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**Memorandum**

To: Distribution

From: Damian Krings, P.E.  
 Road Design Engineer

Date: November 8, 2012

Subject: Revised Rounding Criteria for Subgrade Widths

MDT design has historically rounded the calculated subgrade widths to the nearest whole foot (0.1 meter). This convention was established at a time when plans were hand drafted, and slide rules were the height of available technology to design and construction personnel. It provided some benefit of ease in calculation and drafting, while producing surfacing inslopes that approximated the standard slopes. However, issues with this rounding criterion exist, and have become increasingly common and problematic.

Specifically, thinner surfacing sections have the potential for greater variance between actual surfacing inslopes and the intended standard. This has been problematic recently, particularly with rehabilitation projects with surfacing thicknesses less than one foot. Secondly, when the same criterion is applied to the high side of superelevated sections, it can result in an additional slope break which is unnecessary and undesirable. Our current technology has also made any intended simplification/expediency from rounding to this precision obsolete.

Going forward, all subgrade widths will be rounded and shown on the plans to the nearest 0.1' (0.01m). This change applies to all active projects that are not through an approved Alignment and Grade Review. Exceptions will be allowed regardless of the stage of project completion, and consideration should be given to project delivery, related issues encountered on the project, undue costs associated with plan changes, etc. This change in rounding criteria will result in surfacing inslopes that more closely match the standard value, and the intended roadside geometry on curved roadways.

e-distribution:

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