




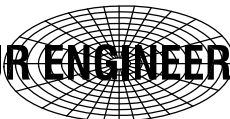
# LOG OF BORING H-04

**Avalon Hotel, Conference Center, and Parking Deck**  
 Alpharetta, Fulton County, Georgia  
 PROJECT NO.: G14NAP02

LOGGED BY: Andrew Rebeiz	ELEVATION: 1064.1 ft	
DATE DRILLED: February 10, 2012	BORING DEPTH: 40 ft	
DRILLING METHOD: Hollow Stem Auger	24 HR WATER LEVEL: ft	TOB WATER LEVEL: ft

DEPTH (feet)	ELEVATION (feet)	GRAPHIC LOG	SAMPLE DESCRIPTION	LAB RESULTS			FIELD DATA										
				NATURAL MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTIC INDEX (%)	BLOW COUNTS	N Value, blows/ft.									
	1027.1							1									
			<b>RESIDUUM:</b> Very stiff, red-brown-black sandy SILT (ML)														
40.0	1024.1		Boring Terminated at 40 feet.				5 8 10										
45.0																	
50.0																	
55.0																	
60.0																	
65.0																	
70.0																	

**CONTOUR ENGINEERING, LLC**



LEGEND  
 ▽ = TIME OF BORING (TOB)      ▼ = 24 HOUR READING  
 REMARKS  
**AUTOMATIC HAMMER**

# LOG OF BORING P-37

**Avalon Hotel, Conference Center, and Parking Deck**  
 Alpharetta, Fulton County, Georgia  
 PROJECT NO.: G14NAP02

LOGGED BY: Andrew Rebeiz	ELEVATION: 1063.4 ft	
DATE DRILLED: February 10, 2012	BORING DEPTH: 20 ft	
DRILLING METHOD: Hollow Stem Auger	24 HR WATER LEVEL: ft	TOB WATER LEVEL: ft

DEPTH (feet)	ELEVATION (feet)	GRAPHIC LOG	SAMPLE DESCRIPTION	LAB RESULTS			FIELD DATA	
				NATURAL MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTIC INDEX (%)	BLOW COUNTS	N Value, blows/ft.
								1 5 10 50 100
	1060.4		<b>FILL:</b> Red-brown sandy SILT (ML), with rock fragments, <b>some organic material consisting of topsoil with wood fragments and rock fragments</b>					
5.0			Red-brown sandy SILT (ML), with rock fragments					
10.0								
15.0								
20.0	1043.4		Boring Terminated at 20 feet.					
25.0								
30.0								
35.0								

**CONTOUR ENGINEERING, LLC**

## LEGEND

▽ = TIME OF BORING (TOB) ▼ = 24 HOUR READING

## REMARKS

**AUTOMATIC HAMMER**

# LOG OF BORING P-38

**Avalon Hotel, Conference Center, and Parking Deck**  
 Alpharetta, Fulton County, Georgia  
 PROJECT NO.: G14NAP02

LOGGED BY: Andrew Rebeiz	ELEVATION: 1060.2 ft	
DATE DRILLED: February 9, 2012	BORING DEPTH: 20 ft	
DRILLING METHOD: Hollow Stem Auger	24 HR WATER LEVEL: ft	TOB WATER LEVEL: ft

DEPTH (feet)	ELEVATION (feet)	GRAPHIC LOG	SAMPLE DESCRIPTION	LAB RESULTS			FIELD DATA	
				NATURAL MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTIC INDEX (%)	BLOW COUNTS	N Value, blows/ft.
								1 5 10 50 100
	1057.2		<b>FILL:</b> Brown-tan silty SAND (SM), with rock fragments				4 4 5	
5.0			Red-orange silty SAND (SM), with rock fragments				3 2 4	
10.0							4 4 4	
	1048.2		Red-brown sandy SILT (ML)				6 3 4	
15.0							6 11 12	
	1043.2		<b>RESIDUUM:</b> Medium dense, brown-tan silty SAND (SM)					
20.0	1040.2		Boring Terminated at 20 feet.				4 6 8	
25.0								
30.0								
35.0								

**CONTOUR ENGINEERING, LLC**

LEGEND  
 ▽ = TIME OF BORING (TOB)      ▼ = 24 HOUR READING

REMARKS  
**AUTOMATIC HAMMER**

GEOTECH BORING LOG AVALON PHASE II LOGS.GPJ CONTOUR.GDT 4/29/14

# LOG OF BORING P-39

**Avalon Hotel, Conference Center, and Parking Deck**  
 Alpharetta, Fulton County, Georgia  
 PROJECT NO.: G14NAP02

LOGGED BY: Andrew Rebeiz	ELEVATION: 1058.0 ft	
DATE DRILLED: February 9, 2012	BORING DEPTH: 35 ft	
DRILLING METHOD: Hollow Stem Auger	24 HR WATER LEVEL: ft	TOB WATER LEVEL: ft

