

## **SOIL COMPACTION PREVENTION, CORRECTION AND MITIGATION**

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### **Abstract**

The best management practice for soil compaction is prevention. It is difficult and expensive to undo using biological, chemical and mechanical equipment with high variability of success. The reality of construction and human activities treats soils as an unknown through ignorance or as a nuisance to overcome rather than a resource for protection. However, soil and water health can be improved using common management practices if incorporated early in the design and post construction through written O&M plans. This presentation will discuss methods used to verify mechanical decompaction practices, avoidance and minimization best management practices through contract language, standard specifications, design elements, and plan layout. Specific BMPs will enable a contractor, or maintenance operator to select appropriate soil 'bridging' technologies and reseeding techniques that have the potential to prevent or minimize soil compaction in the performance of job duties.

### **Biography**

Dwayne is a certified professional in erosion and sediment control. He is employed in the Erosion Control Engineering Unit at the Minnesota Department of Transportation specializing in erosion prevention and vegetation establishment, research, standard and special specifications, standard and specialty operations SWPPP design, SWPPP implementation, inspection monitoring, and wetland maintenance and operations. He has been involved the erosion prevention practice for 18 years, and more recently emphasizing total pollution prevention and guidance for storm water quality, ground water preservation, and impaired waters protection as it relates to large area bridge construction activities. He has a masters degree in plant biology from the University of Minnesota, on the role of mycorrhizae in wetlands and further research work in taconite mine tailing revegetation and nursery stock production in reduced disease vector soils. He is an active member of the Minnesota Erosion Control Association, Resource and Professionals Alliance, International Erosion Control Association and the Society of Rangeland Management.