0	Soil Type #9	NMC #D-117-1 @ 2'	18.8
		(No Refusal)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-118***	Immediate Water Depth ***NA***	Start Date ***03/26/2021***	Hole Type ***cut profile***
Surface Elevation ***962.4'***	Static Water Depth ***NA***	End Date ***03/26/2021***	Rig_Number ***TD-6***
Total Depth ***3.0'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.084649***	
Location ***251+00.00 90.0' Rt.***	Geologist	Longitude(83) ***-84.462733***	

Elevation	Depth	Description	Jar #	NMC (%)
959.4	3.0	Light brown, silty clay Bag #8	NMC #D-118-1 @ 2'	28.4
		(Refusal @ 3)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-119***	Immediate Water Depth ***NA***	Start Date ***04/01/2021***	Hole Type ***cut profile***
Surface Elevation ***966.0'***	Static Water Depth ***NA***	End Date ***04/01/2021***	Rig_Number ***TD-6***
Total Depth ***6.2'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.083968***	
Location ***254+00.00 90.0' Rt.***	Geologist	Longitude(83) ***-84.462161***	

Elevation	Depth	Description	Jar #	NMC (%)
959.8	6.2	Soil Type #8	NMC #D-119-1 @ 2'	24.2
		(Refusal @ 6.2)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-120***	Immediate Water Depth ***NA***	Start Date ***03/31/2021***	Hole Type ***cut profile***
Surface Elevation ***966.3'***	Static Water Depth ***NA***	End Date ***03/31/2021***	Rig_Number ***TD-6***
Total Depth ***5.0'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.083276***	
Location ***257+00.00 90.0' Rt.***	Geologist	Longitude(83) ***-84.461609***	

Elevation	Depth	Description	Jar #	NMC (%)
961.3	5.0	Brown, silty clay Bag #11	NMC #D-120-1 @ 2'	26.6
		(No Refusal)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-121***	Immediate Water Depth ***NA***	Start Date ***04/05/2021***	Hole Type ***cut profile***
Surface Elevation ***973.7'***	Static Water Depth ***NA***	End Date ***04/05/2021***	Rig_Number ***TD-6***
Total Depth ***7.0'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.065557***	
Location ***541+00.00 40.0' Lt.***	Geologist	Longitude(83) ***-84.443307***	

Elevation	Depth	Description	Jar #	NMC (%)
			NMC #D-121-1 @ 2'	23.3
5		Soil Type #14		
966.7	7.0		NMC #D-121-2 @ 7'	21.7
		(No Refusal)		
10				
15				
20				
25				
30				
35				
40				
45				
50				

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021*** Item Number: ***07-08909.00***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway*** Project Manager:

Hole Number ***D-122***	Immediate Water Depth ***NA***	Start Date ***04/05/2021***	Hole Type ***cut profile***
Surface Elevation ***972.5'***	Static Water Depth ***NA***	End Date ***04/05/2021***	Rig_Number ***TD-6***
Total Depth ***7.0'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.064805***	
Location ***545+00.00 40.0' Lt.***	Geologist	Longitude(83) ***-84.442294***	

Elevation	Depth	Description	Jar #	NMC (%)
		Brown, silty clay with gravel Bag #14	NMC #D-122-1 @ 2'	26.2
965.5	7.0	(No Refusal)	NMC #D-122-2 @ 7'	24.7

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021*** Item Number: ***07-08909.00***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway*** Project Manager:

Hole Number ***D-123***	Immediate Water Depth ***NA***	Start Date ***04/05/2021***	Hole Type ***sounding***
Surface Elevation ***972.7'***	Static Water Depth ***NA***	End Date ***04/05/2021***	Rig_Number ***TD-6***
Total Depth ***1.9'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.064074***	
Location ***549+00.00 50.0' Lt.***	Geologist	Longitude(83) ***-84.441258***	

Elevation	Depth	Description				Jar #	NMC (%)	
		(Refusal @ 1.9)						
5								5
10								10
15								15
20								20
25								25
30								30
35								35
40								40
45								45
50								50

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021*** Item Number: ***07-08909.00***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway*** Project Manager:

Hole Number ***D-124***	Immediate Water Depth ***NA***	Start Date ***04/05/2021***	Hole Type ***cut profile***
Surface Elevation ***981.9'***	Static Water Depth ***NA***	End Date ***04/05/2021***	Rig_Number ***TD-6***
Total Depth ***7.0'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.062088***	
Location ***560+00.00 50.0' Lt.***	Geologist	Longitude(83) ***-84.438388***	

Elevation	Depth	Description	Jar #	NMC (%)
			NMC #D-124-1 @ 2'	23.7
974.9	7.0	Soil Type #13	NMC #D-124-2 @ 7'	27.7
		(No Refusal)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-125***	Immediate Water Depth ***NA***	Start Date ***04/05/2021***	Hole Type ***cut profile***
Surface Elevation ***982.6'***	Static Water Depth ***NA***	End Date ***04/05/2021***	Rig_Number ***TD-6***
Total Depth ***7.0'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.061362***	
Location ***564+00.00 60.0' Lt.***	Geologist	Longitude(83) ***-84.437332***	

Elevation	Depth	Description	Jar #	NMC (%)
		Light brown, silty clay Bag #13	NMC #D-125-1 @ 2'	31.5
975.6	7.0	(No Refusal)	NMC #D-125-2 @ 7'	27.9

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-126***	Immediate Water Depth ***NA***	Start Date ***04/16/2021***	Hole Type ***cut profile***
Surface Elevation ***958.7'***	Static Water Depth ***NA***	End Date ***04/16/2021***	Rig_Number ***TD-6***
Total Depth ***6.2'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.097955***	
Location ***8+50.00 50.0' Rt.***	Geologist	Longitude(83) ***-84.481133***	

Elevation	Depth	Description	Jar #	NMC (%)
952.5	6.2	Soil Type #3	NMC #D-126-1 @ 2'	16.8
		(Refusal @ 6.2)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-127***	Immediate Water Depth ***NA***	Start Date ***04/16/2021***	Hole Type ***sounding***
Surface Elevation ***959.1'***	Static Water Depth ***NA***	End Date ***04/16/2021***	Rig_Number ***TD-6***
Total Depth ***1.6'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.098637***	
Location ***12+50.00 40.0' Lt.***	Geologist	Longitude(83) ***-84.482239***	

Elevation	Depth	Description				Jar #	NMC (%)	
		(Refusal @ 1.6)						
5								5
10								10
15								15
20								20
25								25
30								30
35								35
40								40
45								45
50								50

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-128A***	Immediate Water Depth ***NA***	Start Date ***03/11/2021***	Hole Type ***cut profile***
Surface Elevation ***927.2'***	Static Water Depth ***NA***	End Date ***03/11/2021***	Rig_Number ***TD-6***
Total Depth ***5.3'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.097139***	
Location ***99+01.00 21.0' Rt.***	Geologist	Longitude(83) ***-84.485857***	

Elevation	Depth	Description	Jar #	NMC (%)
921.9	5.3	Brown, clay Bag #1	NMC #D-128A-1 @ 3'	30.5
		(Refusal @ 5.3)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021*** Item Number: ***07-08909.00***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway*** Project Manager:

Hole Number ***D-129***	Immediate Water Depth ***NA***	Start Date ***03/11/2021***	Hole Type ***sounding***
Surface Elevation ***928.3'***	Static Water Depth ***NA***	End Date ***03/11/2021***	Rig_Number ***TD-6***
Total Depth ***0.8'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.098067***	
Location ***102+50.00 10.0' Rt.***	Geologist	Longitude(83) ***-84.485606***	

Elevation	Depth	Description				Jar #	NMC (%)	
		(Refusal @ 0.8)						
5								5
10								10
15								15
20								20
25								25
30								30
35								35
40								40
45								45
50								50

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-130***	Immediate Water Depth ***NA***	Start Date ***03/15/2021***	Hole Type ***sounding***
Surface Elevation ***936.6'***	Static Water Depth ***NA***	End Date ***03/15/2021***	Rig_Number ***TD-6***
Total Depth ***1.3'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.098402***	
Location ***105+00.00 25.0' Rt.***	Geologist	Longitude(83) ***-84.484948***	

Elevation	Depth	Description				Jar #	NMC (%)	
		(Refusal @ 1.3)						
	5							5
	10							10
	15							15
	20							20
	25							25
	30							30
	35							35
	40							40
	45							45
	50							50

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-131***	Immediate Water Depth ***NA***	Start Date ***03/15/2021***	Hole Type ***cut profile***
Surface Elevation ***955.0'***	Static Water Depth ***NA***	End Date ***03/15/2021***	Rig_Number ***TD-6***
Total Depth ***6.5'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.098259***	
Location ***109+00.00 25.0' Rt.***	Geologist	Longitude(83) ***-84.483619***	

Elevation	Depth	Description	Jar #	NMC (%)
		Brown, silty clay Bag #2	NMC #D-131-1 @ 2'	24.5
948.5	6.5	(Refusal @ 6.5)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-132A***	Immediate Water Depth ***NA***	Start Date ***04/06/2021***	Hole Type ***cut profile***
Surface Elevation ***974.2'***	Static Water Depth ***NA***	End Date ***04/06/2021***	Rig_Number ***TD-6***
Total Depth ***10.0'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.080191***	
Location ***27+37.00 11.0' Rt.***	Geologist	Longitude(83) ***-84.458571***	

Elevation	Depth	Description	Jar #	NMC (%)
			NMC #D-132-1 @ 2'	24.1
5		Light brown, silty clay Bag #15		
			NMC #D-132-2 @ 7'	22.6
10 964.2	10.0			
		(No Refusal)		
15				
20				
25				
30				
35				
40				
45				
50				

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-133***	Immediate Water Depth ***NA***	Start Date ***04/06/2021***	Hole Type ***sounding***
Surface Elevation ***972.7'***	Static Water Depth ***NA***	End Date ***04/06/2021***	Rig_Number ***TD-6***
Total Depth ***1.8'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.081099***	
Location ***31+38.00 10.0' Rt.***	Geologist	Longitude(83) ***-84.459327***	

Elevation	Depth	Description				Jar #	NMC (%)	
		(Refusal @ 1.8)						
5								5
10								10
15								15
20								20
25								25
30								30
35								35
40								40
45								45
50								50

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-134A***	Immediate Water Depth ***NA***	Start Date ***04/06/2021***	Hole Type ***fill profile***
Surface Elevation ***964.7'***	Static Water Depth ***NA***	End Date ***04/06/2021***	Rig_Number ***TD-6***
Total Depth ***15.0'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.081754***	
Location ***33+88.00 53.0' Rt.***	Geologist	Longitude(83) ***-84.459622***	

Elevation	Depth	Description	Jar #	NMC (%)
			NMC #D-134A-1 @ 2'	26.9
		Soil Type #15	NMC #D-134A-2 @ 7'	26.5
			NMC #D-134A-3 @ 12'	23.8
949.7	15.0	(No Refusal)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-135***	Immediate Water Depth ***NA***	Start Date ***04/01/2021***	Hole Type ***fill profile***
Surface Elevation ***956.8'***	Static Water Depth ***NA***	End Date ***04/01/2021***	Rig_Number ***TD-6***
Total Depth ***7.7'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.082233***	
Location ***43+50.00 40.0' Rt.***	Geologist	Longitude(83) ***-84.460960***	

Elevation	Depth	Description	Jar #	NMC (%)
		Brown, silty clay Bag #10	NMC #D-135-1 @ 2'	20.4
949.1	7.7	(Refusal @ 7.7)	NMC #D-135-2 @ 7'	24.2

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021*** Item Number: ***07-08909.00***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway*** Project Manager:

Hole Number ***D-136***	Immediate Water Depth ***NA***	Start Date ***04/02/2021***	Hole Type ***sounding***
Surface Elevation ***969.4'***	Static Water Depth ***NA***	End Date ***04/02/2021***	Rig_Number ***TD-6***
Total Depth ***1.9'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.081286***	
Location ***47+50.00 CL***	Geologist	Longitude(83) ***-84.460244***	

Elevation	Depth	Description				Jar #	NMC (%)	
		(Refusal @ 1.9)						

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

SUBSURFACE PROFILE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***D-137***	Immediate Water Depth ***NA***	Start Date ***04/02/2021***	Hole Type ***sounding***
Surface Elevation ***980.0'***	Static Water Depth ***NA***	End Date ***04/02/2021***	Rig_Number ***TD-6***
Total Depth ***1.1'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.080623***	
Location ***50+00.00 30.0' Rt.***	Geologist	Longitude(83) ***-84.460204***	

Elevation	Depth	Description	Jar #	NMC (%)
		(Refusal @ 1.1)		

Bag # - indicates bag was obtained in this boring
Soil Type # - references soil type from bag sample obtained in a previous boring

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

DRILLER'S SUBSURFACE LOG

Printed: 7/12/21

Project ID: ***R-010-2021*** Item Number: ***07-08909.00***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway*** Project Manager:

Hole Number ***C-1***	Immediate Water Depth ***NA***	Start Date ***03/23/2021***	Hole Type ***core***
Surface Elevation ***957.1'***	Static Water Depth ***NA***	End Date ***03/23/2021***	Rig_Number ***TD-6***
Total Depth ***22.3'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.088982***	
Location ***230+50.00 98.0' Rt.***		Longitude(83) ***-84.467186***	

Lithology Elevation	Lithology Depth	Description	Sample No. / Std/Ky RQD	Depth (ft) / Run (ft)	Rec. (ft) / Rec (ft)	SPT Blows / Rec (%)	Sample Type / SDI (JS)	Remarks
		Overburden.						
952.3	4.8	(Begin Core)						
			50 / 50	1.0	1.0	100		5.8
			82 / 60	5.0	5.0	100		10.8
		Gray limestone.	66 / 38	5.0	4.7	94		15.8
			60 / 48	5.0	5.0	100		20.8
934.8	22.3		100 / 100	1.5	1.5	100		22.3
		(Bottom of Hole 22.3')						

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

DRILLER'S SUBSURFACE LOG

Printed: 7/12/21

Project ID: ***R-010-2021*** Item Number: ***07-08909.00***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway*** Project Manager:

Hole Number ***C-2A***	Immediate Water Depth ***NA***	Start Date ***04/15/2021***	Hole Type ***core***
Surface Elevation ***957.0'***	Static Water Depth ***NA***	End Date ***04/15/2021***	Rig_Number ***TD-6***
Total Depth ***16.5'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.089138***	
Location ***231+51.00 93.0' Lt.***		Longitude(83) ***-84.466463***	

Lithology Elevation	Lithology Depth	Description	Sample No. / Std/Ky RQD	Depth (ft) / Run (ft)	Rec. (ft) / Rec (ft)	SPT Blows / Rec (%)	Sample Type / SDI (JS)	Remarks
		Overburden						
953.0	4.0	Overburden.						
		Rock Core						
		(Begin Core)						
			65 / 65	1.7	1.7	100		5.7
			62 / 62	5.0	5.0	100		10.7
		Gray limestone.	52 / 52	5.0	4.8	96		15.7
940.5	16.5		0 / 50	0.8	0.8	100		16.5
		(Bottom of Hole 16.5')						

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

DRILLER'S SUBSURFACE LOG

Project ID: ***R-010-2021*** Item Number: ***07-08909.00***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway*** Project Manager:

