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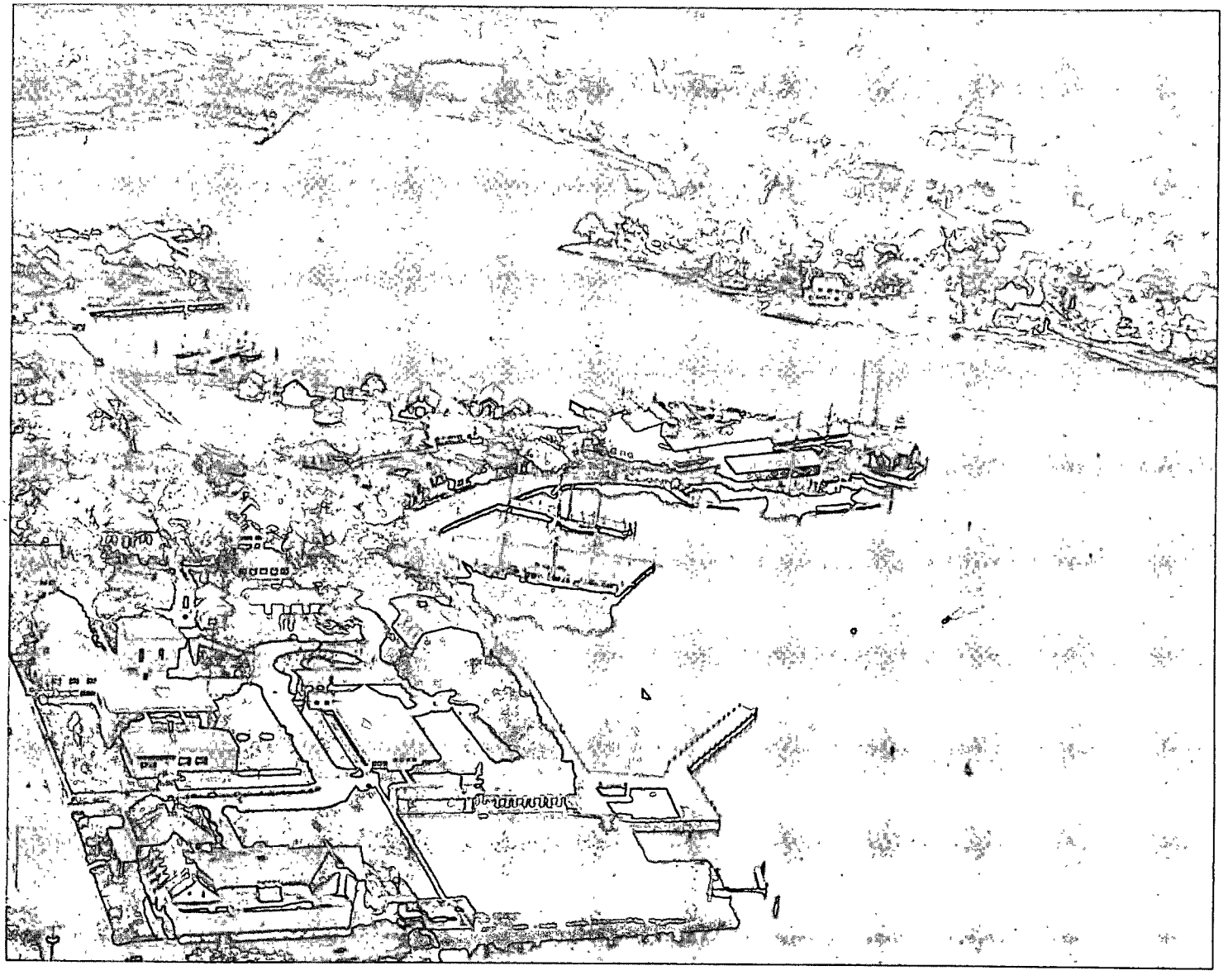
United States
Department of
Agriculture

Soil
Conservation
Service

In Cooperation with
Connecticut
Agricultural Experiment
Station and
Storrs Agricultural
Experiment Station