DEPTH (feet)	ELEVATION (feet)	GRAPHIC LOG	SAMPLE DESCRIPTION	LAB RESULTS			FIELD DATA	
				NATURAL MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTIC INDEX (%)	BLOW COUNTS	N Value, blows/ft.
							1	5 10 50 100
	1055.0		<b>FILL:</b> Brown-red silty SAND (SM), with rock fragments				2	
5.0			Red-brown sandy SILT (ML), with rock fragments				3	
	1050.0		Brown-red silty SAND (SM), with rock fragments				4	
10.0							5	
							6	
15.0							7	
							8	
20.0							9	
	1036.0		Sampled as organic fill consisting of topsoil with wood fragments and rock fragments				10	
25.0							11	
	1031.0		Red-brown sandy SILT (ML)				12	
30.0							13	
	1026.0		<b>RESIDUUM:</b> Very dense, red-brown-tan sandy SILT (ML)				14	
35.0	1023.0		Boring Terminated at 35 feet.				15	

**CONTOUR ENGINEERING, LLC**

## LEGEND

▽ = TIME OF BORING (TOB) ▼ = 24 HOUR READING

## REMARKS

**AUTOMATIC HAMMER**

GEOTECH BORING LOG AVALON PHASE II LOGS.GPJ CONTOUR.GDT 4/29/14

# LOG OF BORING P-45

**Avalon Hotel, Conference Center, and Parking Deck**  
 Alpharetta, Fulton County, Georgia  
 PROJECT NO.: G14NAP02

LOGGED BY: Andrew Rebeiz	ELEVATION: 1056.3 ft	
DATE DRILLED: February 9, 2012	BORING DEPTH: 20 ft	
DRILLING METHOD: Hollow Stem Auger	24 HR WATER LEVEL: ft	TOB WATER LEVEL: ft

DEPTH (feet)	ELEVATION (feet)	GRAPHIC LOG	SAMPLE DESCRIPTION	LAB RESULTS			FIELD DATA																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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**CONTOUR ENGINEERING, LLC**

## LEGEND

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## REMARKS

**AUTOMATIC HAMMER**



# LOG OF BORING P-47

**Avalon Hotel, Conference Center, and Parking Deck**  
 Alpharetta, Fulton County, Georgia  
 PROJECT NO.: G14NAP02

LOGGED BY: Andrew Rebeiz	ELEVATION: 1050.5 ft	
DATE DRILLED: February 9, 2012	BORING DEPTH: 20 ft	
DRILLING METHOD: Hollow Stem Auger	24 HR WATER LEVEL: ft	TOB WATER LEVEL: ft

DEPTH (feet)	ELEVATION (feet)	GRAPHIC LOG	SAMPLE DESCRIPTION	LAB RESULTS			FIELD DATA					
				NATURAL MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTIC INDEX (%)	BLOW COUNTS	N Value, blows/ft.				
								1	5	10	50	100
			<b>FILL:</b> Red-brown silty SAND (SM), with rock fragments					6				
5.0								8				
	1042.5							4				
			Red-brown sandy SILT (ML), with rock fragments, with organic material consisting of topsoil with wood fragments and rock fragments					6				
10.0								3				
								2				
15.0								1				
	1033.5		Sampled as organic fill consisting of topsoil with wood fragments and rock fragments					5				
20.0	1030.5		Boring Terminated at 20 feet.									
25.0												
30.0												
35.0												

**CONTOUR ENGINEERING, LLC**

LEGEND  
 = TIME OF BORING (TOB)       = 24 HOUR READING

REMARKS  
**AUTOMATIC HAMMER**

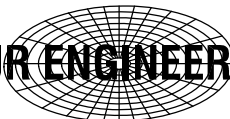
# LOG OF BORING Q-01

**Avalon Hotel, Conference Center, and Parking Deck**  
 Alpharetta, Fulton County, Georgia  
 PROJECT NO.: G14NAP02

LOGGED BY: Andrew Rebeiz	ELEVATION: 1061.2 ft	
DATE DRILLED: February 9, 2012	BORING DEPTH: 20 ft	
DRILLING METHOD: Hollow Stem Auger	24 HR WATER LEVEL: ft	TOB WATER LEVEL: ft

DEPTH (feet)	ELEVATION (feet)	GRAPHIC LOG	SAMPLE DESCRIPTION	LAB RESULTS			FIELD DATA																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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**CONTOUR ENGINEERING, LLC**