Hole Number ***C-3***	Immediate Water Depth ***NA***	Start Date ***03/26/2021***	Hole Type ***core***
Surface Elevation ***960.4'***	Static Water Depth ***NA***	End Date ***03/26/2021***	Rig_Number ***TD-6***
Total Depth ***15.5'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.086305***	
Location ***243+50.00 90.0' Rt.***		Longitude(83) ***-84.464251***	

Lithology Elevation	Lithology Depth	Description	Sample No. / Std/Ky RQD	Depth (ft) / Run (ft)	Rec. (ft) / Rec (ft)	SPT Blows / Rec (%)	Sample Type / SDI (JS)	Remarks
		Overburden						
957.2	3.2	Overburden. (Begin Core)						
		Rock Core						
			73 / 70	3.0	2.8	93		6.2
		Gray limestone.	94 / 88	5.0	4.9	98		11.2
			93 / 93	4.3	4.3	100		
944.9	15.5							15.5
		(Bottom of Hole 15.5')						

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

DRILLER'S SUBSURFACE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***C-4***	Immediate Water Depth ***NA***	Start Date ***04/01/2021***	Hole Type ***core***
Surface Elevation ***966.0'***	Static Water Depth ***NA***	End Date ***04/01/2021***	Rig_Number ***TD-6***
Total Depth ***11.0'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.083968***	
Location ***254+00.00 90.0' Rt.***		Longitude(83) ***-84.462161***	

Lithology Elevation	Lithology Depth	Description	Sample No.	Depth (ft)	Rec. (ft)	SPT Blows	Sample Type	Remarks
		Overburden						
		Rock Core	Std/Ky RQD	Run (ft)	Rec (ft)	Rec (%)	SDI (JS)	
959.8	6.2	Overburden. (Begin Core)						
955.0	11.0	Gray limestone.	35 / 35	4.8	4.8	100		11.0
		(Bottom of Hole 11.0')						

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

DRILLER'S SUBSURFACE LOG

Project ID: ***R-010-2021*** Item Number: ***07-08909.00***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway*** Project Manager:

Hole Number ***C-5***	Immediate Water Depth ***NA***	Start Date ***04/16/2021***	Hole Type ***core***
Surface Elevation ***958.4'***	Static Water Depth ***NA***	End Date ***04/16/2021***	Rig_Number ***TD-6***
Total Depth ***18.5'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.098330***	
Location ***11+50.00 75.0' Lt.***		Longitude(83) ***-84.482172***	

Lithology Elevation	Lithology Depth	Description	Sample No.	Depth (ft)	Rec. (ft)	SPT Blows	Sample Type	Remarks
		Overburden	Std/Ky RQD	Run (ft)	Rec (ft)	Rec (%)	SDI (JS)	
955.9	2.5	Overburden. (Begin Core)						
		Gray limestone.	15 / 12	3.4	3.1	91		5
			58 / 48	5.0	5.0	100		5.9
			82 / 76	5.0	5.0	100		10
			92 / 73	2.6	2.6	100		10.9
939.9	18.5							15
		(Bottom of Hole 18.5')						15.9
								18.5
								20
								25
								30
								35
								40
								45
								50

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

DRILLER'S SUBSURFACE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***C-6***	Immediate Water Depth ***NA***	Start Date ***03/11/2021***	Hole Type ***core***
Surface Elevation ***943.0'***	Static Water Depth ***NA***	End Date ***03/11/2021***	Rig_Number ***TD-6***
Total Depth ***23.4'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.098258***	
Location ***104+00.00 50.0' Rt.***		Longitude(83) ***-84.485197***	

Lithology Elevation	Lithology Depth	Description	Sample No.	Depth (ft)	Rec. (ft)	SPT Blows	Sample Type	Remarks
		Overburden						
		Rock Core	Std/Ky RQD	Run (ft)	Rec (ft)	Rec (%)	SDI (JS)	
5		Overburden.						5
10								10
931.5	11.5	(Begin Core)						
15		Gray limestone, (with shale stringers).	71 / 71	4.2	4.2	100		15
								15.7
20			90 / 90	5.0	4.8	96		20
								20.7
919.6	23.4		100 / 100	2.7	2.7	100		23.4
25		(Bottom of Hole 23.4')						25
30								30
35								35
40								40
45								45
50								50

Drilling Firm: Geotechnology
For: Division of Structural Design
Geotechnical Branch

DRILLER'S SUBSURFACE LOG

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Hole Number ***C-6 Off***	Immediate Water Depth ***(03/15/21)***	Start Date ***03/15/2021***	Hole Type ***sample***
Surface Elevation ***945.9'***	Static Water Depth ***NA***	End Date ***03/15/2021***	Rig_Number ***TD-6***
Total Depth ***12.0'***	Driller ***Gilbert, Tony***	Latitude(83) ***38.098190***	
Location ***103+87.00 73.0' Rt.***		Longitude(83) ***-84.485185***	

Lithology		Description	Sample No.	Depth (ft)	Rec. (ft)	SPT Blows	Sample Type	Remarks
Elevation	Depth	Overburden / Rock Core	Std/Ky RQD	Run (ft)	Rec (ft)	Rec (%)	SDI (JS)	
								Limestone Boulders @ 0-12
			1	2.0-4.0	0.5		ST	
5			2	4.0-5.5	1.0	7-5-6	SPT	5
		Stiff, brown, clay with limestone boulders.						
			3	7.0-9.0	0.4		ST	
10			4	9.0-10.5	1.5	5-6-6	SPT	10
933.9	12.0							
15		(Bottom of Hole 12.0') (Refusal @ 12)						15
20		Set Observation Well						20
25								25
30								30
35								35
40								40
45								45
50								50

Soil Classification and Gradation Test Results

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Location:	103+87 73.0' Rt.	Hole #:	C-6 Off
Lab ID#:	2	Depth (ft):	4-5.5

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"	100.0	2"	100.0	1"	100.0
3/4"	100.0	3/8"	99.3	No. 4	98.7
No. 10	96.5	No. 40	84.0	No. 200	77.8
0.002 mm	29.0				

Gravel (-3" + No. 10)	3.5	Coarse Sand (-No. 10 + No. 40)	12.5
Fine Sand (-No. 40 +No. 200)	6.2	Silts (-No. 200 + 0.002mm)	48.7
Clay (-0.002mm)	29.0	Colloids (-0.001mm)	24.9

Liquid Limit:	38	Plastic Limit:	26	Plasticity Index:	12
		Activity:	0.41	Spec. Gravity:	2.808

AASHTO Classification:	A-6 (9)
Unified Classification:	ML

D 10 (mm):	0.000	NAT MT =	21.43
D 30 (mm):	0.002	LIQ =	-0.38092
D 50 (mm):	0.010		
D 60 (mm):	0.020		
D 90 (mm):	0.897		
D 95 (mm):	1.670		

		Cu =	
Sieve Type:	With Gravel		
Notes:		Cc =	
Silts + Clays + Colloids:	N/A		

Remarks:

Copies:

Soil Classification and Gradation Test Results

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Location:	103+87 73.0' Rt.	Hole #:	C-6 Off
Lab ID#:	3	Depth (ft):	7-9

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"	100.0	2"	100.0	1"	100.0
3/4"	100.0	3/8"	100.0	No. 4	100.0
No. 10	100.0	No. 40	96.0	No. 200	87.0
0.002 mm	48.8				

Gravel (-3" + No. 10)	0.0	Coarse Sand (-No. 10 + No. 40)	4.0
Fine Sand (-No. 40 +No. 200)	9.0	Silts (-No. 200 + 0.002mm)	38.2
Clay (-0.002mm)	48.8	Colloids (-0.001mm)	43.8

Liquid Limit:	57	Plastic Limit:	31	Plasticity Index:	26
		Activity:	0.53	Spec. Gravity:	2.863

AASHTO Classification:	A-7-5 (26)
Unified Classification:	MH

D 10 (mm):	0.000	NAT MT =	35.06
D 30 (mm):	0.000	LIQ =	0.15613
D 50 (mm):	0.002		
D 60 (mm):	0.006		
D 90 (mm):	0.134		
D 95 (mm):	0.353		

Cu =

Cc =

Sieve Type:	No Gravel
Notes:	
Silts + Clays + Colloids:	N/A

Remarks:

Copies:

Soil Classification and Gradation Test Results

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Location:	103+87 73.0' Rt.	Hole #:	C-6 Off
Lab ID#:	4	Depth (ft):	9-10.5

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"	100.0	2"	100.0	1"	100.0
3/4"	100.0	3/8"	100.0	No. 4	99.8
No. 10	98.7	No. 40	94.4	No. 200	84.9
0.002 mm	60.2				

Gravel (-3" + No. 10)	1.3	Coarse Sand (-No. 10 + No. 40)	4.3
Fine Sand (-No. 40 +No. 200)	9.4	Silts (-No. 200 + 0.002mm)	24.7
Clay (-0.002mm)	60.2	Colloids (-0.001mm)	56.7

Liquid Limit:	55	Plastic Limit:	36	Plasticity Index:	19
		Activity:	0.32	Spec. Gravity:	2.698

AASHTO Classification:	A-7-5 (20)
Unified Classification:	MH

D 10 (mm):	0.000	NAT MT =	40.29
D 30 (mm):	0.000	LIQ =	0.22560
D 50 (mm):	0.000		
D 60 (mm):	0.002		
D 90 (mm):	0.191		
D 95 (mm):	0.535		

		Cu =	
Sieve Type:	With Gravel		
Notes:		Cc =	
Silts + Clays + Colloids:	N/A		

Remarks:

Copies:

Soil Classification and Gradation Test Results

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Location:	183+00 85.0' Rt.	Hole #:	D-101
Lab ID#:	3	Depth (ft):	0-10

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"	100.0	2"	100.0	1"	100.0
3/4"	100.0	3/8"	100.0	No. 4	99.7
No. 10	98.2	No. 40	90.2	No. 200	86.4
0.002 mm	17.8				

Gravel (-3" + No. 10)	1.8	Coarse Sand (-No. 10 + No. 40)	8.0
Fine Sand (-No. 40 +No. 200)	3.8	Silts (-No. 200 + 0.002mm)	68.6
Clay (-0.002mm)	17.8	Colloids (-0.001mm)	11.2

Liquid Limit:	37	Plastic Limit:	23	Plasticity Index:	14
		Activity:	0.78	Spec. Gravity:	2.684

AASHTO Classification:	A-6 (12)
Unified Classification:	CL

D 10 (mm):	0.000	NAT MT =	28.05
D 30 (mm):	0.004	LIQ =	0.36099
D 50 (mm):	0.011		
D 60 (mm):	0.019		
D 90 (mm):	0.384		
D 95 (mm):	1.075		

Cu =

Cc =

Sieve Type:	With Gravel
Notes:	
Silts + Clays + Colloids:	N/A

Remarks:

Copies:

Soil Classification and Gradation Test Results

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Location:	191+00 95.0' Rt.	Hole #:	D-103
Lab ID#:	4	Depth (ft):	0-5.1

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"	100.0	2"	100.0	1"	100.0
3/4"	100.0	3/8"	98.2	No. 4	96.8
No. 10	91.7	No. 40	80.1	No. 200	68.9
0.002 mm	36.2				

Gravel (-3" + No. 10)	8.3	Coarse Sand (-No. 10 + No. 40)	11.6
Fine Sand (-No. 40 +No. 200)	11.2	Silts (-No. 200 + 0.002mm)	32.6
Clay (-0.002mm)	36.2	Colloids (-0.001mm)	31.4

Liquid Limit:	59	Plastic Limit:	35	Plasticity Index:	24
		Activity:	0.66	Spec. Gravity:	2.849

AASHTO Classification:	A-7-5 (18)
Unified Classification:	MH

D 10 (mm):	0.000	NAT MT =	27.93
D 30 (mm):	0.000	LIQ =	-0.29476
D 50 (mm):	0.009		
D 60 (mm):	0.028		
D 90 (mm):	1.596		
D 95 (mm):	3.498		

		Cu =	
Sieve Type:	With Gravel		
Notes:		Cc =	
Silts + Clays + Colloids:	N/A		

Remarks:

Copies:

Soil Classification and Gradation Test Results

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Location:	199+00 70.0' Rt.	Hole #:	D-105
Lab ID#:	5	Depth (ft):	0-5

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"	100.0	2"	100.0	1"	100.0
3/4"	100.0	3/8"	94.4	No. 4	87.1
No. 10	64.4	No. 40	51.6	No. 200	41.9
0.002 mm	13.9				

Gravel (-3" + No. 10)	35.6	Coarse Sand (-No. 10 + No. 40)	12.9
Fine Sand (-No. 40 +No. 200)	9.6	Silts (-No. 200 + 0.002mm)	28.0
Clay (-0.002mm)	13.9	Colloids (-0.001mm)	10.3

Liquid Limit:	46	Plastic Limit:	27	Plasticity Index:	19
		Activity:	1.37	Spec. Gravity:	2.775

AASHTO Classification:	A-7-6 (4)
Unified Classification:	SC

D 10 (mm):	0.000	NAT MT =	20.81
D 30 (mm):	0.016	LIQ =	-0.32594
D 50 (mm):	0.320		
D 60 (mm):	1.172		
D 90 (mm):	6.229		
D 95 (mm):	10.176		

		Cu =	
Sieve Type:	With Gravel		
Notes:		Cc =	
Silts + Clays + Colloids:	N/A		

Remarks:

Copies:

Soil Classification and Gradation Test Results

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Location:	215+00 90.0' Rt.	Hole #:	D-109
Lab ID#:	6	Depth (ft):	0-2.5

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"	100.0	2"	100.0	1"	100.0
3/4"	100.0	3/8"	100.0	No. 4	100.0
No. 10	98.3	No. 40	91.2	No. 200	70.6
0.002 mm	39.3				

Gravel (-3" + No. 10)	1.7	Coarse Sand (-No. 10 + No. 40)	7.1
Fine Sand (-No. 40 +No. 200)	20.6	Silts (-No. 200 + 0.002mm)	31.3
Clay (-0.002mm)	39.3	Colloids (-0.001mm)	33.8

Liquid Limit:	52	Plastic Limit:	30	Plasticity Index:	22
		Activity:	0.56	Spec. Gravity:	2.734

AASHTO Classification:	A-7-5 (16)
Unified Classification:	MH

D 10 (mm):	0.000	NAT MT =	30.77
D 30 (mm):	0.000	LIQ =	0.03513
D 50 (mm):	0.007		
D 60 (mm):	0.022		
D 90 (mm):	0.384		
D 95 (mm):	0.971		

Cu =

Cc =

Sieve Type:	With Gravel
Notes:	
Silts + Clays + Colloids:	N/A

Remarks:

Copies:

Soil Classification and Gradation Test Results

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Location:	223+00 90.0' Rt.	Hole #:	D-111
Lab ID#:	7	Depth (ft):	0-4.1

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"	100.0	2"	100.0	1"	100.0
3/4"	100.0	3/8"	100.0	No. 4	99.5
No. 10	91.7	No. 40	73.4	No. 200	63.6
0.002 mm	27.8				

Gravel (-3" + No. 10)	8.3	Coarse Sand (-No. 10 + No. 40)	18.3
Fine Sand (-No. 40 +No. 200)	9.7	Silts (-No. 200 + 0.002mm)	35.9
Clay (-0.002mm)	27.8	Colloids (-0.001mm)	23.5