Soil Survey of New London County Connecticut



HOW TO USE

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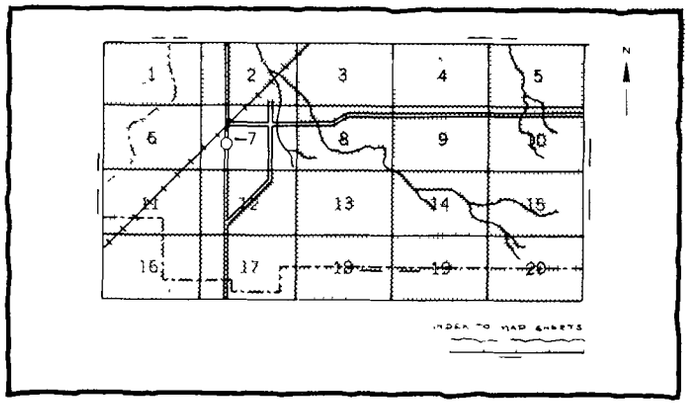

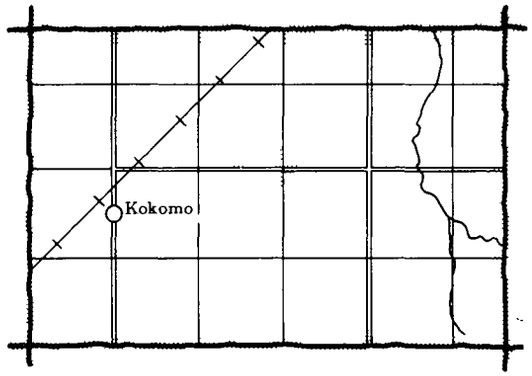

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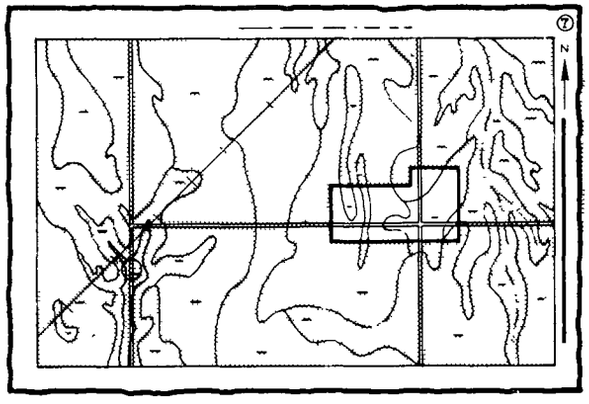

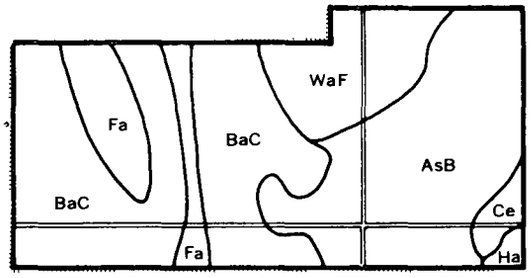

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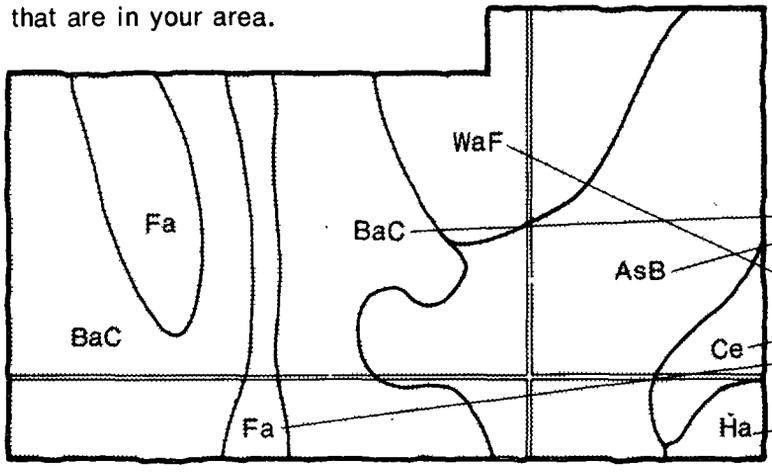