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REMARKS  
**AUTOMATIC HAMMER**

# LOG OF BORING Q-02

**Avalon Hotel, Conference Center, and Parking Deck**  
 Alpharetta, Fulton County, Georgia  
 PROJECT NO.: G14NAP02

LOGGED BY: Andrew Rebeiz	ELEVATION: 1061.8 ft	
DATE DRILLED: February 9, 2012	BORING DEPTH: 20 ft	
DRILLING METHOD: Hollow Stem Auger	24 HR WATER LEVEL: ft	TOB WATER LEVEL: ft

DEPTH (feet)	ELEVATION (feet)	GRAPHIC LOG	SAMPLE DESCRIPTION	LAB RESULTS			FIELD DATA										
				NATURAL MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTIC INDEX (%)	BLOW COUNTS	N Value, blows/ft.									
								1									

**CONTOUR ENGINEERING, LLC**

## LEGEND

▽ = TIME OF BORING (TOB) ▼ = 24 HOUR READING

## REMARKS

**AUTOMATIC HAMMER**



# LOG OF BORING Q-03

**Avalon Hotel, Conference Center, and Parking Deck**  
 Alpharetta, Fulton County, Georgia  
 PROJECT NO.: G14NAP02

LOGGED BY: Andrew Rebeiz	ELEVATION: 1060.8 ft	
DATE DRILLED: February 9, 2012	BORING DEPTH: 20 ft	
DRILLING METHOD: Hollow Stem Auger	24 HR WATER LEVEL: ft	TOB WATER LEVEL: ft

DEPTH (feet)	ELEVATION (feet)	GRAPHIC LOG	SAMPLE DESCRIPTION	LAB RESULTS			FIELD DATA	
				NATURAL MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTIC INDEX (%)	BLOW COUNTS	N Value, blows/ft.
								1 5 10 50 100
5.0			<b>FILL:</b> Red-brown sandy SILT (ML), with rock fragments				3 3 4	
10.0							7 14 22	
15.0							8 14 10	
20.0	1043.8		<b>RESIDUUM:</b> Very stiff, red-brown sandy SILT (ML)				7 9 9	
	1040.8		Boring Terminated at 20 feet.				7 10 10	
25.0								
30.0								
35.0								

**CONTOUR ENGINEERING, LLC**

LEGEND  
 ▽ = TIME OF BORING (TOB)      ▼ = 24 HOUR READING  
 REMARKS  
**AUTOMATIC HAMMER**

GEOTECH BORING LOG AVALON PHASE II LOGS.GPJ CONTOUR.GDT 4/29/14



# LOG OF BORING Q-04

**Avalon Hotel, Conference Center, and Parking Deck**  
 Alpharetta, Fulton County, Georgia  
 PROJECT NO.: G14NAP02

LOGGED BY: Andrew Rebeiz	ELEVATION: 1063.6 ft	
DATE DRILLED: February 9, 2012	BORING DEPTH: 20 ft	
DRILLING METHOD: Hollow Stem Auger	24 HR WATER LEVEL: ft	TOB WATER LEVEL: ft

DEPTH (feet)	ELEVATION (feet)	GRAPHIC LOG	SAMPLE DESCRIPTION	LAB RESULTS			FIELD DATA																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
				NATURAL MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTIC INDEX (%)	BLOW COUNTS	N Value, blows/ft.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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**CONTOUR ENGINEERING, LLC**

LEGEND  
 = TIME OF BORING (TOB)       = 24 HOUR READING

REMARKS  
**AUTOMATIC HAMMER**


GEOTECH BORING LOG AVALON PHASE II LOGS.GPJ CONTOUR.GDT 4/29/14

**Avalon Hotel, Conference Center, and Parking Deck**  
 Alpharetta, Fulton County, Georgia  
 PROJECT NO.: G14NAP02

ELEVATION: 1044.0 ft

BORING DEPTH: 15 ft

TOB WATER LEVEL: ft

[illegible]