Liquid Limit:	52	Plastic Limit:	32	Plasticity Index:	20
		Activity:	0.72	Spec. Gravity:	2.757

AASHTO Classification:	A-7-5 (12)
Unified Classification:	MH

D 10 (mm):	0.000	NAT MT =	25.54
D 30 (mm):	0.003	LIQ =	-0.32295
D 50 (mm):	0.019		
D 60 (mm):	0.052		
D 90 (mm):	1.726		
D 95 (mm):	2.872		

		Cu =	
Sieve Type:	With Gravel		
Notes:		Cc =	
Silts + Clays + Colloids:	N/A		

Remarks:

Copies:

Soil Classification and Gradation Test Results

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Location:	243+00 90.0' Rt.	Hole #:	D-116
Lab ID#:	9	Depth (ft):	0-5

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"	100.0	2"	100.0	1"	100.0
3/4"	100.0	3/8"	100.0	No. 4	100.0
No. 10	100.0	No. 40	98.2	No. 200	91.3
0.002 mm	53.9				

Gravel (-3" + No. 10)	0.0	Coarse Sand (-No. 10 + No. 40)	1.8
Fine Sand (-No. 40 +No. 200)	6.8	Silts (-No. 200 + 0.002mm)	37.4
Clay (-0.002mm)	53.9	Colloids (-0.001mm)	45.7

Liquid Limit:	61	Plastic Limit:	31	Plasticity Index:	30
		Activity:	0.56	Spec. Gravity:	2.855

AASHTO Classification:	A-7-5 (32)
Unified Classification:	CH

D 10 (mm):	0.000	NAT MT =	33.82
D 30 (mm):	0.000	LIQ =	0.09405
D 50 (mm):	0.001		
D 60 (mm):	0.004		
D 90 (mm):	0.066		
D 95 (mm):	0.190		

		Cu =	
Sieve Type:	No Gravel		
Notes:		Cc =	
Silts + Clays + Colloids:	N/A		

Remarks:

Copies:

Soil Classification and Gradation Test Results

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Location:	251+00 90.0' Rt.	Hole #:	D-118
Lab ID#:	8	Depth (ft):	0-3

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"	100.0	2"	100.0	1"	100.0
3/4"	100.0	3/8"	100.0	No. 4	100.0
No. 10	94.7	No. 40	86.6	No. 200	79.1
0.002 mm	30.1				

Gravel (-3" + No. 10)	5.3	Coarse Sand (-No. 10 + No. 40)	8.1
Fine Sand (-No. 40 +No. 200)	7.5	Silts (-No. 200 + 0.002mm)	49.0
Clay (-0.002mm)	30.1	Colloids (-0.001mm)	22.3

Liquid Limit:	52	Plastic Limit:	28	Plasticity Index:	24
		Activity:	0.80	Spec. Gravity:	2.766

AASHTO Classification:	A-7-6 (20)
Unified Classification:	CH

D 10 (mm):	0.000	NAT MT =	28.40
D 30 (mm):	0.002	LIQ =	0.01653
D 50 (mm):	0.009		
D 60 (mm):	0.018		
D 90 (mm):	0.811		
D 95 (mm):	2.086		

		Cu =	
Sieve Type:	With Gravel		
Notes:		Cc =	
Silts + Clays + Colloids:	N/A		

Remarks:

Copies:

Soil Classification and Gradation Test Results

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Location:	257+00 90.0' Rt.	Hole #:	D-120
Lab ID#:	11	Depth (ft):	0-5

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"	100.0	2"	100.0	1"	100.0
3/4"	97.7	3/8"	97.7	No. 4	96.6
No. 10	86.4	No. 40	71.1	No. 200	64.0
0.002 mm	24.5				

Gravel (-3" + No. 10)	13.6	Coarse Sand (-No. 10 + No. 40)	15.3
Fine Sand (-No. 40 +No. 200)	7.0	Silts (-No. 200 + 0.002mm)	39.5
Clay (-0.002mm)	24.5	Colloids (-0.001mm)	21.7

Liquid Limit:	48	Plastic Limit:	19	Plasticity Index:	29
		Activity:	1.18	Spec. Gravity:	2.738

AASHTO Classification:	A-7-6 (16)
Unified Classification:	CL

D 10 (mm):	0.000	NAT MT =	26.64
D 30 (mm):	0.003	LIQ =	0.26353
D 50 (mm):	0.021		
D 60 (mm):	0.052		
D 90 (mm):	2.711		
D 95 (mm):	4.136		

		Cu =	
Sieve Type:	With Gravel		
Notes:		Cc =	
Silts + Clays + Colloids:	N/A		

Remarks:

Copies:

Soil Classification and Gradation Test Results

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Location:	545+00 40.0' Lt.	Hole #:	D-122
Lab ID#:	14	Depth (ft):	0-7

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"	100.0	2"	100.0	1"	100.0
3/4"	100.0	3/8"	99.0	No. 4	97.8
No. 10	90.0	No. 40	80.7	No. 200	70.6
0.002 mm	35.2				

Gravel (-3" + No. 10)	10.0	Coarse Sand (-No. 10 + No. 40)	9.3
Fine Sand (-No. 40 +No. 200)	10.1	Silts (-No. 200 + 0.002mm)	35.4
Clay (-0.002mm)	35.2	Colloids (-0.001mm)	29.4

Liquid Limit:	57	Plastic Limit:	31	Plasticity Index:	26
		Activity:	0.74	Spec. Gravity:	2.738

AASHTO Classification:	A-7-5 (19)
Unified Classification:	MH

D 10 (mm):	0.000	NAT MT =	25.45
D 30 (mm):	0.001	LIQ =	-0.21346
D 50 (mm):	0.009		
D 60 (mm):	0.025		
D 90 (mm):	1.986		
D 95 (mm):	3.483		

		Cu =	
Sieve Type:	With Gravel		
Notes:		Cc =	
Silts + Clays + Colloids:	N/A		

Remarks:

Copies:

Soil Classification and Gradation Test Results

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Location:	564+00 60.0' Lt.	Hole #:	D-125
Lab ID#:	13	Depth (ft):	0-7

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"	100.0	2"	100.0	1"	100.0
3/4"	100.0	3/8"	100.0	No. 4	96.2
No. 10	85.8	No. 40	78.5	No. 200	74.4
0.002 mm	45.0				

Gravel (-3" + No. 10)	14.2	Coarse Sand (-No. 10 + No. 40)	7.3
Fine Sand (-No. 40 +No. 200)	4.1	Silts (-No. 200 + 0.002mm)	29.4
Clay (-0.002mm)	45.0	Colloids (-0.001mm)	40.2

Liquid Limit:	55	Plastic Limit:	35	Plasticity Index:	20
		Activity:	0.44	Spec. Gravity:	2.728

AASHTO Classification:	A-7-5 (17)
Unified Classification:	MH

D 10 (mm):	0.000	NAT MT =	29.72
D 30 (mm):	0.000	LIQ =	-0.26389
D 50 (mm):	0.004		
D 60 (mm):	0.013		
D 90 (mm):	2.844		
D 95 (mm):	4.305		

		Cu =	
Sieve Type:	With Gravel		
Notes:		Cc =	
Silts + Clays + Colloids:	N/A		

Remarks:

Copies:

Soil Classification and Gradation Test Results

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Location:	99+01 21.0' Rt.	Hole #:	D-128A
Lab ID#:	1	Depth (ft):	0-5.3

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"	100.0	2"	100.0	1"	100.0
3/4"	100.0	3/8"	97.1	No. 4	94.9
No. 10	89.5	No. 40	80.1	No. 200	68.3
0.002 mm	32.3				

Gravel (-3" + No. 10)	10.5	Coarse Sand (-No. 10 + No. 40)	9.3
Fine Sand (-No. 40 +No. 200)	11.8	Silts (-No. 200 + 0.002mm)	36.0
Clay (-0.002mm)	32.3	Colloids (-0.001mm)	26.6

Liquid Limit:	52	Plastic Limit:	29	Plasticity Index:	23
		Activity:	0.71	Spec. Gravity:	2.783

AASHTO Classification:	A-7-6 (15)
Unified Classification:	MH

D 10 (mm):	0.000	NAT MT =	30.53
D 30 (mm):	0.002	LIQ =	0.06642
D 50 (mm):	0.012		
D 60 (mm):	0.033		
D 90 (mm):	2.179		
D 95 (mm):	4.844		

		Cu =	
Sieve Type:	With Gravel		
Notes:		Cc =	
Silts + Clays + Colloids:	N/A		

Remarks:

Copies:

Soil Classification and Gradation Test Results

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Location:	109+00 25.0' Rt.	Hole #:	D-131
Lab ID#:	2	Depth (ft):	0-6.5

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"	100.0	2"	100.0	1"	100.0
3/4"	100.0	3/8"	99.4	No. 4	98.9
No. 10	94.1	No. 40	78.8	No. 200	70.6
0.002 mm	20.3				

Gravel (-3" + No. 10)	5.9	Coarse Sand (-No. 10 + No. 40)	15.3
Fine Sand (-No. 40 +No. 200)	8.2	Silts (-No. 200 + 0.002mm)	50.2
Clay (-0.002mm)	20.3	Colloids (-0.001mm)	15.3

Liquid Limit:	52	Plastic Limit:	29	Plasticity Index:	23
		Activity:	1.13	Spec. Gravity:	2.739

AASHTO Classification:	A-7-6 (17)
Unified Classification:	MH

D 10 (mm):	0.000	NAT MT =	24.48
D 30 (mm):	0.004	LIQ =	-0.19646
D 50 (mm):	0.017		
D 60 (mm):	0.035		
D 90 (mm):	1.322		
D 95 (mm):	2.355		

		Cu =	
Sieve Type:	With Gravel		
Notes:		Cc =	
Silts + Clays + Colloids:	N/A		

Remarks:

Copies:

Soil Classification and Gradation Test Results

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Location:	27+37 11.0' Rt.	Hole #:	D-132A
Lab ID#:	15	Depth (ft):	0-10

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"	100.0	2"	100.0	1"	100.0
3/4"	100.0	3/8"	99.6	No. 4	99.0
No. 10	97.7	No. 40	87.3	No. 200	82.1
0.002 mm	19.7				

Gravel (-3" + No. 10)	2.3	Coarse Sand (-No. 10 + No. 40)	10.4
Fine Sand (-No. 40 +No. 200)	5.1	Silts (-No. 200 + 0.002mm)	62.5
Clay (-0.002mm)	19.7	Colloids (-0.001mm)	13.5

Liquid Limit:	41	Plastic Limit:	33	Plasticity Index:	8
		Activity:	0.41	Spec. Gravity:	2.679

AASHTO Classification:	A-5 (8)
Unified Classification:	ML

D 10 (mm):	0.000	NAT MT =	23.35
D 30 (mm):	0.004	LIQ =	-1.20665
D 50 (mm):	0.012		
D 60 (mm):	0.021		
D 90 (mm):	0.639		
D 95 (mm):	1.342		

		Cu =	
Sieve Type:	With Gravel		
Notes:		Cc =	
Silts + Clays + Colloids:	N/A		

Remarks:

Copies:

Soil Classification and Gradation Test Results

Project ID: ***R-010-2021***	***Fayette - I-75 MP 111.0-117.7***	Project Type: ***Roadway***
Item Number: ***07-08909.00***		Project Manager:

Location:	43+50 40.0' Rt.	Hole #:	D-135
Lab ID#:	10	Depth (ft):	0-7.7

Sieve Size	%Passing	Sieve Size	%Passing	Sieve Size	%Passing
3"	100.0	2"	100.0	1"	100.0
3/4"	100.0	3/8"	99.7	No. 4	98.6
No. 10	91.9	No. 40	74.0	No. 200	69.6
0.002 mm	19.9				

Gravel (-3" + No. 10)	8.1	Coarse Sand (-No. 10 + No. 40)	18.0
Fine Sand (-No. 40 +No. 200)	4.4	Silts (-No. 200 + 0.002mm)	49.7
Clay (-0.002mm)	19.9	Colloids (-0.001mm)	16.7

Liquid Limit:	35	Plastic Limit:	22	Plasticity Index:	13
		Activity:	0.65	Spec. Gravity:	2.700

AASHTO Classification:	A-6 (8)
Unified Classification:	CL

D 10 (mm):	0.000	NAT MT =	22.28
D 30 (mm):	0.004	LIQ =	0.02118
D 50 (mm):	0.018		
D 60 (mm):	0.037		
D 90 (mm):	1.691		
D 95 (mm):	2.975		

Sieve Type:	With Gravel	Cu =	
Notes:		Cc =	
Silts + Clays + Colloids:	N/A		

Remarks:

Copies:

GEOTECHNICAL SYMBOLS

COUNTY OF	ITEM NO.	SHEET NO.
FAYETTE	7-8909.00	G 1

AASHTO Classification of Soils and Soil-Aggregate Mixtures

General Classification	Granular Materials (35% or less passing 0.075 mm)							Silt-Clay Materials (More than 35% passing 0.075 mm)			
Group Classification	A-1		A-3	A-2				A-4	A-5	A-6	A-7
	A-1-a	A-1-b		A-2-4	A-2-5	A-2-6	A-2-7				A-7-5 A-7-6
Sieve Analysis, Percent Passing											
2.00 mm (No. 10)	50 max	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
0.425 mm (No. 40)	30 max	50 max	51 min	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
0.075 mm (No. 200)	15 max	25 max	10 max	35 max	35 max	35 max	35 max	36 min	36 min	36 min	36 min
Characteristics of Fraction Passing 0.425 mm (No. 40)											
Liquid Limit	- - -		- - -	40 max	41 min	40 max	41 min	40 max	41 min	40 max	41 min
Plasticity Index	6 max		N.P.	10 max	10 max	11 min	11 min	10 max	10 max	11 min	11 min

AI	Activity Index
LI	Liquidity Index
S+C	Silt + Clay (% finer than No.200 Sieve)
○	Rockline Soundings
◕	Disturbed Sample Boring
◎	Undisturbed Sample Boring
⊙	Undisturbed Sample Boring & Rock Core
●	Rock Core
✧	Slope Inclinometer Installation
	typical applications: ✧ ◕ ⊙ ⊙ ●
OW	Observation Well
➡	Approximate Footing Elevation
▼ (Date)	Water Elevation

VS (psf)	Field Vane Shear Strength
■	Thin-walled Tube Sample
<	Standard Penetration Test Sample
N	Penetration Resistance
Qu (psf)	Unconfined Compressive Strength
UU (psf)	Unconsolidated Undrained Triaxial Strength
w%	Moisture Content
KY RQD	Rock Quality Designation (Kentucky Method)
STD RQD	Rock Quality Designation (Standard Method)
SDI(JS)	Slake Durability Index (Jar Slake Test)
REC	Core Recovery
ø	Angle of Internal Friction (Total Stress)
$\bar{ø}$	Angle of Internal Friction (Effective Stress)
c (psf)	Cohesion (Total Stress)
$\bar{c}$ (psf)	Cohesion (Effective Stress)
♂ (pcf)	Total Unit Weight
RDZ	Rock Disintegration Zone
OB	Overburden Bench
IB	Intermediate Bench
R	Refusal
NR	Refusal Not Encountered

Unified Soil Classifications

MAJOR DIVISIONS		SYMBOL	NAME
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	GW	Well-graded gravels or gravel-sand mixtures, little or no fines.
		GP	Poorly graded gravels or gravel-sand mixtures, little or no fines.
		GM	Silty gravels, gravel-sand-silt mixtures.
		GC	Clayey gravels, gravel-sand-clay mixtures.
	SAND AND SANDY SOILS	SW	Well graded sands or gravelly sands, little or no fines.
		SP	Poorly graded sands or gravelly sands, little or no fines.
		SM	Silty sands, sand-silt mixtures.
		SC	Clayey sands, sand-clay mixtures.
FINE GRAINED SOILS	SILTS AND CLAYS LL IS LESS THAN 50	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays silty clays, lean clays.
		ML-CL	Silty clay-silty clay with sand and or gravel, sandy silty clay, sandy silty clay with gravel, gravelly silty clay, gravelly silty clay with sand
	SILTS AND CLAYS LL IS GREATER THAN 50	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
		CH	Inorganic clays of high plasticity, fat clays.

