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14. Supplementary Notes			
<p>15. Abstract</p> <p>Purpose and Need Erosion control is a never ending problem facing new or regraded projects. Steep slopes on some roadways need extra attention and erosion is difficult to prevent. New or improved products need to be investigated that might address this problem.</p> <p>Objective The objective of this study was to evaluate the effectiveness of a bonded fiber matrix, brand name Soil Guard® from Weyerhaeuser Engineered Fiber Products, in preventing soil erosion from highly erodible slopes.</p> <p>Scope The scope of this study involved comparing the effectiveness of Soil Guard® and double netted straw mat on 2:1 slopes or greater to compare Soil Guard® to our normal erosion control. Project DPC-1-806(018)062 is located on North Dakota 1806 bypass of Fort Lincoln State Park approximately 6 miles south-southwest of Mandan, North Dakota. The project will be observed and evaluated for two years and will include the following items. (1) Observe the installation process (2) Observe the effectiveness of preventing or reducing soil erosion over time. (3) Observe, record, and photograph the rate of return of vegetation to the slopes. (4) Conduct a cost comparison between the Soil Guard and other erosion control methods.</p> <p>Summary The project was completed according to the plans with the exception that the seed was not broadcast but incorporated into the Soil guard®. Sections G, H, and I are double seeded, as it was not know at the time of installation of the soil guard that these sections had previously been seeded by a drill. The Section "I" Soil guard® was placed approximately six feet short of the top of the slope and the coverage of the section seems "light" as shown in Photo 2. Section I is on the right side of the photo. The atmospheric conditions at the time of application were not ideal, given the wind speeds. However, the application of the Soil guard® appeared to adequately cover the soil, except in the aforementioned area "I". As a part of this test section, an evaluation of the soil conditions and nutrients was performed. The test results indicate that NDDOT should consider revising the fertilizer specifications to area specific requirements instead of a standard application rate of fertilizer. Experimental sections were installed by change order at a cost of \$7,352.61. The cost of the Soil Guard® Bonded Fiber Matrix, for this project was \$1.85 per S.Y. whereas the double netted straw blanket was \$3.00 per S. Y. The NDDOT specifications allow the use of this type of application on slopes greater than 3:1 or on areas too small to seed with a drill.</p> <p>Recommendation Given the performance of the materials, despite the climatic conditions, and Soil Guard® costing \$1.85/SY compared to the double-netted straw mat cost of \$3.00/SY, it is recommended that Soil Guard® be used on steep slopes to control erosion, and that each project site have the soils tested for fertilizer needs specific to its location.</p>			
16. Key Words Slopes Sprays Erosion Control	17. Distribution Statement No restrictions. This document is available to the public from: North Dakota Department of Transportation Materials and Research Division: 300 Airport Road Bismarck ND 58504-6005 Office: (701) 328-6900 Fax: (701) 328-0310		18. No. of Pages 38 19. File type/Size PDF/2.9

