Section 11 – Significant Natural Features

11.1 Coordination with Regulatory

This project is not proposing to impact any wetlands or other significant natural features. Included as an attachment to this section is a correspondence with the MDEP regarding the required permitting for this project.

11.2 Natural Features Study

A Natural Features Study is included as an attachment to this section, and the delineation is provided on the Plans. No impacts to wetlands are proposed as part of the project improvements.

11.3 Soils

Information regarding existing soils is included as an attachment to this section and is further reported in Section 12: Stormwater Treatment.

Kathleen O. Sculley

From: Cherry, David <David.Cherry@maine.gov>
Sent: Tuesday, September 26, 2017 9:14 AM
To: Michael A. Guethle
Cc: Sirois, Alison
Subject: The Cedars Long-Term Care Facility - Portland

Follow Up Flag: Follow up
Flag Status: Completed

Hi Michael,

I've looked over the pre-application materials you provided for The Cedars and have determined that the Department does not have jurisdiction over the project. In cities with delegated authority, the threshold for the Department taking over the project is 7 acres of structure area, which this project still under, approximately 5 acres currently. Any wetland alterations will need a permit from the Department under the Natural Resources Protection Act.

Please let me know if you have any questions.

Thanks,

David Cherry
Environmental Specialist
Maine Department of Environmental Protection
Bureau of Land Resources
312 Canco Road
Portland, ME 04103
david.cherry@maine.gov
207-523-9807

POWER ENGINEERS, INC.
303 U.S. ROUTE ONE
FREEPORT, ME 04032 USA

PHONE 207-869-1200
FAX 207-869-1299

September 26, 2016

DRAFT

Jan Wiegman
Wright-Pierce
99 Maine Street
Topsham, ME 04086

Subject: Wetland Delineation – The Cedars, Ocean Avenue, Portland

Dear Jan:

In response to your request, on August 25, 2016 wetland boundaries were delineated at The Cedars Senior Living Community (the "Site") located at 630 Ocean Avenue, Portland. The position of the wetland boundary was subsequently surveyed by Titcomb Associates and is depicted on plans of the Site.

Wetland Delineation

The boundary of the wetland at the Site was delineated with sequentially numbered, pink flagging so that the location and extent of wetland can be taken into consideration for future site design and permitting plans. Evidence indicative of wetland from three parameters – vegetation, soils and hydrology – was used to identify and delineate the wetland in accordance with the 1987 *US Army Corps of Engineers Wetland Delineation Manual* and the subsequent *Regional Supplement to the US Army Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (January 2012). With the exception of unusual or atypical situations, evidence of wetland must be exhibited by all three parameters for an area or position to be designated as wetland.

The freshwater wetland community on the Site is dominated by trees and shrubs that include: red maple (*Acer rubrum*), American elm (*Ulmus americana*), speckled alder (*Alnus incana*), highbush blueberry (*Vaccinium corymbosum*), meadowsweet (*Spiraea latifolia*), jewelweed (*Impatiens capensis*), wool grass (*Scripus cyperinus*), cattail (*Typha* spp.), sensitive fern (*Onoclea sensibilis*), and purple loosestrife (*Lythrum salicaria*). All of these plants are identified as "Obligate" (**OBL**), "Facultative Wetland" (**FACW**) or "Facultative" (**FAC**) indicators of wetland by the 2016, *State of Maine National Wetland Plant List* prepared by the US Army Corps of Engineers and are therefore hydrophytes. By the National Wetland Inventory System, the wetland would be classified as palustrine deciduous scrub shrub (PSS1) wetland (Photographs 1 and 2).

The US Natural Resources Conservation Service (NRCS) identifies soils beneath wetland areas at the Site as being represented by the Scantic Series (Sn). These very deep, nearly level, poorly drained silt loams are classified as a hydric soil. Soils were also examined directly with a hand auger. Below an upper 8 inch thick dark gray (5Y4/1) silt loam horizon, a saturated olive gray (5Y5/2) silt loam was present containing 5-10% dark yellowish brown (2.5Y4/4) redox concentrations. Characteristics observed in the sample are representative of hydric soil indicator criteria F3: Depleted Matrix.

Hydrology is considered to be the "*driving force*" of wetlands (Mitch and Gosselink, 1986) and inherently is responsible for the adaptation of certain vegetation (hydrophytes) and the development of specific soil characteristics (hydric) indicative of wetlands. At the time of the survey, evidence of wetland hydrology observed at the Site included: soils saturated within 12-inches of the surface, small localized areas of surface water, sediment deposits, water-stained leaves and drainage patterns indicative of wetlands.