Unified Soil Classifications - Continued

MAJOR DIVISIONS		SYMBOL	NAME
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	GP-GC	Poorly graded gravel with clay (or silty clay), poorly graded gravel with clay and sand (or silty clay & sand)
		GP-GM	Poorly graded gravel with silt, poorly graded gravel with silt and sand
		GW-GC	Well graded gravel with clay (or silty clay), well graded gravel with clay and sand (or silty clay and sand)
		GW-GM	Well graded gravel with silt, well graded gravel with silt and sand
		GC-GM	Silty clayey gravel, silty clayey gravel with sand
	SAND AND SANDY SOILS	SW-SC	Well graded sand with clay (or silty clay), well graded sand with clay and gravel (or silty clay & gravel)
		SP-SC	Poorly graded sand with clay (or silty clay), poorly graded sand with clay and gravel (or silty clay and gravel)
		SP-SM	Poorly graded sand with silt, poorly graded sand with silt and gravel
		SC-SM	Silty clayey sand, silty clayey sand with gravel
		SW-SM	Well graded sand with silt, well graded sand with silt and gravel
UNCLASSIFIED MATERIAL		OH	Organic (High Plasticity)
		OL	Organic (Low Plasticity)

	LIMESTONE
	SANDSTONE
	DURABLE SHALE (SDI ≥ 95)
	NONDURABLE SHALE (SDI < 95)
	GRANULAR EMBANKMENT
	STRUCTURE GRANULAR BACKFILL
	TALUS, MINE WASTE, FILL MATERIAL, BOULDERS, & ETC.
	COAL
	DOLOMITE
	LIMESTONE (ARGILLACEOUS)
	SLOPE PROTECTION

I64/I75
GEOTECHNICAL SYMBOL SHEET

FILE NAME:
USER:
DATE:
E-SHEET NAME:
MicroStation V8.11.9.919

COUNTY OF	ITEM NO.	SHEET NO.
FAYETTE	7-8909.00	G2

GEOTECHNICAL NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR CONDUCTING ANY OPERATIONS NECESSARY TO EXCAVATE THE CUT AREAS TO THE REQUIRED TYPICAL SECTION. THESE OPERATIONS SHALL BE INCIDENTAL TO ROADWAY EXCAVATION OR EMBANKMENT-IN-PLACE AND NO ADDITIONAL COMPENSATION SHALL BE MADE FOR THIS WORK.

2. CLEARING AND GRUBBING OF ROADWAY AREAS SHALL BE COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 202 OF THE CURRENT KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

3. IN ACCORDANCE WITH SECTION 206 OF THE CURRENT STANDARD SPECIFICATIONS, THE MOISTURE CONTENT OF EMBANKMENT FILL MATERIAL SHALL NOT VARY FROM THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY KM 64-511 BY MORE THAN +2 PERCENT OR LESS THAN -2 PERCENT. THIS MOISTURE CONTENT REQUIREMENT SHALL HAVE EQUAL WEIGHT WITH THE DENSITY REQUIREMENT WHEN DETERMINING THE ACCEPTABILITY OF EMBANKMENT CONSTRUCTION. REFER TO THE FAMILY OF CURVES FOR MOISTURE/DENSITY CORRELATION.

4. ALL WATER WELLS OR CISTERNS, SEPTIC TANKS, CATCH BASINS, MANHOLES, ETC., THAT MAY BE ENCOUNTERED WITHIN THE LIMITS OF THE CONSTRUCTION, WHETHER SHOWN ON PLANS OR NOT, SHALL BE PLUGGED AND/OR CAPPED IN ACCORDANCE WITH SECTION 708 OF THE CURRENT KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

5. ALL SOILS, WHETHER FROM ROADWAY OR BORROW, MAY REQUIRE MANIPULATION TO OBTAIN PROPER MOISTURE CONTENT PRIOR TO COMPACTION. DIRECT PAYMENT SHALL NOT BE PERMITTED FOR RE-HANDLING, HAULING, STOCKPILING, AND/OR MANIPULATING SOILS.

6. THE CONTRACTOR SHALL CONDUCT GRADING OPERATIONS IN SUCH A MANNER THAT LIMESTONE AND/OR DURABLE ROCK OBTAINED FROM ROADWAY EXCAVATION SHALL BE STOCKPILED SEPARATELY OR OTHERWISE MANIPULATED SO THAT QUANTITIES ARE AVAILABLE FOR THOSE AREAS REQUIRING SAID MATERIAL. LIMESTONE SHALL NOT BE PLACED IN THE EMBANKMENTS OR WASTED UNTIL ALL ROCK ROADBED CONSTRUCTION IS COMPLETED AND WITHOUT APPROVAL OF THE ENGINEER. NO DIRECT PAYMENT FOR HAULING, STOCKPILING, AND/OR MANIPULATING EXCAVATED MATERIAL SHALL BE PERMITTED.

7. EXCAVATION OF SURFACE DITCHES AND CHANNEL CHANGES ADJACENT TO EMBANKMENT AREAS SHALL BE PERFORMED PRIOR TO THE PLACEMENT OF THE ADJACENT EMBANKMENTS. THE MATERIAL EXCAVATED FOR THE CHANNEL CHANGES AND SURFACE DITCHES IS SUITABLE FOR EMBANKMENT CONSTRUCTION IF DRIED TO PROPER MOISTURE CONTENT IN ACCORDANCE WITH SECTION 206 OF THE CURRENT STANDARD SPECIFICATIONS.

8. FOUNDATION EMBANKMENT BENCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD DRAWING RGX-010 AT THE LOCATIONS LISTED BELOW AND/OR AS DIRECTED BY THE ENGINEER. CONTRARY TO STANDARD DRAWING RGX-010, THE TYPICAL RISE HEIGHT FOR BENCHING INTO SOIL/EARTH SLOPES SHALL BE FOUR (4) TO SIX (6) FEET. BENCHES IN EARTH SLOPES SHALL BE CONSTRUCTED ONE AT A TIME BEGINNING WITH THE LOWEST BENCH, AND EACH BENCH SHALL BE BACKFILLED PRIOR TO EXCAVATION OF THE NEXT BENCH. IF WATER IS ENCOUNTERED DURING BENCHING, CONSTRUCT A MINIMUM ONE (1) FOOT THICK DRAINAGE BLANKET AS DIRECTED BY THE ENGINEER, OR CONTACT THE GEOTECHNICAL BRANCH FOR GUIDANCE. THE DRAINAGE BLANKET SHALL CONSIST OF KENTUCKY COARSE AGGREGATE NO. 2 IN ACCORDANCE WITH SECTION 805 OF THE CURRENT STANDARD SPECIFICATIONS, OR OTHER AVAILABLE MATERIAL DEEMED SUITABLE BY THE ENGINEER. THE DRAINAGE BLANKET SHALL EXTEND TO THE TOE OF SLOPE TO PROVIDE POSITIVE DRAINAGE AND SHALL BE WRAPPED WITH FABRIC-GEOTEXTILE CLASS 2 (SUBSURFACE DRAINAGE) IN ACCORDANCE WITH SECTIONS 214 AND 843 OF THE CURRENT STANDARD SPECIFICATIONS.

APPROXIMATE STATION LIMITS

I-64/I-75 MAINLINE
STATION 182+25 TO 184+25 RIGHT
STATION 211+00 TO 213+00 LEFT
STATION 211+25 TO 211+75 RIGHT
STATION 224+50 TO 225+50 LEFT

PARRIS PIKE RAMP A
STATION 35+50 TO 41+50 RIGHT

PARRIS PIKE RAMP D
STATION 41+25 TO 49+25 RIGHT

I-64/I-75 NORTHBOUND MERGE
STATION 542+75 TO 543+25 LEFT
STATION 559+50 TO 560+50 LEFT

NEWTOWN PIKE RAMP C
STATION 3+25 TO 3+75 RIGHT

9. AS DIRECTED BY THE ENGINEER, ADEQUATE DRAINAGE SHALL BE PROVIDED FOR ANY NATURAL SPRING OUTLETS ENCOUNTERED WITHIN THE CONSTRUCTION LIMITS, WHETHER SHOWN ON PLANS OR NOT. ADEQUATE DRAINAGE SHALL BE PROVIDED BY CONSTRUCTING SPRING BOX INLETS, IF THERE IS A DEFINED THROAT, IN ACCORDANCE WITH THE KENTUCKY DEPARTMENT OF HIGHWAY STANDARD DRAWINGS RDX-010-05 OR RDX-011-05. THE OUTLET PIPES SHOULD EXTEND TO THE DOWNSTREAM EMBANKMENT TOES FOR THE DISCHARGE OF WATER ONTO EXTERIOR GRADES. IF THERE IS NO DEFINED THROAT THEN A ONE (1) FOOT DRAINAGE BLANKET WRAPPED WITH FABRIC-GEOTEXTILE, CLASS 1 (SUBSURFACE DRAINAGE) SHALL BE USED IN ACCORDANCE WITH SECTIONS 214 & 843 OF THE CURRENT STANDARD SPECIFICATIONS.

10. PERFORATED PIPE FOR SUBGRADE DRAINAGE SHALL BE PLACED IN VERTICAL SAGS IN ACCORDANCE WITH STANDARD DRAWING RDP-005 AT THE FOLLOWING APPROXIMATE LOCATIONS, AND/OR WHERE DESIGNATED BY THE ENGINEER.

APPROXIMATE STATION LIMITS

I-64/I-75 MAINLINE
STATION 187+63
STATION 229+95

NEWTOWN PIKE RAMP D
STATION 103+04

NEWTOWN PIKE RAMP D (MERGE)
STATION 50+18

PARIS PIKE RAMP A
STATION 29+52

PARIS PIKE RAMP D
STATION 48+25

NORTH BOUND I-64 MERGE
STATION 544+88

11. CONSTRUCT A 2-FOOT ROCK ROADBED FOR THE PARIS PIKE RAMPS A & D AND NEWTOWN PIKE RAMPS C & D CONSISTING OF LIMESTONE FROM ROADWAY EXCAVATION, AND UNDERLAIN WITH FABRIC-GEOTEXTILE, CLASS 1 (SEPARATION) IN ACCORDANCE WITH SECTIONS 214 & 843 OF THE CURRENT STANDARD SPECIFICATIONS. THE GEOTEXTILE FABRIC MAY BE OMITTED WHEN THE BASE OF THE ROCK ROADBED IS ON BEDROCK. THE GRANULAR MATERIAL SHALL EXTEND FROM SHOULDER TO SHOULDER IN FILLS AND DITCHLINE TO DITCHLINE IN THE CUTS, OR UNDER THE CURB AND GUTTER WHERE APPLICABLE. ALL AVAILABLE LIMESTONE FROM ROADWAY EXCAVATION SHALL BE UTILIZED FOR THE ROCK ROADBED FOR THE RAMPS. HOWEVER, IF THERE IS INSUFFICIENT ROCK FROM ROADWAY EXCAVATION TO COMPLETE THE ROADBED, THE REMAINING ROADBED MAY BE COMPLETED USING 2 FEET OF KY COARSE AGGREGATE NO. 2, 3, OR 23. THE COARSE AGGREGATE SHALL BE IN ACCORDANCE WITH SECTION 805 OF THE CURRENT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. THE COARSE AGGREGATE SHALL BE WRAPPED WITH FABRIC-GEOTEXTILE, CLASS 1 (STABILIZATION), IN ACCORDANCE WITH SECTION 214 AND 843 OF THE CURRENT STANDARD SPECIFICATION. WHERE SOFT AND/OR WET SUBGRADE IS ENCOUNTERED DURING CONSTRUCTION, THE THICKNESS OF THE ROCK ROADBED MAY NEED TO BE ADJUSTED TO ALSO SERVE AS A WORKING PLATFORM FOR SUBGRADE STABILIZATION. THESE ADJUSTMENTS, AS DIRECTED BY THE ENGINEER, MAY DEPEND ON SEASONAL FLUCTUATIONS IN THE WATER TABLE.

12. SHALE (ABOVE OR BELOW THE RDZ, DURABLE OR NON-DURABLE) CANNOT BE USED IN THE TOP 2 FEET OF THE SUBGRADE.

13. THE CONTRACTOR SHALL CONDUCT GRADING OPERATIONS IN SUCH A MANNER THAT SOIL (FREE OF ROCK LARGER THAN 4 INCHES AND SHALE) FROM ROADWAY EXCAVATION BE STOCKPILED SEPARATELY OR OTHERWISE MANIPULATED SO THAT AMPLE QUANTITIES ARE AVAILABLE FOR A CHEMICALLY STABILIZED ROADBED MEETING THE REQUIREMENTS OF SECTION 208 OF THE CURRENT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. NO DIRECT PAYMENT WILL BE ALLOWED FOR SUCH NECESSARY MANIPULATING AS STOCKPILING, HAULING AND/OR HANDLING THE MATERIAL.

14. CONSTRUCT A 12-INCH CEMENT STABILIZED SOIL SUBGRADE FOR THE PROJECT'S I-64/I-75 MAINLINE. THE CHEMICAL CEMENT STABILIZATION SHALL BE APPLIED IN ACCORDANCE WITH SECTION 208 OF THE CURRENT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. WHERE SOFT AND/OR WET SUBGRADE IS ENCOUNTERED DURING CONSTRUCTION, THE THICKNESS OF THE CHEMICALLY STABILIZED LAYER MAY BE INCREASED (UP TO 16-INCHES) TO ALSO SERVE AS A WORKING PLATFORM FOR SUBGRADE STABILIZATION. THESE ADJUSTMENTS SHALL BE AS DIRECTED BY THE ENGINEER AND MAY DEPEND ON SEASONAL FLUCTUATIONS IN THE WATER TABLE.

15. WHERE CHEMICAL STABILIZATION IS NOT POSSIBLE (SUCH AS MAINTENANCE OF TRAFFIC, TIE-INS, NARROW PART-WIDTH CONSTRUCTION, CROSSOVERS, ETC.), THE SUBGRADE SHALL BE CONSTRUCTED WITH A 15-INCH SUBGRADE USING KENTUCKY COARSE AGGREGATE NO. 2'S, 3'S, OR 23'S WRAPPED IN FABRIC-GEOTEXTILE, CLASS 1 (STABILIZATION). THESE 15-INCH AGGREGATE SUBGRADE LOCATIONS WILL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION.

