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BORING B1

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BORING DEPTH: 31.1 FEET

PROJECT NAME: Hamilton Co. Engr./Cliff Road Slips

PROJECT NUMBER: 088513.00

CLIENT: Hamilton County, Ohio

PROJECT LOCATION: North Bend, OH

DATE STARTED: 2/1/22

COMPLETED: 2/1/22

BORING METHOD: 3-3/4" Hollow-stem Auger

DRILLER: RM/WI

RIG NO.: 525 (CME 550RT)

LOGGED BY: BAM

CHECKED BY: TPO

ELEVATION (FEET)	DEPTH (FEET)	SYMBOLIC PROFILE	LATITUDE: 40.80741 LONGITUDE: -84.82287 ELEVATION: 774.3 FT	PROFILE DESCRIPTION	SAMPLE TYPE/NO. INTERVAL	RECOVERY LENGTH (INCHES)	SPT BLOWS PER SIX INCHES	HAMMER EFFICIENCY: 70% DATE: 9/3/2020 N ₆₀ -- O	DRY DENSITY (pcf) -- ■		MOISTURE & ATTERBERG LIMITS (%)		▲ HAND PENE. ■ TORVANE SHEAR ○ UNC. COMP. □ VANE SHEAR (PK) × VANE SHEAR (REM) ◇ TRIAXIAL (UU) S SHEAR STRENGTH (KSF)	REMARKS
									90	100	110	120		
	0.8			10 inches of ASPHALT										
	1.3			5 inches of AGGREGATE BASE										
					SB1	8	2	6				37		
					SB2	10	2	11				35		
770	5			Lean to Fat Clay- Trace Sand, Gravel, and Root Fibers- Brown-Medium to Very Stiff (CL/CH)			4							
					SB3	18	5	16				35		
					3ST4		5							
765	10				SB5	12	11			78		9		
					SB6	8	10			91+		17		
760	15			LIMESTONE with Clay Layers- Brown and Gray- Very Soft to Hard			28					2		
					SB7	1	50/1"							
					SB8	2	50/2"						8	
755	20				SB9	2	50/2"						8	
					SB10	4	50/4"					6		
750	25			SHALE- Gray- Medium to Moderately Hard										
					SB11	3	50/3"						4	
					SB12	2	50/2"					4		
745	30													

GROUNDWATER & BACKFILL INFORMATION

GROUNDWATER WAS NOT ENCOUNTERED

BACKFILL METHOD: Auger Cuttings & Bentonite Chips capped with Asphalt Cold Patch & EPCO Hole Plug

NOTES: 1. The indicated stratification lines are approximate. The in-situ transitions between materials may be gradual.
2. The colors depicted on the symbolic profile are solely for visualization purposes and do not necessarily represent the in-situ colors encountered.

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BORING B2

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BORING DEPTH: 23.6 FEET

PROJECT NAME: Hamilton Co. Engr./Cliff Road Slips

PROJECT NUMBER: 088513.00

CLIENT: Hamilton County, Ohio

PROJECT LOCATION: North Bend, OH

DATE STARTED: 2/1/22

COMPLETED: 2/1/22

BORING METHOD: 3-3/4" Hollow-stem Auger

DRILLER: RM/WI

RIG NO.: 525 (CME 550RT)