▼ = 24 HOUR READING

REMARKS

**Avalon Hotel, Conference Center, and Parking Deck**  
 Alpharetta, Fulton County, Georgia  
 PROJECT NO.: G14NAP02

ELEVATION: 1041.0 ft

BORING DEPTH: 15 ft

TOB WATER LEVEL: ft

**CONTOUR ENGINEERING, LLC**

▼ = 24 HOUR READING

REMARKS

**Avalon Hotel, Conference Center, and Parking Deck**  
 Alpharetta, Fulton County, Georgia  
 PROJECT NO.: G14NAP02

ELEVATION: 1049.0 ft

BORING DEPTH: 15 ft

TOB WATER LEVEL: ft

**CONTOUR ENGINEERING, LLC**

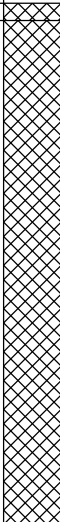
▼ = 24 HOUR READING

REMARKS

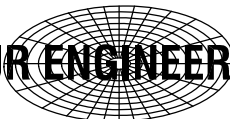
# LOG OF BORING TP-17

**Avalon Hotel, Conference Center, and Parking Deck**  
 Alpharetta, Fulton County, Georgia  
 PROJECT NO.: G14NAP02

LOGGED BY: Shelley Zimmerman	ELEVATION: 1059.0 ft	
DATE DRILLED: February 1, 2012	BORING DEPTH: 15 ft	
DRILLING METHOD: Komatsu PC130 Excavator	24 HR WATER LEVEL: ft	TOB WATER LEVEL: ft

DEPTH (feet)	ELEVATION (feet)	GRAPHIC LOG	SAMPLE DESCRIPTION	LAB RESULTS			FIELD DATA													
				NATURAL MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTIC INDEX (%)	BLOW COUNTS	N Value, blows/ft.												
								1				5			10				50	100
	1058.5		<b>FILL:</b> Red sandy SILT (ML) <b>BOULDER FILL:</b> Red brown silty SAND (SM), with 50 percent rock fragments ranging in size from 8-inches to 30- inches in diameter.																	
5.0																				
10.0																				
15.0	1044.0		Test Pit Terminated at 15 feet.																	
20.0																				
25.0																				
30.0																				
35.0																				



**CONTOUR ENGINEERING, LLC**



LEGEND  
 ▽ = TIME OF BORING (TOB)      ▼ = 24 HOUR READING  
 REMARKS

# LOG OF BORING TP-18

**Avalon Hotel, Conference Center, and Parking Deck**  
 Alpharetta, Fulton County, Georgia  
 PROJECT NO.: G14NAP02

LOGGED BY: Shelley Zimmerman				ELEVATION: 1053.0 ft								
DATE DRILLED: February 1, 2012				BORING DEPTH: 15 ft								
DRILLING METHOD: Komatsu PC130 Excavator				24 HR WATER LEVEL: ft		TOB WATER LEVEL: ft						
DEPTH (feet)	ELEVATION (feet)	GRAPHIC LOG	SAMPLE DESCRIPTION	LAB RESULTS			FIELD DATA					
				NATURAL MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTIC INDEX (%)	BLOW COUNTS	N Value, blows/ft.				
								1	5	10	50	100
1052.5			<b>FILL:</b> Red sandy SILT (ML) <b>FILL CONTAINING ROCK/BOULDERS:</b> Red brown silty SAND (SM), with <b>50 percent</b> rock/boulders ranging in size from 8" to 30" in diameter									
5.0												
10.0												
15.0	1038.0		Test Pit Terminated at 15 feet.									
20.0												
25.0												
30.0												
35.0												
 <b>CONTOUR ENGINEERING, LLC</b>				<b>LEGEND</b> ▽ = TIME OF BORING (TOB)      ▼ = 24 HOUR READING								
				REMARKS								

GEOTECH BORING LOG AVALON PHASE II LOGS.GPJ CONTOUR.GDT 4/29/14

**Avalon Hotel, Conference Center, and Parking Deck**  
 Alpharetta, Fulton County, Georgia  
 PROJECT NO.: G14NAP02

GEOTECH BORING LOG AVALON PHASE II LOGS.GPJ CONTOUR.GDT 4/29/14



# LOG OF BORING TP-20

**Avalon Hotel, Conference Center, and Parking Deck**  
 Alpharetta, Fulton County, Georgia  
 PROJECT NO.: G14NAP02

LOGGED BY: Blake Summers	ELEVATION: 1061.0 ft	
DATE DRILLED: April 16, 2014	BORING DEPTH: 15 ft	
DRILLING METHOD: CAT 325 Excavator	24 HR WATER LEVEL: ft	TOB WATER LEVEL: ft

DEPTH (feet)	ELEVATION (feet)	GRAPHIC LOG	SAMPLE DESCRIPTION	LAB RESULTS			FIELD DATA									
				NATURAL MOISTURE CONTENT (%)	LIQUID LIMIT (%)	PLASTIC INDEX (%)	BLOW COUNTS	N Value, blows/ft.								
								1			5	10			50	100
			<b>FILL:</b> Red-brown, sandy SILT (ML), with rock fragments													
5.0	1056.0															
	1055.0		Fill material <b>with topsoil and organics</b>													
			Tan-red-brown, silty SAND (SM)													
10.0																
15.0	1046.0															
			Test Pit Terminated at 15 feet.													
20.0																
25.0																
30.0																
35.0																