16. ANY SATURATED, SOFT FOUNDATION AREAS, AND/OR DRAINAGE SWALES WITHIN EMBANKMENT FOUNDATION LIMITS SHALL BE DRAINED IF NECESSARY AND STABILIZED WITH DURABLE LIMESTONE ROCK FROM ROADWAY EXCAVATION UNDERLAIN WITH FABRIC-GEOTEXTILE, CLASS 2 (SEPARATION). A THICKNESS OF 2 FEET IS ESTIMATED FOR THIS TREATMENT, FOR QUANTITY ESTIMATION PURPOSES ONLY. SOFT, SATURATED FOUNDATION AREAS AND/OR DRAINAGE SWALES WERE NOT NOTED BUT MAY BE PRESENT BASED ON SEASONAL WATER TABLE FLUCTUATIONS. THE ACTUAL LOCATIONS WILL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION.

17. THE RETAINING WALL AT THE LOCATION BELOW WILL AFFECT THE CUT SLOPE AND/OR EMBANKMENT CONSTRUCTION. FOR THIS AREA, PLEASE REFER TO THE STRUCTURAL PLANS FOR SPECIFIC INSTRUCTIONS FOR CUT SLOPE AND EMBANKMENT CONSTRUCTION.

APPROXIMATE STATION LIMITS

I-64/I-75 MAINLINE
STATION 189+09.8 TO 223+33 RIGHT
STATION 234+00 TO 256+25 LEFT
STATION 233+75.6 TO 271+23.8 RIGHT

NEWTOWN PIKE RAMP D
STATION 101+75 TO 103+50 RIGHT

18. AS DIRECTED BY THE ENGINEER, EXISTING BITUMINOUS CONCRETE LOCATED AT A DISTANCE GREATER THAN THREE FEET BELOW THE PROPOSED SUBGRADE ELEVATION WITHIN THE LIMITS OF NEW ROADWAY EMBANKMENTS, SHALL BE SCARIFIED OR BROKEN UNTIL ALL CLEAVAGE PLANES ARE DESTROYED, OR THE PAVEMENT SHALL BE REMOVED ENTIRELY AS CONDITIONS DEMAND. THIS SHALL BE PERFORMED IN COMPLIANCE WITH SECTION 206 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

19. EXISTING BITUMINOUS CONCRETE THAT IS NOT BEING OVERLAID AND IS LOCATED AT A DISTANCE LESS THAN THREE FEET BELOW THE PROPOSED SUBGRADE ELEVATION WITHIN THE LIMITS OF NEW ROADWAY EMBANKMENTS, SHALL BE REMOVED ENTIRELY. THIS SHALL BE PERFORMED IN COMPLIANCE WITH SECTION 206 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

20. BORROW MATERIAL, IF REQUIRED FOR SUBGRADE, SHALL MEET THE MINIMUM CBR DESIGN VALUE OF 4.

21. SOME OF THE SOIL HORIZONS AND SLOPES ON THE PROJECT ARE SUBJECT TO EROSION. NECESSARY PROCEDURES IN ACCORDANCE WITH SECTIONS 212 AND 213 OF THE CURRENT STANDARD SPECIFICATIONS SHALL BE FOLLOWED ON CONSTRUCTION.

22. IT IS POSSIBLE THAT SPRINGS OR WET WEATHER DRAINAGE DISCHARGE AREAS WILL BE ENCOUNTERED DURING CONSTRUCTION. IF SPRINGS ARE ENCOUNTERED, A ONE (1) FOOT THICK DRAINAGE BLANKET WRAPPED IN GEOTEXTILE FABRIC, TYPE IV SHALL BE CONSTRUCTED BENEATH THE EMBANKMENT TO ENSURE POSITIVE DRAINAGE. THE TYPE IV FABRIC SHALL BE IN ACCORDANCE WITH SECTIONS 214 & 843 OF THE CURRENT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. THE DRAINAGE BLANKET MATERIAL SHALL CONSIST OF COARSE AGGREGATE FOR ROCK DRAINAGE BLANKET IN ACCORDANCE WITH SECTION 805 OF THE CURRENT STANDARD SPECIFICATIONS, EXCEPT NATURAL SAND WILL NOT BE PERMITTED. IF A DEFINED AREA OF FLOW CAN BE LOCATED, A SPRING BOX WITH A PIPE OUTLET AT THE TOE OF THE SLOPE SHALL ALSO BE CONSTRUCTED, AS DETERMINED BY THE ENGINEER.

23. IF SINKHOLES ARE ENCOUNTERED DURING CONSTRUCTION, PLEASE CONTACT THE DEPARTMENT'S GEOTECHNICAL BRANCH FOR MITIGATION PROCEDURES.

SCALE: N/A

I64/I75
GEOTECHNICAL NOTES

COUNTY OF	ITEM NO.	SHEET NO.
FAYETTE	7-08909.00	G3

REFER TO GEOTECHNICAL NOTE 8 FOR STA. 182+25 TO STA. 184+25 RIGHT

REFER TO GEOTECHNICAL NOTE 10 FOR STA. 187+63

REFER TO GEOTECHNICAL NOTE 17 FOR STA. 189+09.8 TO STA. 223+33 RIGHT

D-101 85' RT.
w%
26.0
30.1
3
NR

D-102 75' LT.
w%
17.8
3
NR

D-103 95' RT.
w%
27.9
4
R

D-104 70' LT.
w%
24.2
4
NR

D-105 70' RT.
w%
SB Proc
NB
20.8
5
NR

SAMPLE NO.		3	4	5
STATION		183+00	191+00	199+00
OFFSET		85' RT.	95' RT.	70' RT.
DEPTH		0.0'-10.0'	0.0'-5.1'	0.0'-5.0'
COMPOSITION OF TOTAL SAMPLE	GRAVEL (-3" + NO.10)	1.8	8.3	35.6
	SAND (-NO.10 + NO.200)	11.8	22.9	22.5
	SILT (-NO.200 + 0.002 mm)	68.6	32.6	28.0
	CLAY (-0.002 mm)	17.8	36.2	13.9
LIQUID LIMIT		37	59	46
PLASTIC LIMIT		23	35	27
PLASTICITY INDEX		14	24	19
ACTIVITY INDEX		0.78	0.66	1.37
SPECIFIC GRAVITY		2.68	2.85	2.78
AASHTO CLASSIFICATION		A-6(12)	A-7-5(18)	A-7-6(4)
UNIFIED CLASSIFICATION		CL	MH	SC
CALF. BEARING RATIO		17.2	5.7	7.6
DRY DENSITY, AASHTO T-99(pcf)		104.1	98.9	112.3
OPTIMUM MOISTURE (%)		17.8	22.1	15.1
% + No. 4		0.3	3.2	12.9

SCALE: 1" = 100 HORIZONTAL
1" = 10 VERTICAL

DESIGNED BY: HDR Inc.
DATE SUBMITTED: 01/2022

Commonwealth of Kentucky
DEPARTMENT OF HIGHWAYS
COUNTY OF

FAYETTE

PROJECT NUMBERS: ITEM No. 7-08909.00
FD52 1550 034 E143 9394301D

SOIL PROFILE
I-64/I-75
STA. 170+00 to STA. 200+00

DATUM

SCALE: 1" = 100 HORIZONTAL
1" = 10 VERTICAL

COUNTY OF	ITEM NO.	SHEET NO.
FAYETTE	7-08909.00	G4

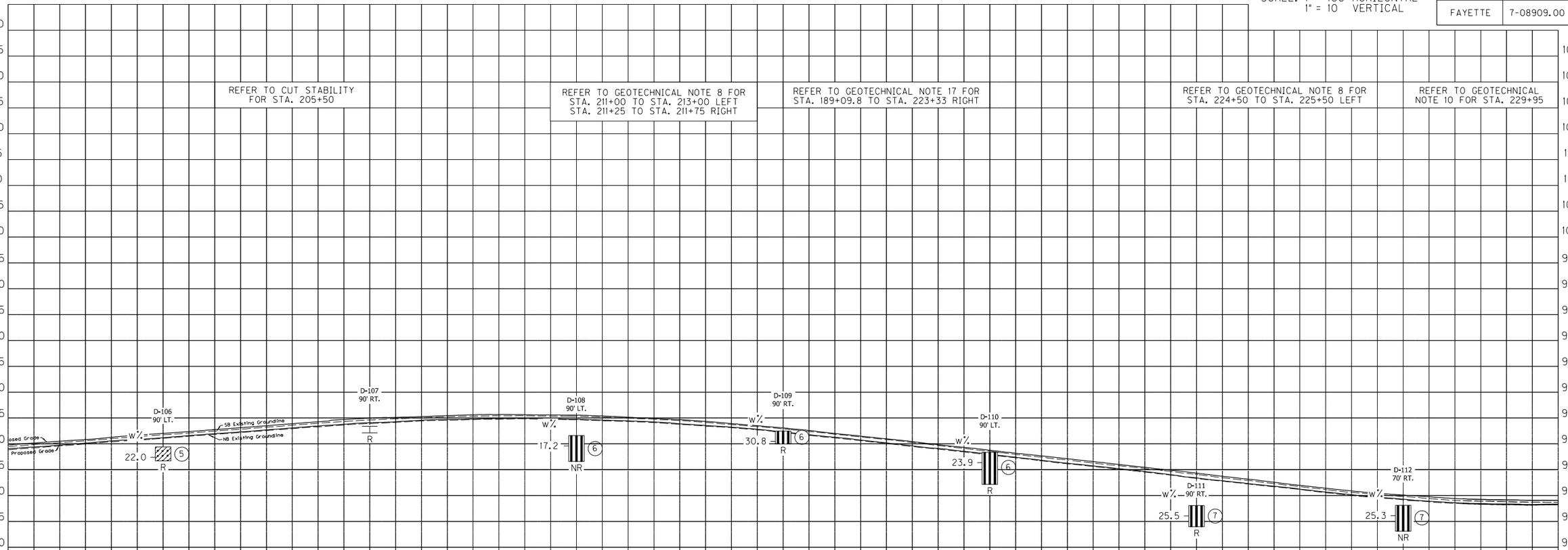
REFER TO CUT STABILITY FOR STA. 205+50

REFER TO GEOTECHNICAL NOTE 8 FOR STA. 211+00 TO STA. 213+00 LEFT
STA. 211+25 TO STA. 211+75 RIGHT

REFER TO GEOTECHNICAL NOTE 17 FOR STA. 189+09.8 TO STA. 223+33 RIGHT

REFER TO GEOTECHNICAL NOTE 8 FOR STA. 224+50 TO STA. 225+50 LEFT

REFER TO GEOTECHNICAL NOTE 10 FOR STA. 229+95



SAMPLE NO.		5	6	7
STATION		199+00	215+00	223+00
OFFSET		70' RT.	90' RT.	90' RT.
DEPTH		0.0'-5.0'	0.0'-2.5'	0.0'-4.1'
COMPOSITION OF TOTAL SAMPLE	GRAVEL (-3" + NO.10)	35.6	1.7	8.3
	SAND (-NO.10 + NO.200)	22.5	27.7	28.0
	SILT (-NO.200 + 0.002 mm)	28.0	33.8	35.9
	CLAY (-0.002 mm)	13.9	36.8	27.8
LIQUID LIMIT		46	52	52
PLASTIC LIMIT		27	30	32
PLASTICITY INDEX		19	22	20
ACTIVITY INDEX		1.37	0.60	0.72
SPECIFIC GRAVITY		2.78	2.73	2.76
AASHTO CLASSIFICATION		A-7-6(4)	A-7-5(16)	A-7-5(12)
UNIFIED CLASSIFICATION		SC	MH	MH
CALF. BEARING RATIO		7.6	4.1	7.9
DRY DENSITY, AASHTO T-99(pcf)		112.3	96.8	101.5
OPTIMUM MOISTURE (%)		15.1	25.9	22.5
% + No. 4		12.9	0	0.5

SOIL PROFILE
I-64/I-75
STA. 200+00 TO STA. 230+00

FILE NAME: C:\PWWORKING\EASTON\D2089637\C00400PF.DGN
USER: WSHUECRA
DATE PLOTTED: February 3, 2022
E-SHEET NAME:
MicroStation v8.11.9.919

DATUM

SCALE: 1" = 100 HORIZONTAL
1" = 10 VERTICAL

COUNTY OF	ITEM NO.	SHEET NO.
FAYETTE	7-08909.00	G5

DATUM

REFER TO CUT STABILITY FOR STA. 230+50

REFER TO CUT STABILITY FOR STA. 231+50

REFER TO CUT STABILITY FOR STA. 236+00

REFER TO GEOTECHNICAL NOTE 17 FOR STA. 189+09.8 TO STA. 223+33 RIGHT

REFER TO CUT STABILITY FOR STA. 239+50

REFER TO CUT STABILITY FOR STA. 243+50

REFER TO GEOTECHNICAL NOTE 17 FOR STA. 234+00 TO STA. 256+25 LEFT

REFER TO GEOTECHNICAL NOTE 17 FOR STA. 233+75.6 TO STA. 271+23.8 RIGHT

REFER TO CUT STABILITY FOR STA. 254+00

D-113 95' LT. R

D-114 90' LT. R

D-115 90' LT. R

D-116 90' RT. W⅞ 33.8 (9) R

D-117 80' LT. W⅞ 18.8 (9) NR

D-118 90' RT. W⅞ 28.4 (8) R

D-119 90' RT. W⅞ 24.2 (8) R

D-120 90' RT. W⅞ 26.6 (11) NR

SAMPLE NO.		8	9	11
STATION		251+00	243+00	257+00
OFFSET		90' RT.	90' RT.	90' RT.
DEPTH		0.0'-3.0'	0.0'-5.0'	0.0'-5.0'
COMPOSITION OF TOTAL SAMPLE	GRAVEL (-3" + NO.10)	5.3	0.0	13.6
	SAND (-NO.10 + NO.200)	15.6	8.7	22.4
	SILT (-NO.200 + 0.002 mm)	49.0	37.4	39.5
	CLAY (-0.002 mm)	30.1	53.9	24.5
LIQUID LIMIT		52	61	48
PLASTIC LIMIT		28	31	19
PLASTICITY INDEX		24	30	29
ACTIVITY INDEX		0.80	0.56	1.18
SPECIFIC GRAVITY		2.77	2.86	2.74
AASHTO CLASSIFICATION		A-7-6(20)	A-7-5(32)	A-7-6(16)
UNIFIED CLASSIFICATION		CH	CH	CL
CALF. BEARING RATIO		5.4	4.1	10.2
DRY DENSITY, AASHTO T-99 (pcf)		96.3	97.0	107.1
OPTIMUM MOISTURE (%)		26.1	25.5	17.2
% + No. 4		0	0	3.4

1040 1035 1030 1025 1020 1015 1010 1005 1000 995 990 985 980 975 970 965 960 955 950 945 940 935 930 925 920 915 910 905 900 895 890 885 880 875 870 865 860 855 850

230+00 231+00 232+00 233+00 234+00 235+00 236+00 237+00 238+00 239+00 240+00 241+00 242+00 243+00 244+00 245+00 246+00 247+00 248+00 249+00 250+00 251+00 252+00 253+00 254+00 255+00 256+00 257+00 258+00 259+00 260+00

SOIL PROFILE
I-64/I-75
STA. 230+00 TO STA. 260+00

FILE NAME: C:\PWWORKING\EASTON\D2089637\G005001PF.DGN
USER: WSHUECRA
DATE PLOTTED: February 3, 2022
E-SHEET NAME:
MicroStation v8.11.9.919

