



Soil and Plant Science Division

Technical Soil Services

Special Projects Region

Loring Weather Tower Project

Special Projects Region, Limestone, Maine

Purpose

The Department of Defense (DOD) contacted Special Projects Region staff on August 4, 2025, and requested soil property information to aid in a preliminary design of a weather station. The area of interest (AOI) is near the Loring Defense Finance and Accounting Service (DFAS) Building in Limestone, Maine.

Background

The DOD requested the soil property information to help determine where to install a shallow foundation for the weather station's 100-foot tower. Civil engineers use information on soil texture, soil composition, and allowable bearing capacity to draw up their engineering plans for home and commercial development, such as installing a tower.

Key Outcomes

A Special Projects Region soil scientist generated a Web Soil Survey report to share engineering soil interpretations as well as depth to bedrock data and a bulk density report. The soil scientist also provided the DOD with details about the potential benefits of conducting a soil survey update for portions of the AOI currently mapped as Madeland, or Md (fig. 1).

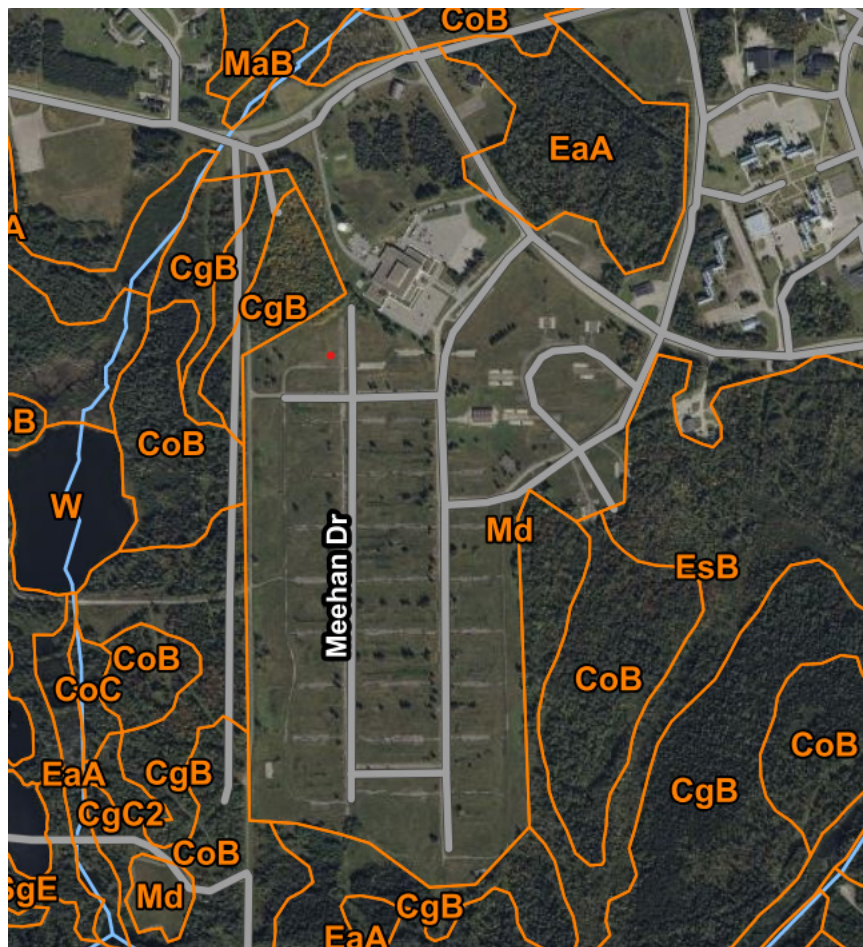


Figure 1.—Map of DFAS building and the proposed weather tower location to the south, within the Md map unit.

Through soil survey updates in urban areas, soil scientists provide civil engineers, conservationists, NRCS partners, and urban farmers with information that better represents current soil conditions. To update a soil survey, soil scientists execute an inventory project and revisit miscellaneous map units and urban soils, like those in this AOI. They use lidar to identify landforms and revised sampling methods and procedures to collect data. Soil scientists use the data to update soil taxonomy classifications. When soil scientists make these updates, the map unit designation often changes from miscellaneous to a specific soil series containing dominant components within the map unit. The information provided by these urban soil inventory projects is extremely valuable because it documents both the native soils and soils formed in human-transported materials. The updated soil property data ensures an interpretation that is representative of the current site and evolving needs of our customers and partners, such as civil engineers, conservationists, NRCS partners, and urban farmers.