LOGGED BY: BAM

CHECKED BY: TPO

ELEVATION (FEET)	DEPTH (FEET)	SYMBOLIC PROFILE	PROFILE DESCRIPTION	SAMPLE TYPE/NO. INTERVAL	RECOVERY LENGTH (INCHES)	SPT BLOWS PER SIX INCHES	HAMMER EFFICIENCY: 70% DATE: 9/3/2020 N ₆₀ -- O	DRY DENSITY (pcf) -- ■				MOISTURE & ATTERBERG LIMITS (%)				REMARKS
								90	100	110	120	PL	MC	LL	SH	
	0.7		8 inches of ASPHALT		778.5											
	3.0		FILL- Cinders- Clack with Asphalt Grindings and Gravel	SB1	3	1	2		4							
775	5		LEAN to FAT CLAY- Trace Sand and Gravel- Brown- Medium to Stiff (CL)	SB2	8	1	5		32							
	10.5			3ST3	22											
770	10		LIMESTONE with Clay Layers- Brown and Gray- Very Soft to Moderately Hard	SB4	18	3	14		35							
	15			SB5	12	25	40	47		7						
765	20		SHALE- Gray- Medium to Moderately Hard	SB6	12	10	28	39	78							
	20.5			SB7	6	10	50/1"			6						
760	23.6		END OF BORING AT 23.6 FEET.	SB8	8	40	50/2"		6							
				SB9	4	50/4"			4							
755				SB10	1	50/1"			1							

GROUNDWATER & BACKFILL INFORMATION	<p>NOTES: 1. The indicated stratification lines are approximate. The in-situ transitions between materials may be gradual.</p> <p>2. The colors depicted on the symbolic profile are solely for visualization purposes and do not necessarily represent the in-situ colors encountered.</p>
<p>GROUNDWATER WAS NOT ENCOUNTERED</p> <p>BACKFILL METHOD: Auger Cuttings & Bentonite Chips capped with Asphalt Cold Patch & EPCO Hole Plug</p>	

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BORING B3

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BORING DEPTH: 38.7 FEET

PROJECT NAME: Hamilton Co. Engr./Cliff Road Slips

PROJECT NUMBER: 088513.00

CLIENT: Hamilton County, Ohio

PROJECT LOCATION: North Bend, OH

DATE STARTED: 2/1/22

COMPLETED: 2/1/22

BORING METHOD: 3-3/4" Hollow-stem Auger

DRILLER: RM/WI

RIG NO.: 525 (CME 550RT)

LOGGED BY: BAM

CHECKED BY: TPO

ELEVATION (FEET)	DEPTH (FEET)	SYMBOLIC PROFILE	LATITUDE: 40.81082 LONGITUDE: -84.81800 ELEVATION: 761.4 FT	PROFILE DESCRIPTION	SAMPLE TYPE/NO. INTERVAL	RECOVERY LENGTH (INCHES)	SPT BLOWS PER SIX INCHES	HAMMER EFFICIENCY: 70% DATE: 9/3/2020 N ₆₀ -- ○	DRY DENSITY (pcf) -- ■				MOISTURE & ATTERBERG LIMITS (%)				STRENGTH (KSF)				REMARKS			
									90	100	110	120	PL	MC	LL	1	2	3	4					
760.6	0.8			10 inches of ASPHALT																				
760.2	1.2			4 inches of AGGREGATE BASE																				
756.9	4.5			LEAN to FAT CLAY (CL/CH)	SB1	10	3 4 7	13																
755					3ST2	16																		
750				LEAN CLAY with Limestone Fragments- Brown- Very Stiff to Hard (CL)	SB3	14	9 11 13	28																
750					SB4	10	9 50/5"																	4.5+
750					SB5	14	11 14 16	35																
745					SB6	16	23 34 48	96																
745					SB7	8	25 50/2"																	
745					SB8	6	50/6"																	
740				LIMESTONE with Clay Layers- Brown and Gray- Soft to Medium Hard	SB9	2	50/2"																	
740					SB10	5	50/5"																	
735					SB11	1	50/1"																	
735					SB12	2	50/2"																	
733.4	28.0			SHALE- Gray- Medium to Moderately Hard																				

GROUNDWATER & BACKFILL INFORMATION	<p>NOTES: 1. The indicated stratification lines are approximate. The in-situ transitions between materials may be gradual.</p> <p>2. The colors depicted on the symbolic profile are solely for visualization purposes and do not necessarily represent the in-situ colors encountered.</p>
<p>GROUNDWATER WAS NOT ENCOUNTERED</p> <p>BACKFILL METHOD: Auger Cuttings & Bentonite Chips capped with Asphalt Cold Patch & EPCO Hole Plug</p>	