COUNTY OF	ITEM NO.	SHEET NO.
FAYETTE	7-08909.00	G6

SCALE: 1" = 100 HORIZONTAL
1" = 10 VERTICAL

DATUM

REFER TO GEOTECHNICAL NOTE 17 FOR STA. 233+75.6 TO STA. 271+23.8 RIGHT

1055 1050 1045 1040 1035 1030 1025 1020 1015 1010 1005 1000 995 990 985 980 975 970 965 960 955 950 945 940 935 930 925 920 915 910 905 900 895 890 885 880 875 870 865

260+00 261+00 262+00 263+00 264+00 265+00 266+00 267+00 268+00 269+00 270+00 271+00 272+00 273+00 274+00 275+00 276+00 277+00 278+00 279+00 280+00 281+00 282+00 283+00 284+00 285+00 286+00 287+00 288+00 289+00 290+00

SOIL PROFILE
I-64/I-75
STA.260+00 TO STA. 290+00

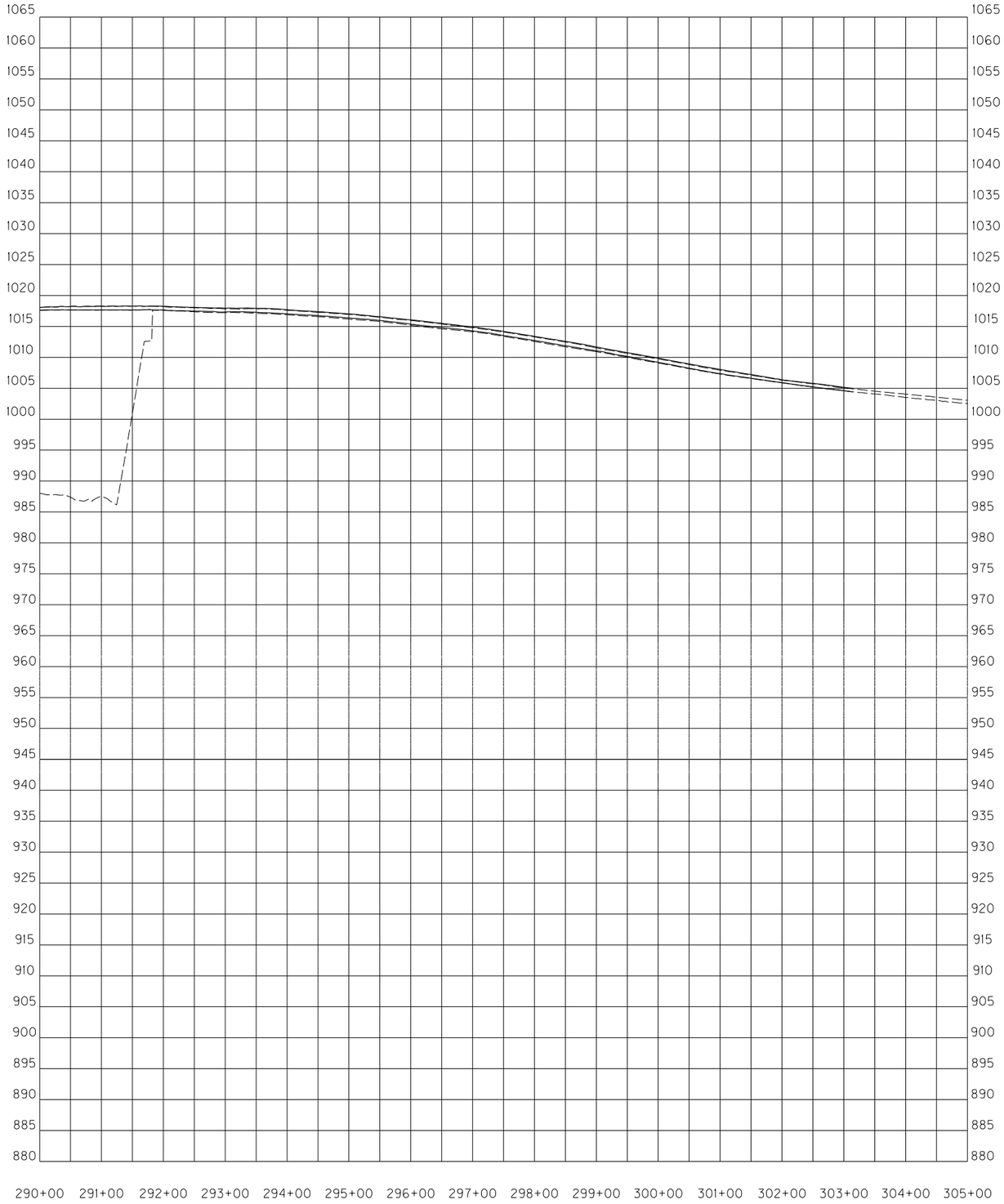
FILE NAME: C:\PWWORKING\EAST01\D2089637\G006OOPF.DGN
USER: WSHUECRA
DATE PLOTTED: February 3, 2022
E-SHEET NAME:
MicroStation v8.11.9.919

DATUM

SCALE: 1" = 100 HORIZONTAL
1" = 10 VERTICAL

COUNTY OF	ITEM NO.	SHEET NO.
FAYETTE	7-08909.00	G7

DATUM



SOIL PROFILE
I-64/I-75
STA. 290+00 TO STA. 305+00

COUNTY OF	ITEM NO.	SHEET NO.
FAYETTE	7-08909.00	G8

SCALE: 1" = 100 HORIZONTAL
1" = 10 VERTICAL

DATUM

REFER TO GEOTECHNICAL NOTE 8 FOR STA. 542+75 TO STA. 543+25 LEFT

REFER TO GEOTECHNICAL NOTE 10 FOR STA. 544+88

REFER TO GEOTECHNICAL NOTE 8 FOR STA. 559+50 TO STA.560+50 LEFT

SPLINE GRADE (MATCH EXISTING)

D-121 40' LT.
w%
23.3
21.7
NR
14

D-122 40' LT.
w%
26.2
24.7
NR
14

D-123 50' LT.
R

D-124 50' LT.
w%
23.7
27.7
NR
13

D-125 60' LT.
w%
31.5
27.9
NR
13

SAMPLE NO.		13	14
STATION		564+00	545+00
OFFSET		60' LT.	40' LT.
DEPTH		0.0'-7.0'	0.0'-7.0'
COMPOSITION OF TOTAL SAMPLE	GRAVEL (-3" + NO.10)	14.2	10.0
	SAND (-NO.10 + NO.200)	11.4	19.4
	SILT (-NO.200 + 0.002 mm)	29.4	35.4
	CLAY (-0.002 mm)	45.0	35.2
LIQUID LIMIT		55	57
PLASTIC LIMIT		35	31
PLASTICITY INDEX		20	26
ACTIVITY INDEX		0.44	0.74
SPECIFIC GRAVITY		2.73	2.74
AASHTO CLASSIFICATION		A-7-5(17)	A-7-5(19)
UNIFIED CLASSIFICATION		MH	MH
CALF. BEARING RATIO		6.5	6.6
DRY DENSITY, AASHTO T-99(pcf)		99.3	101.0
OPTIMUM MOISTURE (%)		18.8	21.5
% + No. 4		3.8	2.2

1085 1080 1075 1070 1065 1060 1055 1050 1045 1040 1035 1030 1025 1020 1015 1010 1005 1000 995 990 985 980 975 970 965 960 955 950 945 940 935 930 925 920 915 910 905 900 895 890

540+00 541+00 542+00 543+00 544+00 545+00 546+00 547+00 548+00 549+00 550+00 551+00 552+00 553+00 554+00 555+00 556+00 557+00 558+00 559+00 560+00 561+00 562+00 563+00 564+00 565+00 566+00 567+00 568+00 569+00 570+00

SOIL PROFILE
NB I-64 MERGE
STA. 540+00 TO STA. 570+00

FILE NAME: C:\PWWORKING\EASTON\D2089637\G008OOPF.DGN
USER: WSHUECRA
DATE PLOTTED: January 21, 2022
E-SHEET NAME:
MicroStation v8.11.9.919

DATUM

SCALE: 1" = 100 HORIZONTAL
1" = 10 VERTICAL

COUNTY OF	ITEM NO.	SHEET NO.
FAYETTE	7-08909.00	G9

DATUM

REFER TO GEOTECHNICAL NOTE 8 FOR STA. 3+25 TO STA. 3+75 RIGHT

REFER TO CUT STABILITY FOR STA. 11+50

D-126
50' RT.

w%
16.8

3

R

D-127
40' LT.

R

SAMPLE NO.		3
STATION		183+00
OFFSET		85' RT.
DEPTH		0.0'-10.0'
COMPOSITION OF TOTAL SAMPLE	GRAVEL (-3" + NO.10)	1.8
	SAND (-NO.10 + NO.200)	11.8
	SILT (-NO.200 + 0.002 mm)	68.6
	CLAY (-0.002 mm)	17.8
LIQUID LIMIT		37
PLASTIC LIMIT		23
PLASTICITY INDEX		14
ACTIVITY INDEX		0.78
SPECIFIC GRAVITY		2.68
AASHTO CLASSIFICATION		A-6(12)
UNIFIED CLASSIFICATION		CL
CALF. BEARING RATIO		17.2
DRY DENSITY, AASHTO T-99(pcf)		104.1
OPTIMUM MOISTURE (%)		17.8
% + No. 4		0.3

1055 1050 1045 1040 1035 1030 1025 1020 1015 1010 1005 1000 995 990 985 980 975 970 965 960 955 950 945 940 935 930 925 920 915 910 905 900 895 890 885 880 875 870 865 860

0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00 26+00 27+00

SOIL PROFILE
NEWTOWN RAMP C
STA. 0+00 TO STA. 27+50

FILE NAME: C:\PWWORKING\EASTON\D2089637\G09900PF.DGN
USER: WSHUECRA
DATE PLOTTED: January 21, 2022
E-SHEET NAME:
MicroStation v8.11.9.919

DATUM

SCALE: 1" = 100 HORIZONTAL
1" = 10 VERTICAL

COUNTY OF	ITEM NO.	SHEET NO.
FAYETTE	7-08909.00	G10

DATUM

REFER TO GEOTECHNICAL NOTE 17 FOR STA. 101+75 TO STA. 103+50 RIGHT

REFER TO GEOTECHNICAL NOTE 10 FOR STA. 103+04

REFER TO CUT STABILITY FOR STA. 104+00

REFER TO GEOTECHNICAL NOTE 10 FOR STA. 50+18

D-128A
21' RT.
W%
30.5
1
R

D-129
10' RT.
R

D-130
25' RT.
R

D-131
25' RT.
W%
24.5
2
R

SAMPLE NO.		1	2
STATION		99+01	109+00
OFFSET		21' RT.	25' RT.
DEPTH		0.0'-5.3'	0.0'-6.5'
COMPOSITION OF TOTAL SAMPLE	GRAVEL (-3" + NO.10)	10.5	5.9
	SAND (-NO.10 + NO.200)	21.2	23.6
	SILT (-NO.200 + 0.002 mm)	36.0	50.2
	CLAY (-0.002 mm)	32.3	20.3
LIQUID LIMIT		52	52
PLASTIC LIMIT		29	29
PLASTICITY INDEX		23	23
ACTIVITY INDEX		0.71	1.13
SPECIFIC GRAVITY		2.78	2.74
AASHTO CLASSIFICATION		A-7-6(15)	A-7-6(17)
UNIFIED CLASSIFICATION		MH	MH
CALF. BEARING RATIO		14.6	6.4
DRY DENSITY, AASHTO T-99(pcf)		98.4	94.1
OPTIMUM MOISTURE (%)		19.1	28.6
% + No. 4		5.1	1.1

95+00 96+00 97+00 98+00 99+00 100+00 101+00 102+00 103+00 104+00 105+00 106+00 107+00 108+00 109+00 110+00 111+00 112+00 113+00 114+00 115+00 116+00 117+00

50+00 51+00 52+00 53+00

SOIL PROFILE
NEWTOWN RAMP D/RAMP D MERGE
STA. 95+00 TO STA. 117+00

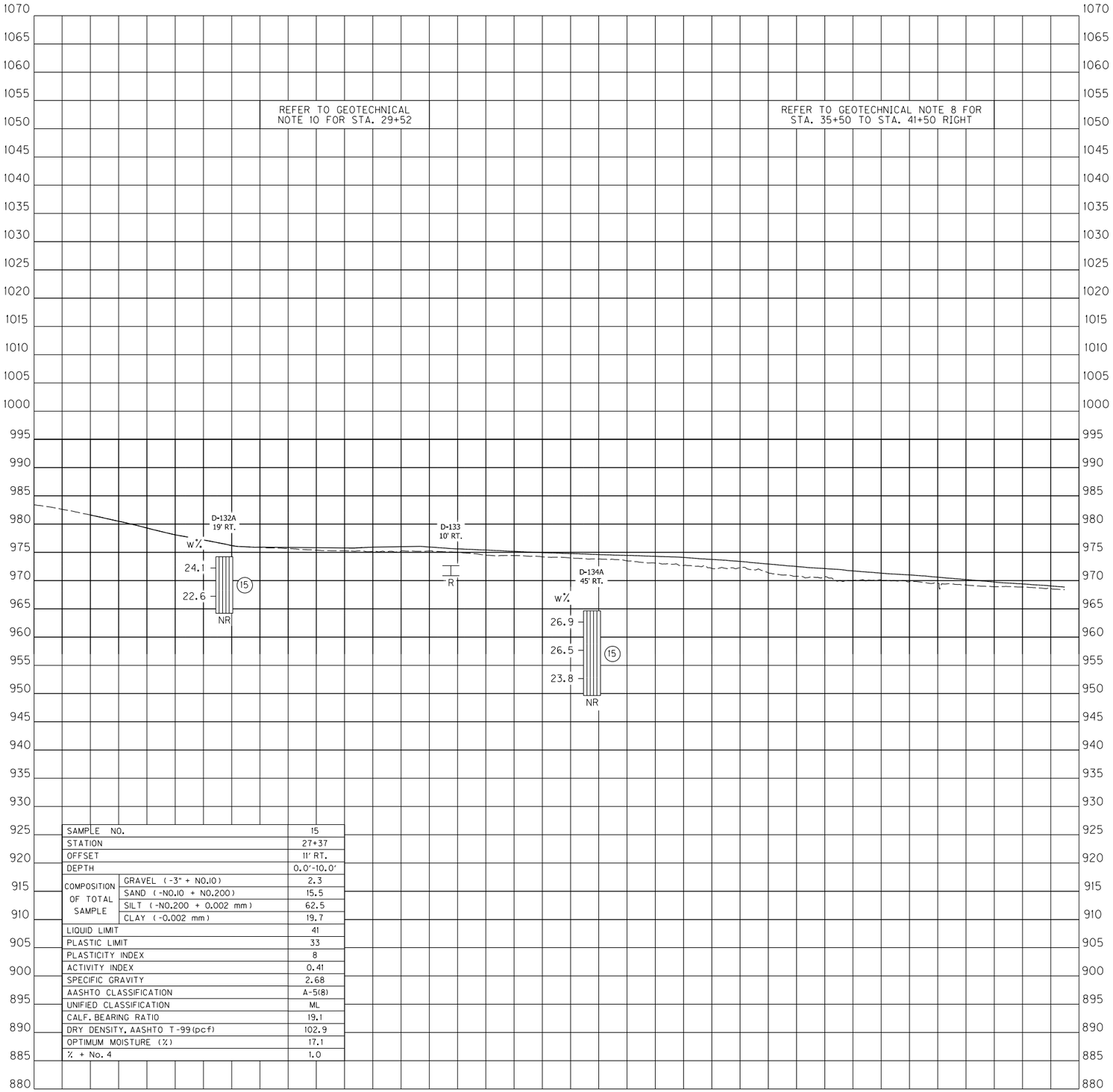
FILE NAME: C:\PWWORKING\EASTOI\D2089637\G010OOPG.DGN
USER: WSHUECRA
DATE PLOTTED: January 21, 2022
E-SHEET NAME:
MicroStation v8.11.9.919

