

DEPARTMENT OF TRANSPORTATION

STATE OF GEORGIA

INTERDEPARTMENTAL CORRESPONDENCE

FILE NH000-0073-03 (242) Cobb
PI No. 714130

OFFICE Materials and Research
Forest Park, Ga.

DATE March 3, 2010

J.D. Geary
FROM Georgene M. Geary, P. E., State Materials and Research Engineer

TO Mr. Darryl D. Van Meter, P.E., State Innovative Program Delivery Engineer
Attn: John Hancock

SUBJECT Review of Consultant's Bridge Foundation Investigation Report
I-75 Reversible Lanes Bridge over Rottenwood Creek and Hope Creek-
Bridge # 16

As requested, we have reviewed the Bridge Foundation Report that was written on December 2, 2009 by Wilmer Engineering, Inc of Atlanta, Georgia. Our comments are as follows:

Foundation Recommendations The drilled shaft recommendation at bent 6 should be omitted. The use of drilled shafts for foundation units will not be economical in this case. Also remove all references to drilled shafts and Special Provision 524.

Tip Elevations (H-Piles) Tip elevations at bents mentioned below should be raised due to the difficulty encountered driving H-piles into very dense partially weathered rock.

<u>Bent#</u>	<u>Minimum Tip Elev.</u>	<u>Estimated Tip Elev.</u>
1	895	
2	895	
3	890	
4	910	
5	920	
6	920	915
7	890	
8	905	
9	890	
10	885	

Pile Points Pile points are recommended for each pile at bent 6 to insure penetration into very dense soils. However please see the comment referring to "Pilot Holes" below.

Pilot Holes Please note that pilot holes should be set up at bent 6. Please make the following reference to Special Provision 520 (Piling) preceding the construction methods.

Drill pilot holes only when the piles did not reach minimum tip specified in the foundation plans. The piles that did not reach minimum tip should be removed prior to drilling pilot holes and damaged sections should be cut off as directed by the Engineer prior to reuse. Include the cost of pile removal in the bid price for pilot holes. Refer to Special Provision 520. If pilot holes are used, pile points will not be required.

Theoretical Scour Please show the theoretical scour line on the layout in plan and profile view.

Pile Footings The recommendation for Type II foundation backfill material should be set up for all pile footings.

If additional information is needed, please contact Marc A. Payne of the Geotechnical Engineering Bureau at 404-363-7546.

GMG: MAP

Attachment

Copy: Paul Liles, P. E., State Bridge and Structural Design Engineer

Revised: January 24, 2008

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SPECIAL PROVISION

**PROJECT NO. NH000-0073-03 (242) COBB CO.
PI No. 714130**

SECTION 520—PILING

Delete Sub-Section 520.3.05.B and substitute the following:

520.3.05.B. Drill Pilot Holes

Drill Pilot Holes **only** when the minimum tip elevation specified in the Plans cannot be attained by normal pile driving. Remove the driven piles that did not reach minimum tip elevations prior to drilling pilot holes and cut off any damaged sections as directed by the Engineer prior to reuse. Include the cost of pile removal in the bid price for pilot holes.

When pilot holes are required, drill them to the diameter and approximate depth specified on the Plans.

Backfill voids and holes with Class A or better concrete. Furnishing and placing backfill concrete is an incidental part of the work.

The following are not considered pilot holes:

- Holes created by spudding (punching)
- Holes dug to drive piling that is too long to fit leads
- Holes dug to replace a template (if permitted)

Where pilot holes are required in granular material and the material cannot be sealed off using "mudding" drilling methods; drill the pilot hole as follows:

1. Place a casing pipe with a large enough diameter around the boring device.
2. Hold the casing in position until the pilot hole is completed and the pile driving progresses deep enough into the hard material to keep loose material out of the pilot hole.

The use of casing is incidental to the work.