



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

May 15, 2008

CIRCULAR LETTER 2008-04

PILE LOAD CONVERSIONS FOR NEW IDOT DRIVING SPECIFICATIONS

COUNTY ENGINEERS/SUPERINTENDENTS OF HIGHWAYS
MUNICIPAL ENGINEERS/DIRECTORS OF PUBLIC WORKS
CONSULTING ENGINEERS

This memorandum is to remind designers of the need to provide information for pile foundations on the contract plans that corresponds with the Standard Specifications' new driving formula.

All Bridge Designers (ABD) Memorandum 2006-03, Pile Data Guidelines for 2007 Standard Specifications, issued on November 17, 2006, was developed to provide guidance to designers in making necessary changes to contract plans for structures not designed using the November 2006 Bridge Manual. The memorandum may be found at <http://www.dot.il.gov/bridges/abd063.pdf>.

However, several projects have gone to construction without the proper conversion of pile Allowable Stress Design (ASD) pile capacity to the new Nominal Required Bearing needed by the Gates pile driving formula. In some cases, no changes were made. In other cases, the designer simply multiplied the tons capacity by two (2) and indicated a new bearing in kips, without also multiplying by three (3) to complete the conversion of ASD capacity to new specification bearing.

In one case, the contractor was driving piles when an error in the pile information was discovered. In another, incorrect pile information was noticed while sizing the hammer for the indicated bearing. Use of the word *capacity* or *refusal*; the value being less than 100; or the units being shown in tons are warning signs that the plan pile data may not be correct.

Special caution should be exercised for projects that were completed some time ago and are "on the shelf." These projects are often quickly updated for the current specifications and must always also incorporate the updated pile information.

As projects are increasingly designed using the new 2006 Bridge Manual, this conversion will become unnecessary. However, as long as older designs are being converted to the new ultimate or nominal values required by the

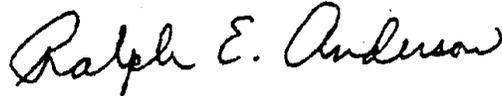
CIRCULAR LETTER 2008-04
Page Two
May 15, 2008

Standard Specifications, please double-check the Nominal Required Bearing indicated in the plans. If that bearing divided by six (6) is less than you would have driven a similar structure's piling to under the old procedure, please confirm that the pile information was properly converted.

Questions regarding the contents or application of ABD 2006-03 may be directed to Mr. Bill Kramer of the Bureau of Bridges and Structures' Central Geotechnical Unit at (217) 782-7773 or william.kramer@illinois.gov.

If you have any questions regarding this Circular Letter, please contact Mr. Jim Klein at (217) 782-5928 or james.klein@illinois.gov.

Sincerely,



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Engineer of Bridges and Structures

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