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J. Marten

Memorandum

To: Distribution -
From: Paul Ferry, P.E. 
Highways Engineer
Date: April 12, 2004
Subject: Widening Projects – Vertical Notch

The information in the second paragraph of Section 5.4.2.1 of the Road Design Manual is being rescinded due to problems that have arisen from the use of this method of calculating quantities on widening projects.

The Road Design Manual currently indicates that for widening projects, the surfacing and excavation quantities are calculated as though the existing surfacing is cut on a vertical notch from the finished surface to the top of the subgrade. It also indicates that the cross sections should show the vertical notch and the typical sections should show the vertical notch and a "construction slope" designated by a dashed line. The use of the vertical notch for the calculation of quantities was implemented because the actual gravel quantities on widening projects consistently overran the plan quantities.

Construction personnel have indicated that there has been some confusion as to what should actually be constructed because the vertical notch is more prominently shown on the typical section and the "construction slope" is not shown on the cross sections. During construction, the actual quantities of excavation and gravel are calculated using the construction slope because items not incorporated into the work are not eligible for federal funds. Thus, the use of the vertical notch can lead to significant errors in quantities, particularly for larger existing surfacing depths. Consequently, the problems associated with the current practice outweigh the benefits.

For widening projects that have not had a final plan review as of May 15, 2004, show the existing surfacing cut from the **bottom** of the plant mix to the top of the subgrade on a slope – typically 3:1, but consult the District construction personnel. The plant mix surfacing is typically cut vertically, and can continue to be shown as such, which will yield more accurate quantities. This should also be shown on the cross sections. Calculate excavation and surfacing quantities based on this information. For projects that are past this date, contact Construction personnel for an acceptable option.

If you would like additional information call me at 444-6244

Pf.

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