



Montana Department of Transportation  
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## Memorandum

To: Distribution

From: Matthew R. Strizich, PE - Materials Engineer

Date: July 6, 2005

Subject: R-Value Testing of Finished Subgrade

Sampling materials in the top two feet of subgrade for soil classification and R-value is required under Subsection 28 of MT 201- 04 Sampling Roadway Materials. Listed below is the guidance provided under the test method for the testing frequency and types of testing required.

### **28 Field Construction Sampling:**

- 28.1** This procedure applies to material used for cut and fill sections within the R/W limits of the project.
- 28.2** Samples for soil classification and "R" value shall be obtained from the top 2 feet (0.6 meters) of the sub-grade. Sample frequency will be one sample every 1000 feet (305 meters) for projects with 3 or more cuts or fills per mile. If the project has fewer than 3 cuts or fills per mile the sample distance is extended to 2000 feet (610 meters).
- 28.3** District/Area lab personnel will determine the soil classification. If the soil class is not equal to or better than that used by the Surfacing Design Unit to determine the typical section, then samples for "R" value determination are to be submitted to the Materials Bureau in Helena.

*NOTE: These samples are as a design check only. Sampling every 1000 feet (305 meters) is a general guide and some discretion should be used. For example, it may be advisable to take more samples in fill sections than cut sections, or if there is an obvious change in the soil conditions or soil class, etc. No samples will be required for typical sections with a design "R" of 5 or less or for soils classified as A-6 or A-7.*

The guidance does not differentiate between Special Borrow used to construct the top two feet of subgrade versus unclassified excavation or borrow. Special Borrow used in the top two feet of subgrade and specified and accepted based on R value testing does not need to be sampled and retested in accordance with subsection 28 of MT 201-04. The original borrow source acceptance is adequate verification of the material quality.

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