**CONTOUR ENGINEERING, LLC**

## LEGEND

▽ = TIME OF BORING (TOB) ▼ = 24 HOUR READING


REMARKS

**Avalon Hotel, Conference Center, and Parking Deck**  
 Alpharetta, Fulton County, Georgia  
 PROJECT NO.: G14NAP02

ELEVATION: 1065.0 ft

BORING DEPTH: 15 ft

TOB WATER LEVEL: ft

[illegible]

▼ = 24 HOUR READING

REMARKS

**Avalon Hotel, Conference Center, and Parking Deck**  
 Alpharetta, Fulton County, Georgia  
 PROJECT NO.: G14NAP02

ELEVATION: 1065.0 ft

BORING DEPTH: 15 ft

24 HR WATER LEVEL: ft

TOB WATER LEVEL: ft

[illegible]

**CONTOUR ENGINEERING, LLC**

∇ = TIME OF BORING (TOB)

▼ = 24 HOUR READING

REMARKS

# LOG OF BORING TP-23

**Avalon Hotel, Conference Center, and Parking Deck**  
 Alpharetta, Fulton County, Georgia  
 PROJECT NO.: G14NAP02

LOGGED BY: Blake Summers	ELEVATION: 1065.0 ft	
DATE DRILLED: April 16, 2014	BORING DEPTH: 15 ft	
DRILLING METHOD: CAT 325 Excavator	24 HR WATER LEVEL: ft	TOB WATER LEVEL: ft

DEPTH (feet)	ELEVATION (feet)	GRAPHIC LOG	SAMPLE DESCRIPTION	LAB RESULTS			FIELD DATA																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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**CONTOUR ENGINEERING, LLC**

## LEGEND

▽ = TIME OF BORING (TOB) ▼ = 24 HOUR READING

REMARKS

**Avalon Hotel, Conference Center, and Parking Deck**  
 Alpharetta, Fulton County, Georgia  
 PROJECT NO.: G14NAP02

ELEVATION: 1065.0 ft

BORING DEPTH: 15 ft

TOB WATER LEVEL: ft

**CONTOUR ENGINEERING, LLC**

▼ = 24 HOUR READING

REMARKS

**Avalon Hotel, Conference Center, and Parking Deck**  
 Alpharetta, Fulton County, Georgia  
 PROJECT NO.: G14NAP02

ELEVATION: 1065.0 ft

BORING DEPTH: 15 ft

TOB WATER LEVEL: ft

**CONTOUR ENGINEERING, LLC**

▼ = 24 HOUR READING

REMARKS

# LOG OF BORING TP-26

**Avalon Hotel, Conference Center, and Parking Deck**  
 Alpharetta, Fulton County, Georgia  
 PROJECT NO.: G14NAP02

LOGGED BY: Blake Summers	ELEVATION: 1065.0 ft	
DATE DRILLED: April 16, 2014	BORING DEPTH: 15 ft	
DRILLING METHOD: CAT 325 Excavator	24 HR WATER LEVEL: ft	TOB WATER LEVEL: ft

DEPTH (feet)	ELEVATION (feet)	GRAPHIC LOG	SAMPLE DESCRIPTION	LAB RESULTS			FIELD DATA																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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**CONTOUR ENGINEERING, LLC**

## LEGEND

▽ = TIME OF BORING (TOB) ▼ = 24 HOUR READING

REMARKS

# LOG OF BORING TP-27

**Avalon Hotel, Conference Center, and Parking Deck**  
 Alpharetta, Fulton County, Georgia  
 PROJECT NO.: G14NAP02

LOGGED BY: Blake Summers	ELEVATION: 1064.0 ft	
DATE DRILLED: April 16, 2014	BORING DEPTH: 15 ft	
DRILLING METHOD: CAT 325 Excavator	24 HR WATER LEVEL: ft	TOB WATER LEVEL: ft

DEPTH (feet)	ELEVATION (feet)	GRAPHIC LOG	SAMPLE DESCRIPTION	LAB RESULTS			FIELD DATA																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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**CONTOUR ENGINEERING, LLC**