Symbols

AsB
BaC
Ce
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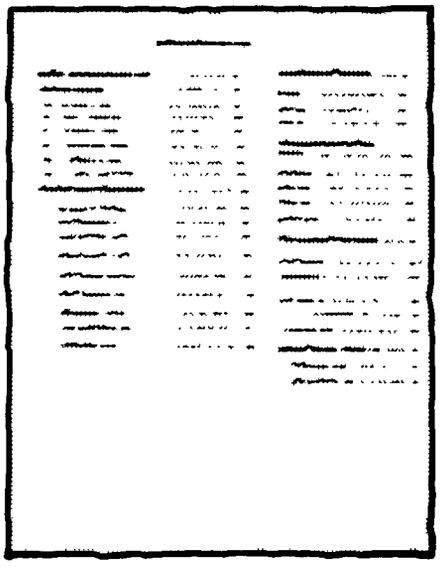
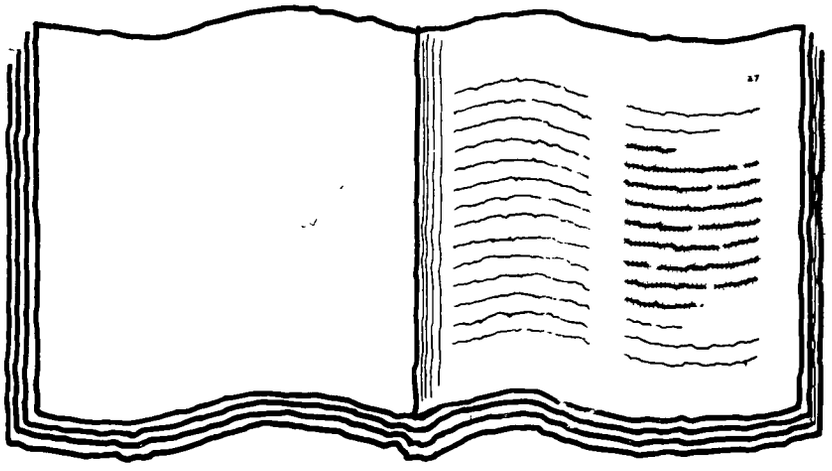
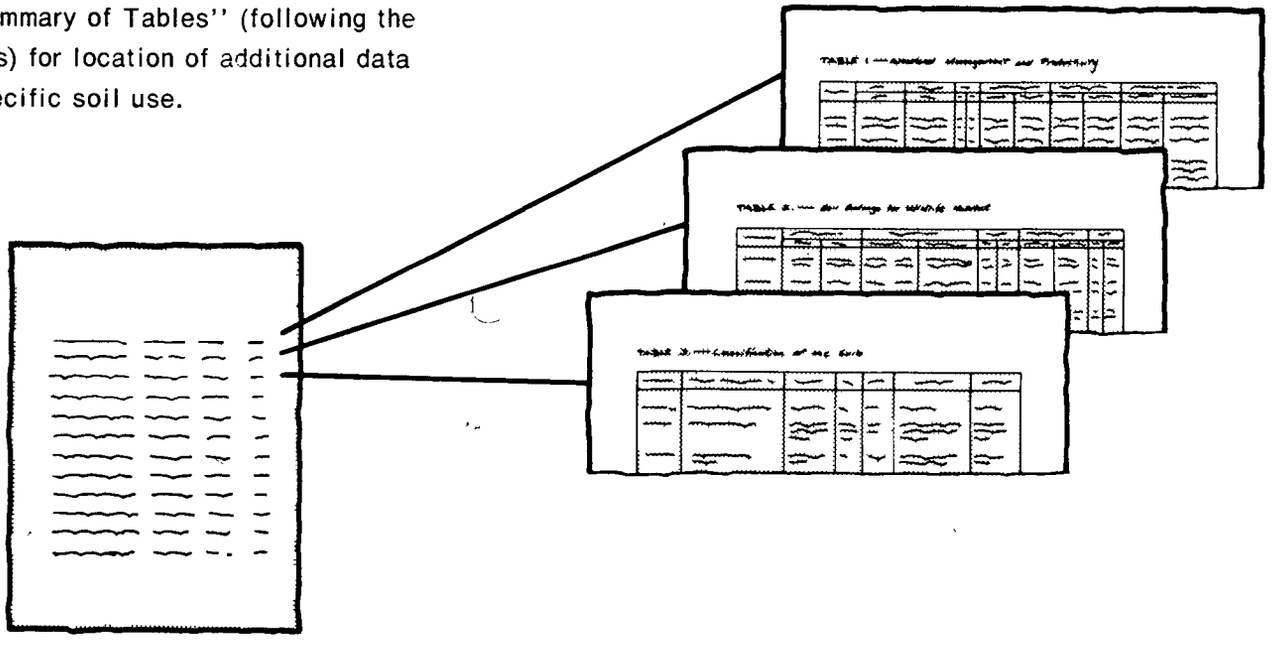
THIS SOIL SURVEY

5. Turn to "Index to Soil Map Units" which lists the name of each map unit and the page where that map unit is described.