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BORING B3

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BORING DEPTH: 38.7 FEET

PROJECT NAME: Hamilton Co. Engr./Cliff Road Slips

PROJECT NUMBER: 088513.00

CLIENT: Hamilton County, Ohio

PROJECT LOCATION: North Bend, OH

ELEVATION (FEET)	DEPTH (FEET)	SYMBOLIC PROFILE	LATITUDE: 40.81082 LONGITUDE: -84.81800 ELEVATION: 761.4 FT PROFILE DESCRIPTION	SAMPLE TYPE/NO. INTERVAL	RECOVERY LENGTH (INCHES)	SPT BLOWS PER SIX INCHES	HAMMER EFFICIENCY: 70% DATE: 9/3/2020 N ₆₀ - O	DRY DENSITY (pcf) -- ■		MOISTURE & ATTERBERG LIMITS (%) PL MC LL	STRENGTH (KSF)	REMARKS
								90	100 110 120			
730			SHALE- Gray- Medium to Moderately Hard (continued)	SB13	3	50/3"			5			
35	SB14			3	50/3"			4				
725	SB15			2	50/2"			6				
38.7	722.7			SB16	2	50/2"			5			
END OF BORING AT 38.7 FEET.												
720												
45												
715												
50												
710												
55												
705												
60												
700												
65												
695												
70												

HAND PENE.
 TORVANE SHEAR
 UNC. COMP.
 VANE SHEAR (PK)
 VANE SHEAR (REM)
 TRIAXIAL (UU) SHEAR

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BORING B4

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BORING DEPTH: 19 FEET

PROJECT NAME: Hamilton Co. Engr./Cliff Road Slips

PROJECT NUMBER: 088513.00

CLIENT: Hamilton County, Ohio

PROJECT LOCATION: North Bend, OH

DATE STARTED: 2/1/22

COMPLETED: 2/1/22

BORING METHOD: 3-3/4" Hollow-stem Auger

DRILLER: RM/WI

RIG NO.: 525 (CME 550RT)

LOGGED BY: BAM

CHECKED BY: TPO

ELEVATION (FEET)	DEPTH (FEET)	SYMBOLIC PROFILE	LATITUDE: 40.81094 LONGITUDE: -84.81781 ELEVATION: 758.5 FT	PROFILE DESCRIPTION	SAMPLE TYPE/NO. INTERVAL	RECOVERY LENGTH (INCHES)	SPT BLOWS PER SIX INCHES	HAMMER EFFICIENCY: 70% DATE: 9/3/2020 N ₆₀ -- ○	DRY DENSITY (pcf) -- ■				MOISTURE & ATTERBERG LIMITS (%)				REMARKS
									90	100	110	120	PL	MC	LL	SH	
	0.8			10 inches of ASPHALT													
	1.2			4 inches of AGGREGATE BASE													
	4.0			POSSIBLE FILL- Lean to Fat Clay- Trace Cinders- Brown and Black (CL/CH)	SB1	12	3 4 6	12									Petroleum odor
755					3ST2	11											
	5				SB3	3	14 8 10	21									
750				LEAN CLAY with Limestone Fragments- Brown and Gray (CL)	SB4	16	29 28 30	68									4.5+
	10				SB5	10	24 50/4"										4.5+
745					SB6	10	22 50/6"										
	15			LIMESTONE with Clay Layers- Brown and Gray- Soft to Moderately Hard	SB7	2	50/2"										
740					SB8	5	50/5"										
	19.0			END OF BORING AT 19.0 FEET.													
	20																
	735																
	25																
	730																
	30																

GROUNDWATER & BACKFILL INFORMATION	<p>NOTES: 1. The indicated stratification lines are approximate. The in-situ transitions between materials may be gradual.</p> <p>2. The colors depicted on the symbolic profile are solely for visualization purposes and do not necessarily represent the in-situ colors encountered.</p>
<p>GROUNDWATER WAS NOT ENCOUNTERED</p> <p>BACKFILL METHOD: Auger Cuttings & Bentonite Chips capped with Asphalt Cold Patch & EPCO Hole Plug</p>	