## LEGEND

▽ = TIME OF BORING (TOB) ▼ = 24 HOUR READING

REMARKS



# SOIL CLASSIFICATION CHART

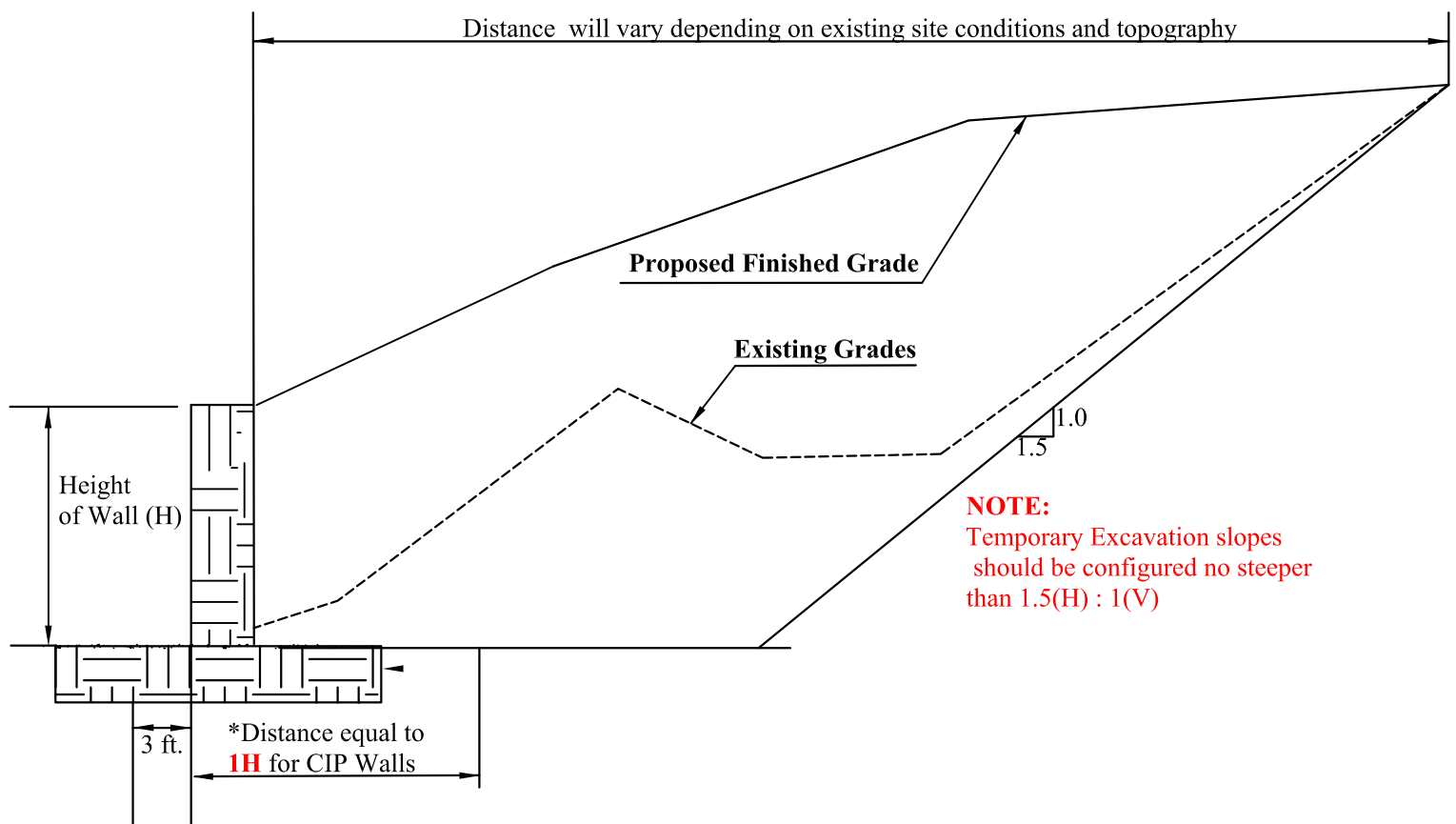
MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS  MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS  MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS  (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES  (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS  MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS  (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES  (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS  MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS  LIQUID LIMIT 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
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS  LIQUID LIMIT GREATER THAN 50			MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

# EARTHWORK RECOMMENDATIONS FOR CAST-IN-PLACE (CIP) LOCATED ON THE EASTERN PORTION OF THE SITE

## NOTES:

1. To allow for construction of the proposed retaining wall on the eastern portion of the site **as a cast-in-place (CIP) retaining wall**, unsuitable materials within the existing slope should be removed from the face of the wall to a distance behind the wall equal to the height of the wall (**H, i.e. distance will vary depending on wall height throughout the length of the wall**). Also, all unsuitable soils, if any, should be undercut beneath the retaining wall footing plus 3 feet in front and back of the concrete footing.
2. Temporary excavations slopes should be configured no steeper than 1.5 (Horizontally) to 1.0 (Vertically). Temporary slopes may require flattening depending on the materials exposed during temporary excavations.