Regulatory Jurisdiction

Activities in and adjacent to wetlands at the Site are regulated by the Maine Department of Environmental Protection (MDEP) under the provisions of the Natural Resources Protection Act (NRPA) and associated Wetland and Waterbodies Protection Rules (Chapter 310). Certain characteristics are relevant to whether a wetland regulated as a "freshwater wetland of special significance" (Ch 310 §4A 1-8)

The wetland at the Site:

- does not contain a "critically imperiled (S1)" (Ch 310 §3F) or "imperiled (S2)" (Ch 310 §3L) community as defined by the Natural Areas Program;
- would not be identified as "significant wildlife habitat" (38 MRSA §480-B(10)) by the Maine Department of Inland Fisheries and Wildlife;
- is not located within 250 feet of a "coastal wetland" (38 MRSA §480-B(2));
- is not located within 250 feet of a "great pond" (38 MRSA §465-A);
- does not contain more than 20,000 square feet of open water or aquatic or emergent marsh vegetation;
- does not occur in a 100-year floodplain mapped by the Federal Emergency Management Agency (FEMA);
- is not a "peatland" (Ch 310 §3P) and
- does not contain or occur within 25 feet of a "river stream or brook" (Ch 310 §4A (8))".

Therefore, there are no freshwater wetlands of special significance at the Site.

Typically, activities requiring alteration of wetland covering less than 15,000 square feet are eligible for Tier 1 permitting and in excess of this and up to an acre (43,560 square feet) a Tier 2 permit would be necessary under the NRPA. Excluding specific activities authorized by Permit by Rule (PBR - Chapter 305) provisions of the NRPA, activities in excess of one acre would require a Tier 3 permit. However, cumulative wetland impacts are taken into consideration relative to the required Tier of permitting and due to previous wetland impacts at the Site (authorized by MDEP permit L-22483TG-B-M) future wetland impacts would most likely require a Tier 3 permit.

Wetlands at the Site are also regulated by the Corps as "*waters of the United States*" under the provisions of Section 404 of the Clean Water Act. To authorize minimal-impact activities in wetlands, including placement of fill, the Corps makes use of a General Permit (GP) for the State of Maine. Such impacts to wetlands are broken down into two permit categories under the GP based on the following area thresholds: Category 1 – less than 15,000 square feet and Category 2 – 15,000 square feet to three acres. Activities eligible for Category 1 activities can be authorized without an application but a Notification Form submitted must be submitted to the Corps. Category 2 activities however are reviewed as applicable in conjunction with the US Fish and Wildlife Service, the US Environmental Protection Agency and the National Marine Fisheries Services, and require an application and written approval from the Corps. Previous wetland impacts at the Site approved by Corps permit NAE-2005-2407 would also be taken into account for determining eligibility and requirements for Category 2 permitting.

Wetland Functional Assessment

Approval of wetland impacts exceeding 15,000 sq ft typically require that a wetland functional assessment be conducted. Although the future development footprint and potential impacts to wetlands are not yet finalized, a functional assessment was submitted with the July 2005 permit applications approved by the MDEP and the Corps. The functional assessment method used at that time remains unchanged and little change in conditions are evident in and adjacent to wetlands at the Site that would influence the associated functions and values. Evaluation of the future footprint and design impacts is recommended when development plans are finalized: however it appears the earlier functional assessment would continue to be valid and relevant.

Do not hesitate to contact me at your earliest convenience at cole.peters@powereng.com or 207.869.1432 with questions or comments regarding the information presented above.

Sincerely,

DRAFT

Cole Peters
Professional Wetland Scientist

Photograph 1 Westward overview of the PSS1 wetland located on the south side of the parking area adjacent to the Rehabilitation and Skilled Care entrance to The Cedars (at right).

Photograph 2 Southeastward view along the west side of the Rehabilitation and Skilled Care building where a small portion of the PSS1 wetland is dominated by red maple trees.