6. See "Summary of Tables" (following the Contents) for location of additional data on a specific soil use.



7. Consult "Contents" for parts of the publication that will meet your specific needs. This survey contains useful information for farmers or ranchers, foresters or agronomists; for planners, community decision makers, engineers, developers, builders, or homebuyers; for conservationists, recreationists, teachers, or students; to specialists in wildlife management, waste disposal, or pollution control.

This soil survey is a publication 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 agencies. The Soil Conservation Service has leadership for the federal part of the National Cooperative Soil Survey. In line with Department of Agriculture policies, benefits of this program are available to all, regardless of race, color, national origin, sex, religion, marital status, or age.

Major fieldwork for this soil survey was performed in the period 1973-1979. Soil names and descriptions were approved in 1980. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1979. This survey was made cooperatively by the Soil Conservation Service, the Connecticut Agricultural Experiment Station, and the Storrs Agricultural Experiment Station. It is part of the technical assistance furnished to the New London County Soil and Water Conservation District. Part of the funding for this survey was provided by the Connecticut Department of Environmental Protection.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

Cover: Mystic Seaport Museum on the Mystic River. Haven and Hinckley soils are in the foreground, and Charlton, Canton, and Hollis soils are in the background. (Courtesy of Claire White Peterson, Mystic Seaport).

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foreword

This soil survey contains information that can be used in land-planning programs in New London County, Connecticut. It contains predictions of soil behavior for selected land uses. The survey also highlights limitations and hazards inherent in the soil, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

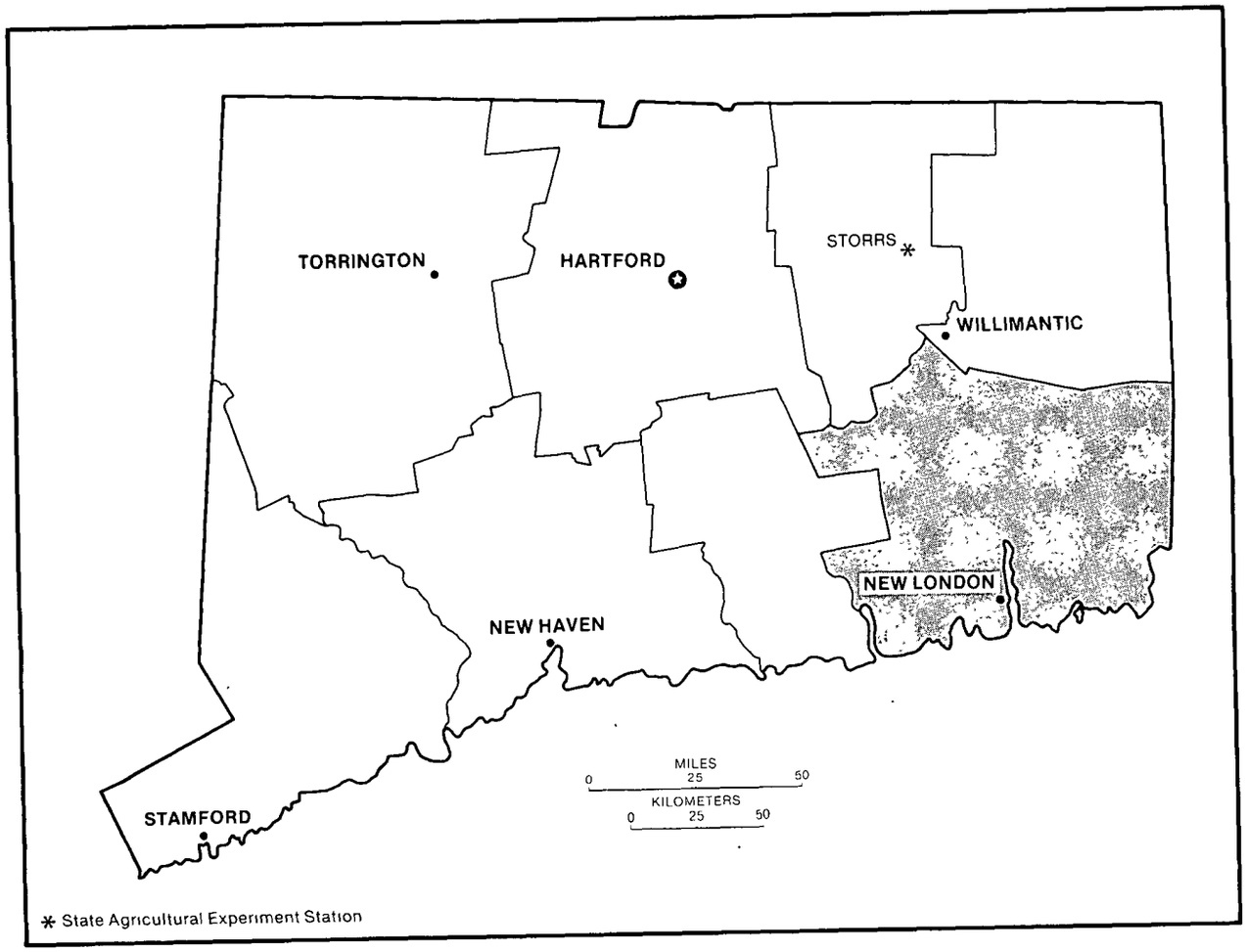
This soil survey is designed for many different users. Farmers, ranchers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to insure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. 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.