**CONTOUR ENGINEERING, LLC**

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## LEGEND:

Retaining Wall Detail

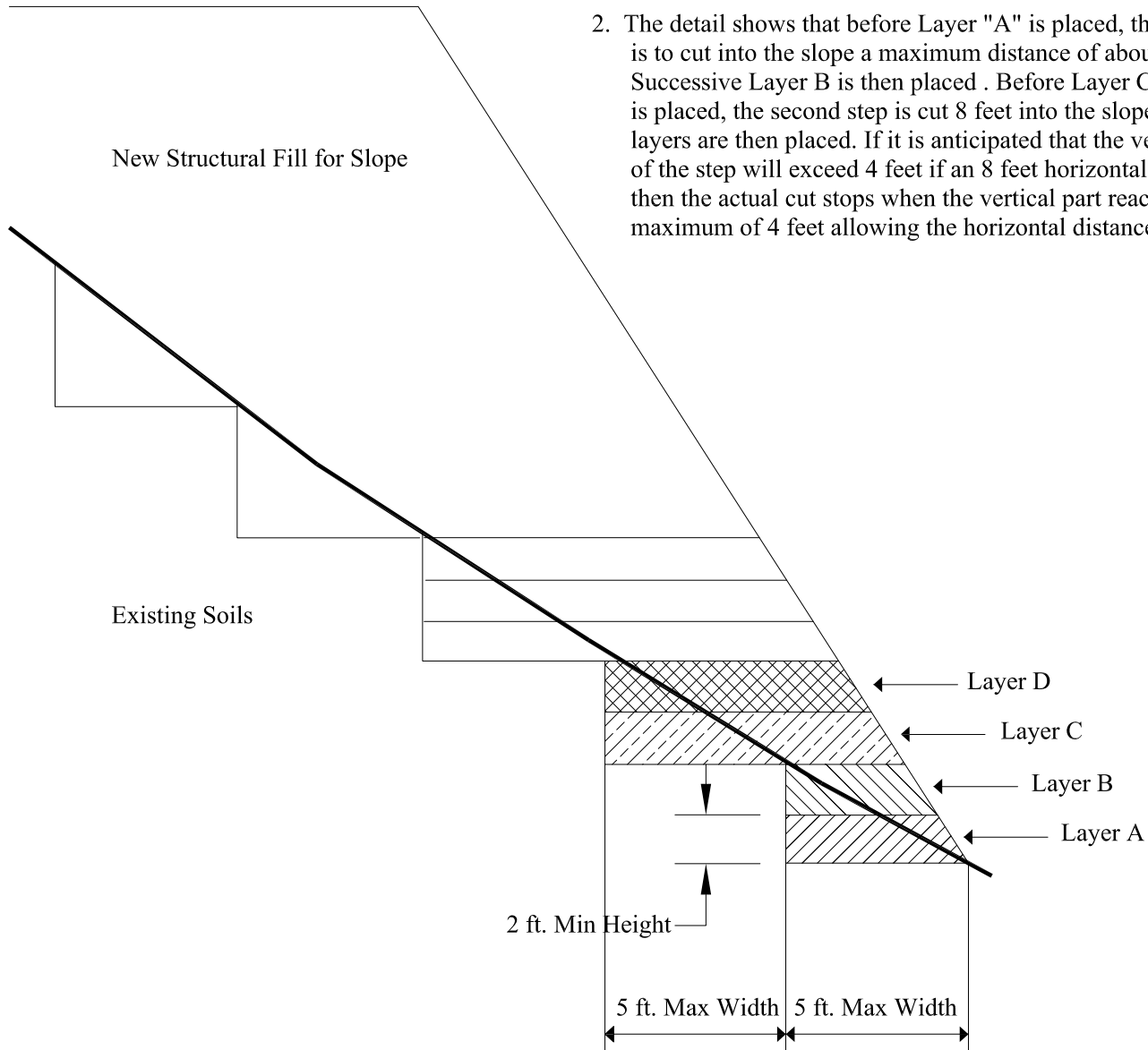
Scale: Not to Scale

## PROJECT:

Earthwork Recommendations for  
Retaining Walls  
Avalon Development  
Alpharetta, Fulton County, Georgia  
Project No: G12NAP01

**NOTES:**

1. Where the new slope is to be placed on an existing hillside, the new slope must be benched into the existing slope.
2. The detail shows that before Layer "A" is placed, the first step is to cut into the slope a maximum distance of about 8 feet. Successive Layer B is then placed. Before Layer C is placed, the second step is cut 8 feet into the slope and successive layers are then placed. If it is anticipated that the vertical part of the step will exceed 4 feet if an 8 feet horizontal cut is made, then the actual cut stops when the vertical part reaches a maximum of 4 feet allowing the horizontal distance to vary.