DATUM

SCALE: 1" = 100 HORIZONTAL
1" = 10 VERTICAL

COUNTY OF	ITEM NO.	SHEET NO.
FAYETTE	7-08909.00	G11

DATUM



SAMPLE NO.		15
STATION		27+37
OFFSET		11' RT.
DEPTH		0.0'-10.0'
COMPOSITION OF TOTAL SAMPLE	GRAVEL (-3" + NO.10)	2.3
	SAND (-NO.10 + NO.200)	15.5
	SILT (-NO.200 + 0.002 mm)	62.5
	CLAY (-0.002 mm)	19.7
LIQUID LIMIT		41
PLASTIC LIMIT		33
PLASTICITY INDEX		8
ACTIVITY INDEX		0.41
SPECIFIC GRAVITY		2.68
AASHTO CLASSIFICATION		A-5(8)
UNIFIED CLASSIFICATION		ML
CALF. BEARING RATIO		19.1
DRY DENSITY, AASHTO T-99(pcf)		102.9
OPTIMUM MOISTURE (%)		17.1
% + No. 4		1.0

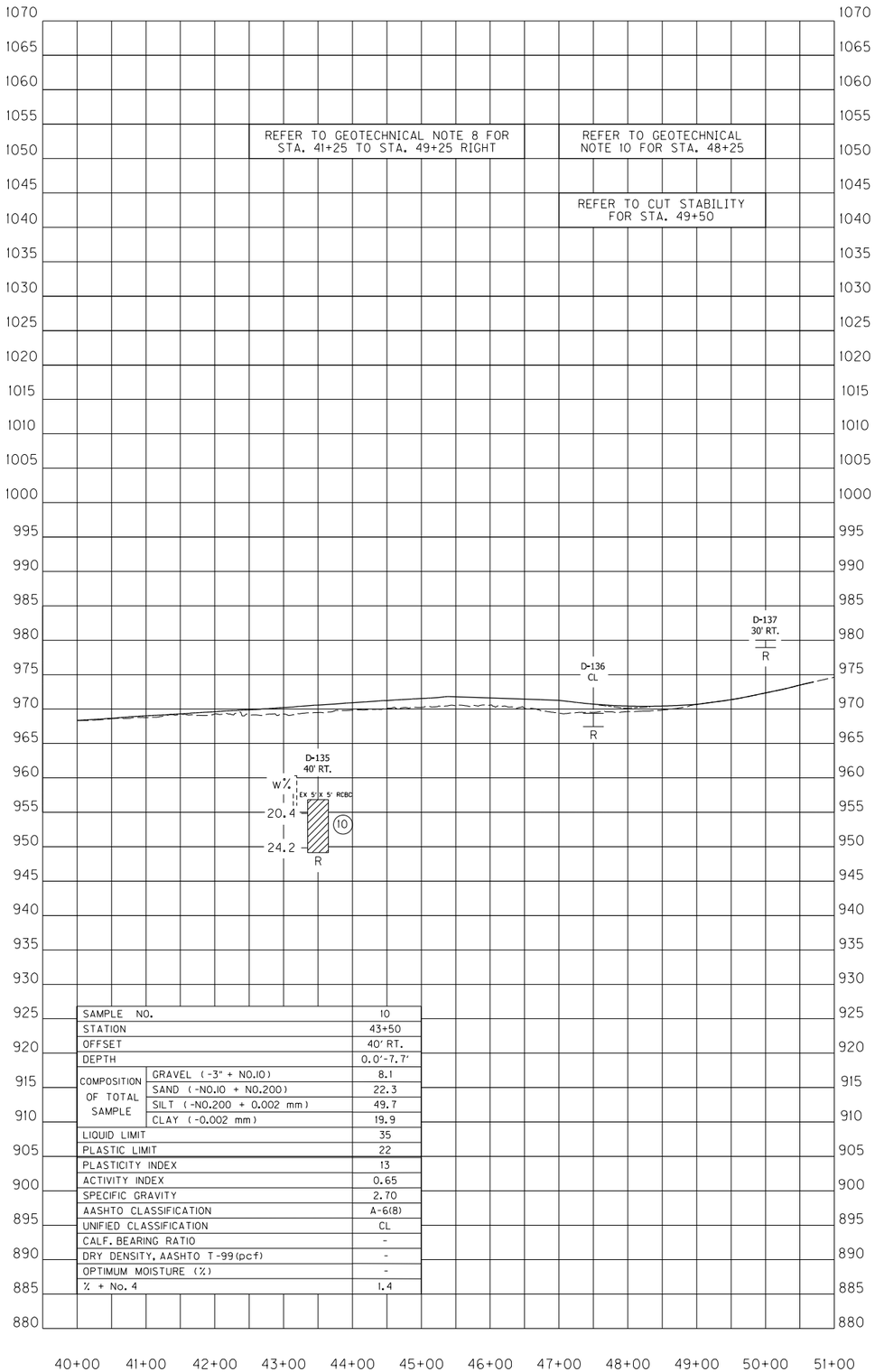
SOIL PROFILE
PARIS PIKE RAMP A
STA. 25+00 TO STA. 42+00

DATUM

SCALE: 1" = 100 HORIZONTAL
1" = 10 VERTICAL

COUNTY OF	ITEM NO.	SHEET NO.
FAYETTE	7-08909.00	G12

DATUM



SAMPLE NO.		10
STATION		43+50
OFFSET		40' RT.
DEPTH		0.0'-7.7'
COMPOSITION OF TOTAL SAMPLE	GRAVEL (-3" + NO.10)	8.1
	SAND (-NO.10 + NO.200)	22.3
	SILT (-NO.200 + 0.002 mm)	49.7
	CLAY (-0.002 mm)	19.9
LIQUID LIMIT		35
PLASTIC LIMIT		22
PLASTICITY INDEX		13
ACTIVITY INDEX		0.65
SPECIFIC GRAVITY		2.70
AASHTO CLASSIFICATION		A-6(8)
UNIFIED CLASSIFICATION		CL
CALF. BEARING RATIO		-
DRY DENSITY, AASHTO T-99(pcf)		-
OPTIMUM MOISTURE (%)		-
% + No. 4		1.4

SOIL PROFILE
PARIS PIKE RAMP D
STA. 40+00 TO STA. 51+00

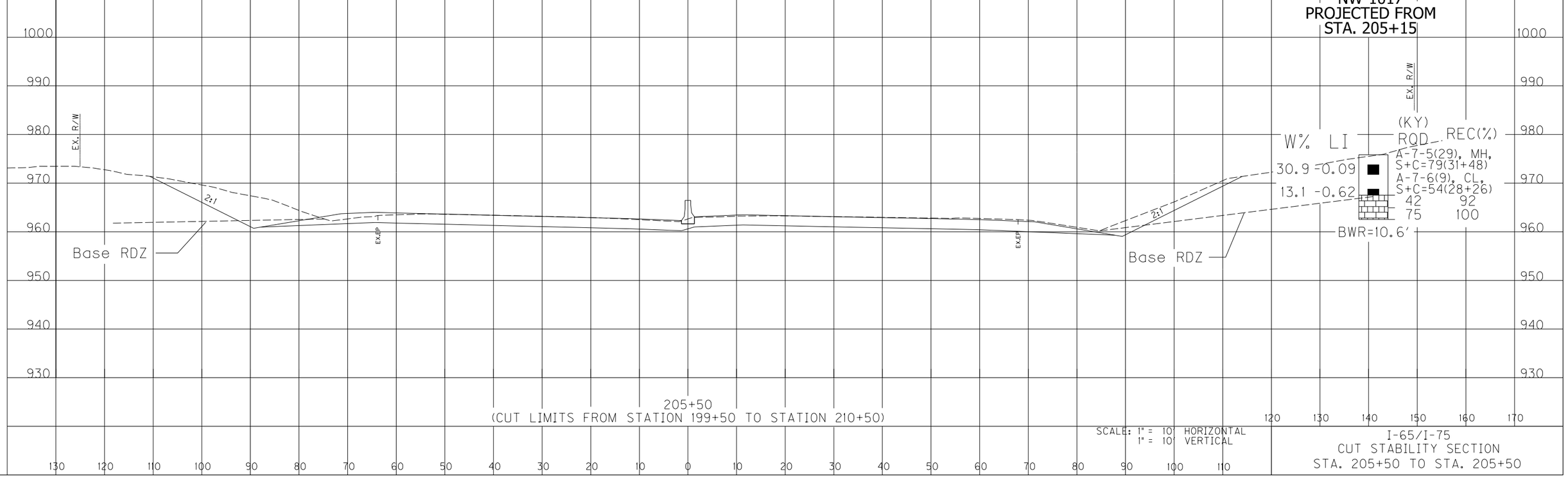
COUNTY OF	ITEM NO.	SHEET NO.
FAYETTE	7-08909.00	G13

ADDITIONAL ROCKLINE SOUNDINGS

STATION	OFFSET	DEPTH TO REFUSAL
207+00	90' RT.	1.3'

CORE LOG STA. 205+15, 141' RT.

ELEVATION	DESCRIPTION
975.8 - 967.5	Overburden
967.5 - 962.5	Limestone: Medium gray with dark gray wavy shale wisps/laminae, medium to coarsely crystalline and fossiliferous with dolomitic clasts throughout.



SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

I-65/I-75
CUT STABILITY SECTION
STA. 205+50 TO STA. 205+50

COUNTY OF	ITEM NO.	SHEET NO.
FAYETTE	7-08909.00	G14

CORE LOG STA. 231+51, 93' LT.

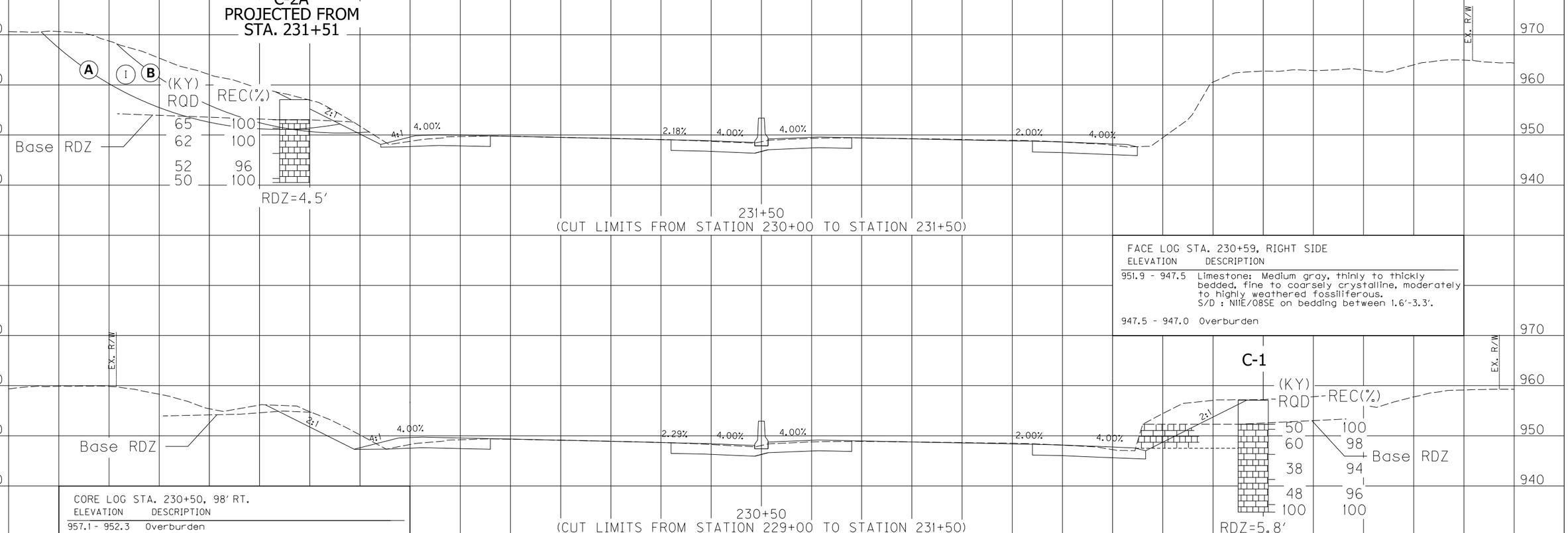
ELEVATION	DESCRIPTION
957.0 - 953.0	Overburden
953.0 - 940.5	Limestone: Light to medium greenish gray, medium to coarsely crystalline/ fossiliferous, thin to medium bedded with close, open, hard joints

ASSUMED SOIL STRENGTH PARAMETERS	
SOIL	I
INTERMEDIATE	$\bar{C}$=300 PSF $\bar{\Phi}$=24° γ=115 PCF
LONG TERM	$\bar{C}$=60 PSF $\bar{\Phi}$=24° γ=115 PCF

FACTORS OF SAFETY		
INTERMEDIATE	A	2.2
LONG TERM	B	1.6

ADDITIONAL ROCKLINE SOUNDINGS

STATION	OFFSET	DEPTH TO REFUSAL
231+00	95' LT.	1.1'



CORE LOG STA. 230+50, 98' RT.

ELEVATION	DESCRIPTION
957.1 - 952.3	Overburden
952.3 - 934.8	Limestone: Light tan and gray, medium to coarsely crystalline and fossiliferous with light yellow-gray shale wisps, thinly bedded with open joints.

