Appendix C

Soil Erodibility

Soil Erodibility Chart

CLASSIFICATION		ERODIBILITY[1,2]				
GEOLOGIC DESCRIPTION	*USCS CLASSIFICATION[3]*	*GENERAL*	*SLOPE ANGLE < 45 degrees*	*SLOPE ANGLE > 45 degrees*	*SLOPE LENGTH < 30 feet*	*SLOPE LENGTH > 30 feet*
ALLUVIAL						
High Energy	GW, GP, GM	Low	Low-Med	Med	Low-Med	Med
Low Energy		Med-High	Med-High	High	Med-High	High
COLLUVIAL[4] (Slope wash)	Various	Low - High	Low - High	Low - High	Low - High	Low - High
EOLIAN (wind deposited)						
Dune Sand	SP	High	High	Very High	High	Very High
Loess	ML, SM	High-Very High	High-Very High	Very High	High-Very High	Very High
GLACIAL[5]						
Till	GM, SM, ML	Low-Med	Low-Med	Low-Med	Low-Med	Med
Outwash	GW, GP, GM, SW, SP, SM	Low-Med	Low-Med	Med	Low-Med	Med
Glaciolacustrine	ML, SM, SP	Med-High	Med	High	Med	High
LACUSTRIN (Lake deposits)	ML, SM, MH, OL, CL, CH, OH, PT	High	High	High-Very High	High	High-Very High
MARINE						
High Energy	GW, GP, SW, SP	Med	Med	Med-High	Med	Med-High
Low Energy	SM, ML, MH, CL, CH, OL, OH	High	High	High-Very High	High	High-Very High
RESIDUAL - SEDENTARY[6]	Various	Low - High	Low - High	Low - High	Low - High	Low - High

Notes

1 Erodibility is the relative, qualitative erosion potential of a particular soil type as related to the indicated slope geometry. "Low" erodibility means little or no significant erosion is likely to occur during construction and the life of the project. "Medium" erodibility means that significant erosion is likely to occur during construction and the life of the project. "High" erodibility means significant erosion will occur during construction and during the life of the project, even with intensive soil conservation methods. Water conditions are assumed to be "worst case," with significant sheet flow and underground water daylighting on the slope. Climate, rainfall, and vegetative cover factors also dictate erodibility but are not addressed here.

2 Select appropriate BMP after reference to guidelines in this chapter, Geotechnical Recommendations and Reports, DOT&PF "Standard Specifications for Highway Construction," DOT&PF Regional Best Management Practices, AASHTO "Guidelines for Erosion and Sediment Control in Highway Construction, Volume III," and other references.

3 Unified Soil Classification System - ASTM D-2487

4 Mass of loose soil and/or rock fragments that has moved downslope - classification and erosion characteristics vary, depending on parent material, which can include any soil component from clay to boulders and organics.

5 Till soils are directly deposited by glaciers and may contain any combination of inorganic soil components from clay to boulders.

6 Weathered in place soil derived from parent rock material; characteristics vary depending on soil type.