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**LEGEND**

**Typical Benching Detail**

Scale: Not To Scale

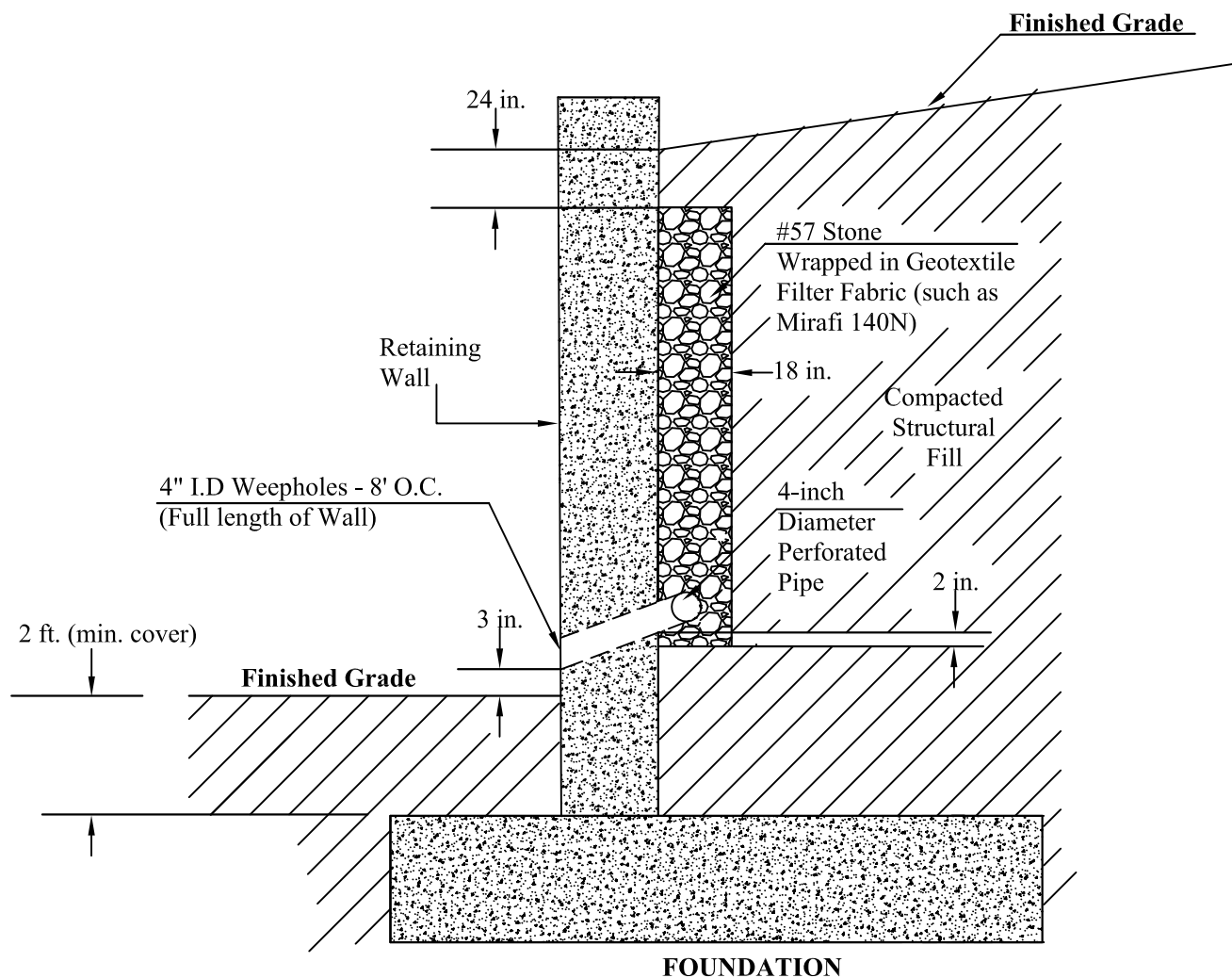
**PROJECT**

**Geotechnical Exploration  
Hotel and Conference Center**

Avalon

Alpharetta, Fulton County, Georgia

Project No: G14NAP02



**CONTOUR ENGINEERING, LLC**

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**LEGEND**  
**Typical Detail for Concrete**  
**Retaining Wall**  
**Drainage System**

Scale: Not to Scale

**PROJECT**  
**Geotechnical Exploration**  
**Hotel and Conference Center**  
Avalon

Alpharetta, Fulton County, Georgia  
Project No: G14NAP02