FACE LOG STA. 230+59, RIGHT SIDE

ELEVATION	DESCRIPTION
951.9 - 947.5	Limestone: Medium gray, thinly to thickly bedded, fine to coarsely crystalline, moderately to highly weathered fossiliferous. S/D : N11E/08SE on bedding between 1.6'-3.3'.
947.5 - 947.0	Overburden

SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

I-64/I-75
CUT STABILITY SECTIONS
STA. 230+50 TO STA. 231+50

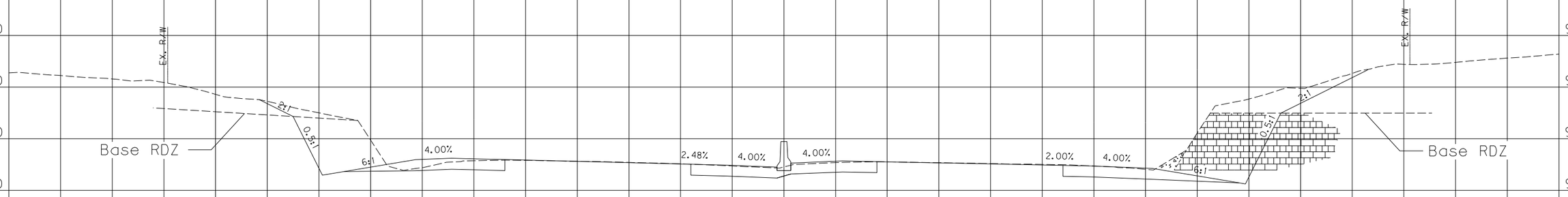
COUNTY OF	ITEM NO.	SHEET NO.
FAYETTE	7-08909.00	G15

FACE LOG STA. 239+34, RIGHT SIDE

ELEVATION	DESCRIPTION
964.9 - 958.9	Limestone: Medium gray, thinly bedded, tabular/ platy, fossiliferous, fine to medium grained, smooth undulating, horizontal bedding planes. Medium gray, highly weathered, non-durable shale band 7.0'-7.1'.
958.9 - 953.9	Talus Piles: 1'-2' blocks, tabular, obscuring slope

ADDITIONAL ROCKLINE SOUNDINGS

STATION	OFFSET	DEPTH TO REFUSAL
239+00	90' LT.	1.2'



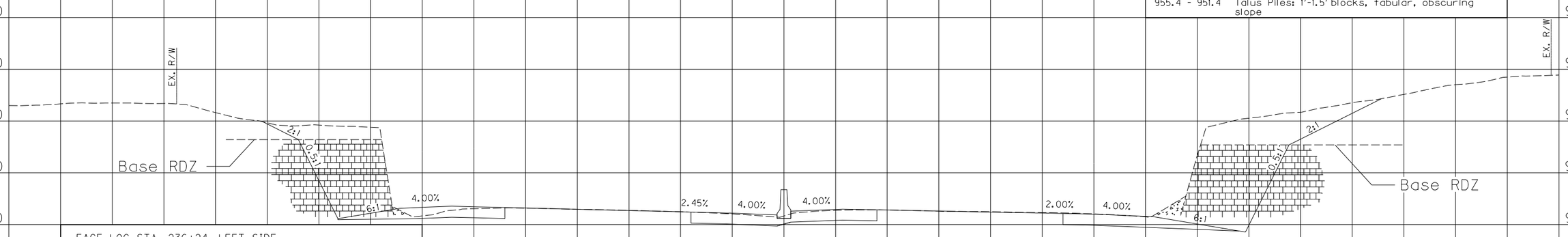
239+50
(CUT LIMITS FROM STATION 233+50 TO STATION 244+50)

ADDITIONAL ROCKLINE SOUNDINGS

STATION	OFFSET	DEPTH TO REFUSAL
235+00	90' LT.	1.8'

FACE LOG STA. 235+91, RIGHT SIDE

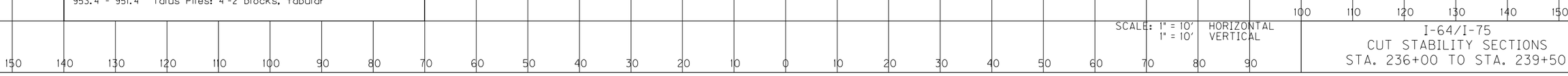
ELEVATION	DESCRIPTION
965.4 - 955.4	Limestone: Medium gray, thinly bedded, smooth undulating, highly weathered-unable to discern discontinuity, non-durable shale bands-wavy, argillaceous, horizontal bedding.
955.4 - 951.4	Talus Piles: 1'-1.5' blocks, tabular, obscuring slope



FACE LOG STA. 236+24, LEFT SIDE

ELEVATION	DESCRIPTION
966.4 - 953.4	Limestone: Light to medium gray, thinly interbedded with shale, argillaceous, medium grained to coarsely crystalline, rough undulating, continuous bedding planes, highly weathered, trace fossils in crystalline beds. Joints sub-parallel to roadway, 5'-10' spacing S/D : 283/89SE (joint), S/D : 310/06SE (bedding). Shale partings degraded to clay where exposed, intermittant water seepage on face.
953.4 - 951.4	Talus Piles: 4'-2' blocks, tabular

236+00
(CUT LIMITS FROM STATION 233+50 TO STATION 244+50)



SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

I-64/I-75
CUT STABILITY SECTIONS
STA. 236+00 TO STA. 239+50

FILE NAME: C:\PWWORKING\EASTON\D2089637\I-64_I-75 GEOTECH CROSS SECTIONS.DGN
USER: WSHUECRA
DATE PLOTTED: January 21, 2022
E-SHEET NAME:
MicroStation v8.11.9.919

COUNTY OF	ITEM NO.	SHEET NO.
FAYETTE	7-08909.00	G16

CORE LOG STA. 254+00, 90' RT.

ELEVATION	DESCRIPTION
966.0 - 959.8	Overburden
959.8 - 955.0	Limestone: Light tan to light gray, medium to coarsely crystalline with coarse fossils throughout, few dark gray thin wavy shale partings, thinly bedded with rough, open joints.

CORE LOG STA. 243+50, 90' RT.

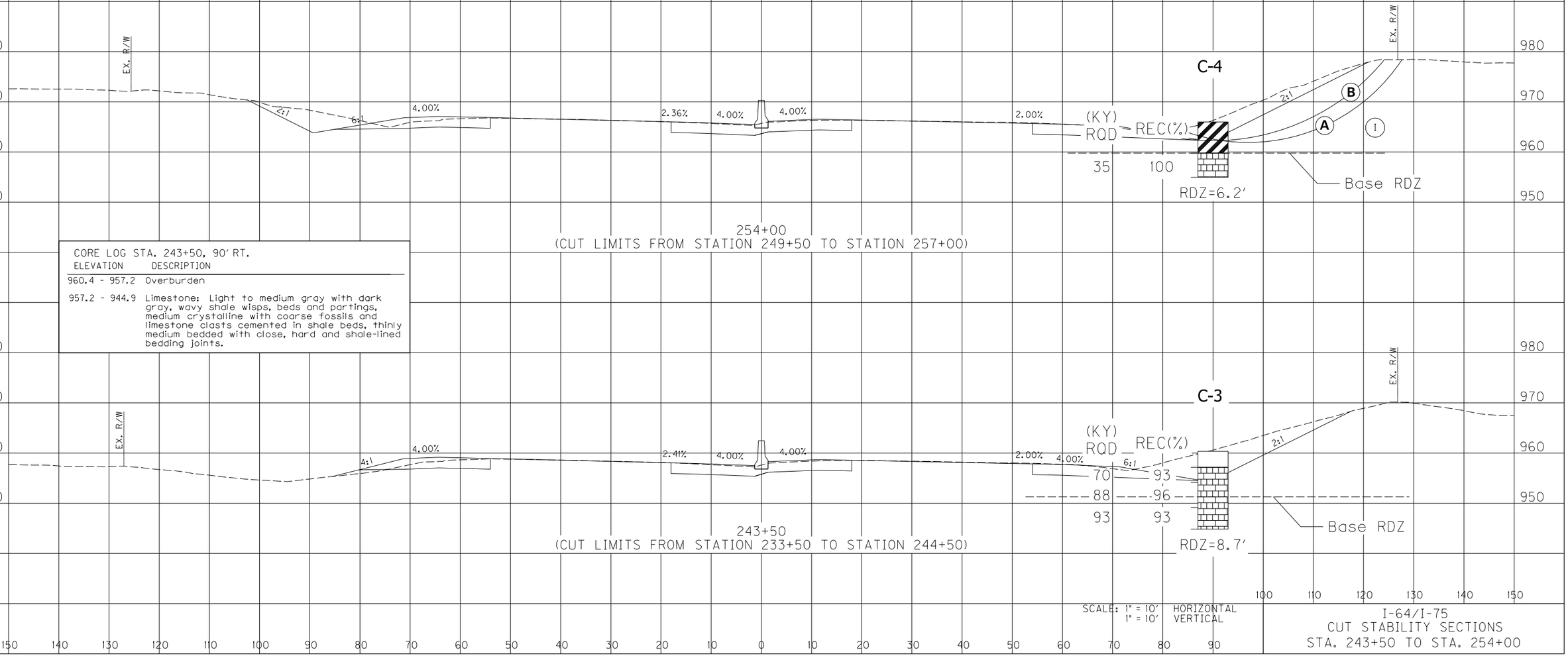
ELEVATION	DESCRIPTION
960.4 - 957.2	Overburden
957.2 - 944.9	Limestone: Light to medium gray with dark gray, wavy shale wisps, beds and partings, medium crystalline with coarse fossils and limestone clasts cemented in shale beds, thinly medium bedded with close, hard and shale-lined bedding joints.

ASSUMED SOIL STRENGTH PARAMETERS

SOIL	I
INTERMEDIATE	$\bar{c}$=250 PSF $\bar{\Phi}$=25° γ=120 PCF
LONG TERM	$\bar{c}$=50 PSF $\bar{\Phi}$=25° γ=120 PCF

FACTORS OF SAFETY

INTERMEDIATE	A	2.4
LONG TERM	B	1.4



SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

I-64/I-75
CUT STABILITY SECTIONS
STA. 243+50 TO STA. 254+00

COUNTY OF	ITEM NO.	SHEET NO.
FAYETTE	7-08909.00	GI7

CORE LOG STA. 104+00, 50' RT.

ELEVATION	DESCRIPTION
943.0 - 931.5	Overburden
931.5 - 919.6	Limestone: Gray with dk. gray, wavy shale wisps/laminae, med. to cse. crystalline and fossiliferous, thinly bedded dolomitic nodules/clasts below 13.3', few close, continuous, sub-horizontal bedding planes with isolated near vert. fracs. 13.6'-13.7' and 20.3'-20.6'.

ADDITIONAL ROCKLINE SOUNDINGS

STATION	OFFSET	DEPTH TO REFUSAL
102+50	10' RT.	0.8'
105+00	25' RT.	1.3'

ASSUMED SOIL STRENGTH PARAMETERS	
SOIL	I
INTERMEDIATE	$\bar{c}$=300 PSF $\bar{\Phi}$=25° γ=120 PCF
LONG TERM	$\bar{c}$=60 PSF $\bar{\Phi}$=25° γ=120 PCF

FACTORS OF SAFETY		
INTERMEDIATE	A	2.5
LONG TERM	B	1.6

C-6 OFF PROJECTED FROM STA. 103+87

C-6

W% - LI

(KY) RQD — REC(%)

21.4 -0.38
35.1 0.16
40.3 0.23

No Specimen
N=11, A-6(9), ML, S+C=78(49+29)
A-7-5(26), MH, S+C=87(38+49)
N=12, A-7-5(20), MH, S+C=85(25+60)

71 — 100
90 — 96
100 — 100

RDZ=13.8'

Base RDZ

EX. R/W

MATCH MERGE RAMP

4.00%

6.60%

928.00

4:1

2:1

2'

NEWTOWN PIKE RAMP D
104+00
(CUT LIMITS FROM STATION 104+00 TO STATION 111+00)

ADDITIONAL ROCKLINE SOUNDINGS

STATION	OFFSET	DEPTH TO REFUSAL
12+50	40' LT.	1.6'

CORE LOG STA. 11+50, 75' LT.

ELEVATION	DESCRIPTION
958.4 - 955.9	Overburden
955.9 - 950.9	Limestone: Light yellowish gray, medium crystalline and fossiliferous, thinly bedded with light yellowish brown clay/shale partings and open, soft joints.
950.9 - 939.9	Limestone: Medium to dark gray, fine to medium crystalline/fossiliferous, argillaceous in parts, thinly bedded with dark gray shale partings, turbated, close, hard joints.

C-5

(KY) RQD — REC(%)

12 — 88
48 — 100
76 — 100
73 — 100

RDZ=3.5'

Base RDZ

951.30

947.30

2:1

6:1

6:1

2:1

EX. R/W

Base RDZ

FACE LOG STA. 11+33, RIGHT SIDE

ELEVATION	DESCRIPTION
957.9 - 949.9	Limestone: Light to medium gray, coarsely crystalline, fossiliferous, smooth undulating bedding planes, moderately to highly weathered, very thin shale partings (no beds) creating tabular features. S/D : 269/08SE (bedding). Joint set 1: joints subtle, spacing 1', orthagonal to roadway, semi-discontinuous, near vertical, rough undulating, open. S/D : N23E/86NW Joint set 2: cross-cutting, rough undulating, open 4°-5°. S/D : 297/88NE
949.9 - 948.9	Talus Piles: 1' or less blocks

NEWTOWN PIKE RAMP C
11+50
(CUT LIMITS FROM STATION 7+00 TO STATION 14+00)

SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

NEWTOWN PIKE RAMP C AND D
CUT STABILITY SECTIONS
STA. 11+50 TO STA. 104+00

FILE NAME: C:\PWWORKING\EASTON\D2089637\i-64_1-75 GEOTECH CROSS SECTIONS.DGN
USER: WSHUECRA
DATE PLOTTED: January 21, 2022
E-SHEET NAME:
MicroStation v8.11.9.919

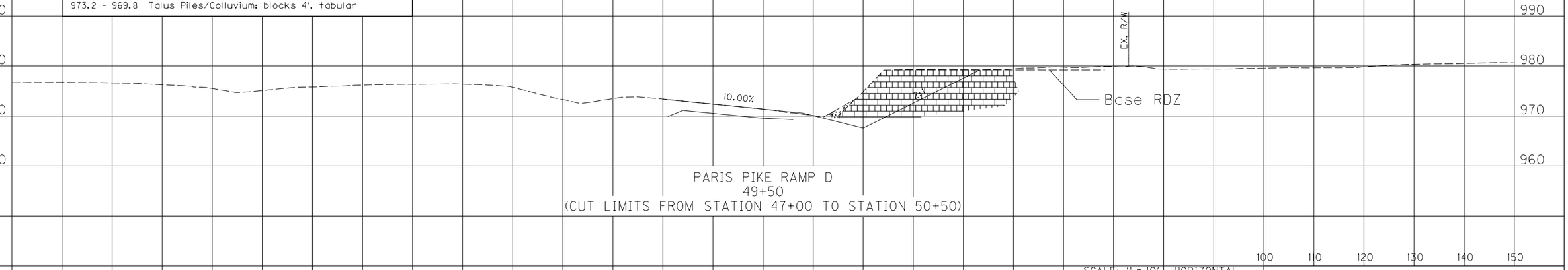
COUNTY OF	ITEM NO.	SHEET NO.
FAYETTE	7-08909.00	G18

FACE LOG STA. 49+59, RIGHT SIDE

ELEVATION	DESCRIPTION
979.2 - 973.2	Limestone: Medium gray, thin horlizontally bedded, smooth undulating bedding planes, fine to medium grained, highly weathered, fossiliferous, slope face heavily vegetated and obscured by colluvium. S/D : N15E/04SW (bedding).
973.2 - 969.8	Talus Piles/Colluvium: blocks 4', tabular

ADDITIONAL ROCKLINE SOUNDINGS

STATION	OFFSET	DEPTH TO REFUSAL
47+50	CL	1.9'
50+00	30' RT.	1.1'



PARIS PIKE RAMP D
49+50
(CUT LIMITS FROM STATION 47+00 TO STATION 50+50)

SCALE: 1" = 10' HORIZONTAL
1" = 10' VERTICAL

PARIS PIKE RAMP D
CUT STABILITY SECTIONS
STA. 49+50 TO STA. 49+50