

Soil Wetness Data Interpretation Methods for On-Site Wastewater Sewage Treatment Systems in North Carolina

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The North Carolina Administrative Code 15A NCAC 18A .1900 prohibits the permitting of on-site wastewater systems on sites determined to be unsuitable based on soil morphological characteristics indicating the soil wetness limitation occurs less than 12-inches below the natural soil surface (18-inches for sites containing existing fill material- material deposited prior to July 1, 1977). Soil colors of chroma 2 or less (Munsell Color Chart) is the standard used to determine a soil wetness limitation, unless the feature is considered relict. Specifically, rule .1942 allows substantiating data and analysis to be submitted for review justifying the soil wetness limitation occurs deeper in the soil profile than indicated by the soil morphological characteristics. A procedure commonly used to justify this siting requirement is measuring the seasonal high water table (static water level in monitoring wells) and precipitation events daily during the wet season (winter period, December 1st through April 30th) and modeling the data using a computer-based simulation model (Monitoring and Modeling Procedure). The procedure involves the use of DRAINMOD software to determine the soil wetness condition and site suitability for an on-site wastewater system.