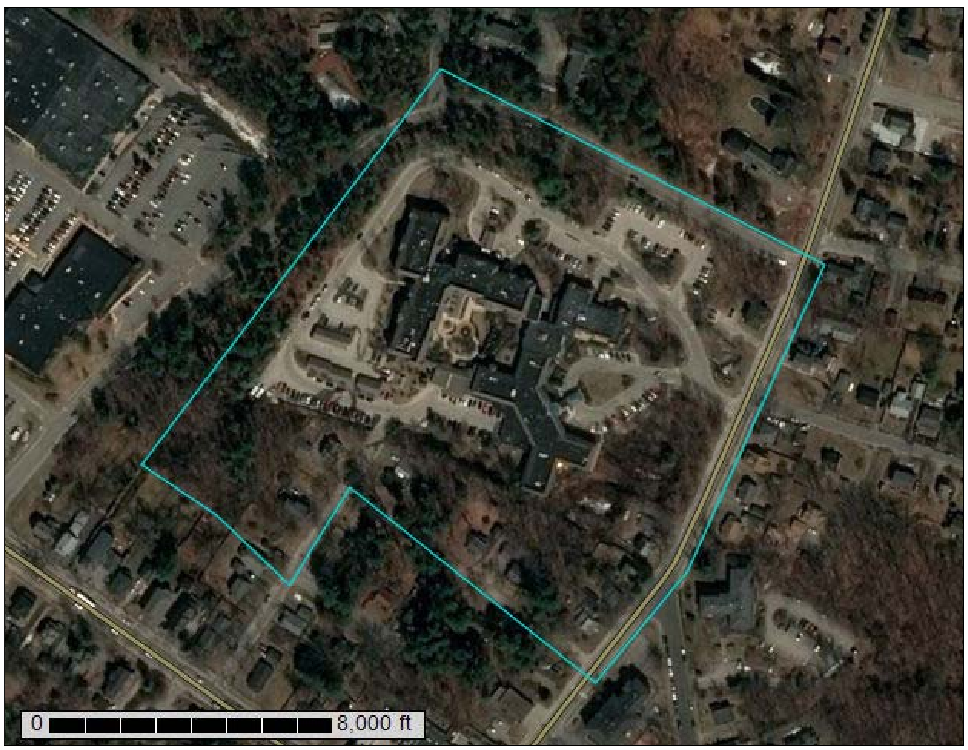
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Cumberland County and Part of Oxford County, Maine



October 11, 2017

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

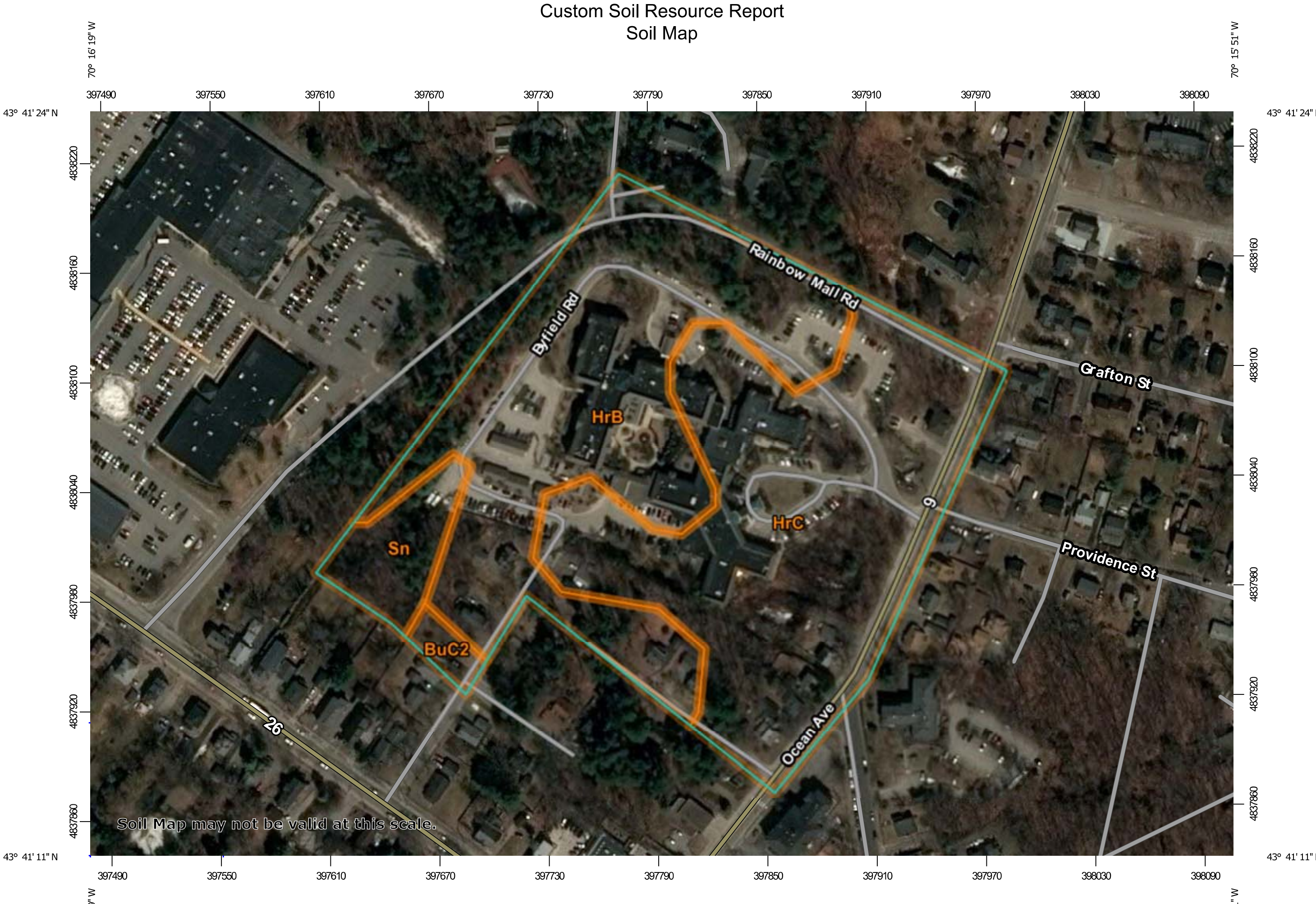
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Soil Map



