

Part 533 – Geotechnical Engineering

Subpart B – Engineering Classification of Soils

533.10 Scope

The soil classification systems identified in this policy will be used in NRCS engineering activities, including the engineering sections of soil survey reports.

533.11 Soil Classification Systems

A. The Unified Soil Classification System (USCS) is to be used in classification of soils for NRCS engineering activities. The USCS is the standard accepted by the American Society for Testing and Materials (ASTM) International D2487: Classification of Soils for Engineering Purposes, and ASTM D2488: Description and Identification of Soils (Visual-Manual Procedure). Soil classification for engineering purposes are best interpreted by the USCS.

B. The USDA National System of Soil Classification (Soil Taxonomy) is the pedological classification used in the National Cooperative Soil Survey. Additional information can be obtained from Title 430, National Soil Survey Handbook.

C. Soil classes determined by the USCS and the USDA textural classes in the pedological system provide information on the nature and size of soil particles. If the full combination of characteristics denoted by pedological soil names are used, additional information such as natural drainage condition can be deduced. Soil surveys show the location and extent of different soils; however, site-specific identification or classification determined by soil testing is needed for designing engineering structures.

D. The engineering sections of soil survey reports include both the USDA and the USCS soil classification systems. Data contained in soil survey reports can be used and should be supplemented as necessary to classify soils at specific sites. For some small farm-type structures, soil survey information properly interpreted may provide much of the soil information needed for planning and installation.

E. All engineers and geologists must be trained to use both the USCS and the USDA textural systems with competence. Construction inspectors, engineering and physical science technicians, and conservation technicians must also be trained in these soil classification systems to assist in the planning, design, and installation of conservation practices.