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**Terracon.com**

September 23, 2025

KCI Associates of North America  
4800 Falls of Nuese Road, Suite 200  
Raleigh, NC 27609

Attn: Mr. Rob DCola, PE, DBIA  
P: (919) 278-2483  
E: rob.decola@kci.com

Re: Geotechnical Screening Report  
NCEM Nuber: 044-01-CDC5B  
County: Haywood  
Description: Bridge on Jade Drive over Turkey Creek  
Terracon Project No. 75255160

Dear Mr. DeCola:

Terracon completed a geologic review, visited the site, and performed a limited subsurface exploration in the vicinity of the proposed structure. Terracon presents this summary of our findings and preliminary foundation recommendations for the proposed structure.

## **Geologic Review**

The project site is located within the Blue Ridge Physiographic Province and the Western Blue Ridge belt based on the 1985 North Carolina Geologic map. The Western Blue Ridge belt consists of sedimentary and metamorphic rocks. The geologic formation at the project site is Biotite Granitic Gneiss (Ybgg).

## **Subsurface Findings**

The surficial soils encountered at the project site consisted of gravel associated with the existing road. Below the gravel, alluvial soils were encountered consisting of dense to medium dense, silty sands (A-2-4) with trace gravel extending to a depth of 6 feet below the existing ground surface. Residual soils were encountered below the alluvial soils consisting of loose, silty sand (A-2-4) and soft to stiff, sandy silts (A-4) with varying amounts of rock fragments and mica extending to a depth of 18 feet below the existing ground surface. Weathered Rock consisting of biotite gneiss was encountered below the residual soils extending to the boring termination depth of 38.7 feet below the

existing ground surface. Groundwater was encountered at a depth of 5 feet below the ground surface at the termination of our boring.

## Preliminary Foundation Recommendations

Terracon understands that the proposed structure will consist of a single-span, cored slab bridge spanning a length of 25 feet. Based on the results of our limited subsurface investigation at the project site, driven HP piles will be adequate to support the structure foundations.

## Closing

We appreciate the opportunity to be of continued service on this project. If you have any questions or concerns, please do not hesitate to contact us.

Sincerely,

Terracon



Mitch Crayton, PE  
Geotechnical Department Manager, APR



Thomas R. Wells, PE, DBIA  
Senior Engineer  
NC PE: No. 037998

## **Attachments**

Terracon Boring Log

# GEOTECHNICAL BORING REPORT BORE LOG

WBS 044-01-CDC5B		TIP N/A		COUNTY HAYWOOD		GEOLOGIST A. Posadas										
SITE DESCRIPTION 044-01-CDC5B Bridge on Jade Drive over Turkey Creek							GROUND WTR (ft)									
BORING NO. B-1		STATION N/A		OFFSET N/A		ALIGNMENT N/A	0 HR. 5.0									
COLLAR ELEV. N/A		TOTAL DEPTH 38.7 ft		NORTHING N/A		EASTING N/A	24 HR. FIAD									
DRILL RIG/HAMMER EFF./DATE TER472 DIEDRICH D-50 88% 08/21/2025				DRILL METHOD Casing w/ Advancer, SPT & Core		HAMMER TYPE Automatic										
DRILLER J. Radford		START DATE 09/17/25		COMP. DATE 09/17/25		SURFACE WATER DEPTH N/A										
ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION	DEPTH (ft)		
			0.5ft	0.5ft	0.5ft	0	25	50	75	100						
		1.0	5	3	30									GROUND SURFACE	0.0	
		3.5	13	13	7									GRAVEL	0.5	
		6.0	8	5	4									ALLUVIAL DENSE TO MEDIUM DENSE, BROWN, SILTY FINE TO COARSE GRAINED SAND, TRACE GRAVEL, WET TO MOIST (A-2-4)	6.0	
		8.5	2	1	2										RESIDUAL	8.0
		13.5	11	7	8									LOOSE, GRAY, SILTY FINE TO COARSE SAND, TRACE ROCK FRAGMENTS, TRACE MICA, MOIST (A-2-4) SOFT TO STIFF, GRAY, ORANGE, WHITE, BROWN, FINE TO COARSE SANDY SILT, TRACE TO LITTLE ROCK FRAGMENTS, TRACE MICA, MOIST (A-4)	18.0	
		18.5	100/0.4												WEATHERED ROCK	18.0
		23.5	100/0.3											GRAY, WHITE, BROWN, ORANGE, BLACK, BIOTITE GNEISS		
		28.5	75	25/0.1												
		33.5	100/0.4													
		38.5	100/0.2												Boring Terminated at Depth 38.7 ft in WEATHERED ROCK, (GNEISS)	38.7

NCDOT BORE SINGLE 75255160 044-01-CDC5B BRIDGE ON JADE DRIVE OVER TURKEY CREEK.GPJ NC\_DOT\_GDT 9/22/25