Map Scale: 1:2,870 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0, 40, 80, 160, 240

Feet: 0, 100, 200, 400, 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 12, Sep 15, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BuC2	Buxton silt loam, 8 to 15 percent slopes	0.2	1.4%
HrB	Hollis fine sandy loam, 3 to 8 percent slopes	7.6	44.5%
HrC	Hollis fine sandy loam, 8 to 15 percent slopes	8.3	48.6%
Sn	Scantic silt loam, 0 to 3 percent slopes	0.9	5.5%
Totals for Area of Interest		**17.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Cumberland County and Part of Oxford County, Maine

BuC2—Buxton silt loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2x1by
Elevation: 10 to 490 feet
Mean annual precipitation: 33 to 60 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Buxton and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Buxton

Setting

Landform: Marine terraces, river valleys
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Fine glaciomarine deposits

Typical profile

Ap - 0 to 7 inches: silt loam
Bw1 - 7 to 18 inches: silt loam
Bw2 - 18 to 23 inches: silty clay loam
BC - 23 to 35 inches: silty clay loam
C - 35 to 65 inches: silty clay

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 17 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C/D
Hydric soil rating: No

HrB—Hollis fine sandy loam, 3 to 8 percent slopes

Map Unit Composition

Hollis and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hollis

Setting

Landform: Hills
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Coarse-loamy supraglacial meltout till derived from mica schist

Typical profile

H1 - 0 to 6 inches: fine sandy loam
H2 - 6 to 18 inches: fine sandy loam
R - 18 to 22 inches: bedrock

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Natural drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Hydric soil rating: No

HrC—Hollis fine sandy loam, 8 to 15 percent slopes

Map Unit Composition

Hollis and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hollis

Setting

Landform: Hills
Landform position (two-dimensional): Backslope, shoulder

Landform position (three-dimensional): Nose slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Coarse-loamy supraglacial meltout till derived from mica schist

Typical profile
H1 - 0 to 6 inches: fine sandy loam
H2 - 6 to 18 inches: fine sandy loam
R - 18 to 22 inches: bedrock

Properties and qualities
Slope: 8 to 15 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Natural drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.2 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Hydric soil rating: No

Sn—Scantic silt loam, 0 to 3 percent slopes

Map Unit Setting
National map unit symbol: 2slv3
Elevation: 10 to 900 feet
Mean annual precipitation: 33 to 60 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition
Scantic and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scantic

Setting
Landform: Marine terraces, river valleys
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Glaciomarine deposits

Typical profile
Ap - 0 to 9 inches: silt loam
Bg1 - 9 to 16 inches: silty clay loam
Bg2 - 16 to 29 inches: silty clay

Cg - 29 to 65 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: D
Hydric soil rating: Yes

References

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