These and many other soil properties that affect land use are described in this soil survey. Broad areas of soils are shown on the general soil map. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Soil Conservation Service or the Cooperative Extension Service.

Philip Christensen

Philip Christensen
State Conservationist
Soil Conservation Service



Location of New London County in Connecticut.

soil survey of
New London County, Connecticut

by Marc H. Crouch, Soil Conservation Service

fieldwork by Marc H. Crouch, Robin A. Cochran, John A. Gagnon, Dennis E. Hutchinson, and Thomas A. Peragallo, Soil Conservation Service

United States Department of Agriculture, Soil Conservation Service
in cooperation with the Connecticut Agricultural Experiment Station
and the Storrs Agricultural Experiment Station

NEW LONDON COUNTY is in the southeastern part of Connecticut. It is bordered on the west by Middlesex and Tolland Counties; on the north by Hartford, Tolland, and Windham Counties; on the east by the State of Rhode Island; and on the south by Long Island Sound and Fishers Island Sound. The county is made up of 21 towns and has a land area of 430,080 acres, or 672 square miles. It is entirely within the New England Upland section of the New England physiographic province (*4*).

The major rivers flowing through New London County are the Connecticut, Pawcatuck, Thames, Quinebaug, Shetucket, Yantic, Mystic, Poquonock, and Niantic. The waters of these rivers drain south into Long Island Sound or Fishers Island Sound.

In 1970, the population of the county was 230,654. Norwich, which had a population of 41,739 in 1970, is the largest city. More than 80 percent of the population of the county is in towns along the Thames River, Long Island Sound, and Fishers Island Sound.

Commerce, industry, tourism, and farming are the main enterprises. Producing dairy products and raising poultry are the main farming enterprises. Of lesser importance in the county are forest products, nursery stock, and vineyards.

An older soil survey of New London County was published in 1912 (*6*). The present survey updates the earlier survey and provides additional information and larger maps that show the soils in greater detail.

general nature of the county

In this section, the settlement and growth of New London County are briefly discussed, and information is given about settlement and growth; industry, transportation, and markets; tourism and recreation; agriculture and forestry; and climate.

settlement and growth

New London County was formed in 1666, one of the first four counties in the state. Settlement of the county began in 1646 with the establishment of Pequot, which was renamed New London in 1658. Colonists eventually traveled up the Thames River and along the coast, settling in the Norwich and Stonington areas. As colonists moved up the major rivers from Long Island Sound and down from the Massachusetts colonies and from the Wethersfield and Windsor areas of the Connecticut colony, villages were established in the centers of farming communities in the northern part of the county.

The early growth of the county consisted mainly of expanding the acreage used for farming. General farming was dominant in the county in the early years, but farming has now changed to dairying and the production of poultry products. In recent years, there has been an increase in the acreage of vineyards for the local production of wines.

Some of the earliest industries were grinding mills; the weaving of cotton and woolen goods; and the

manufacturing of chocolate, paper, clocks and watches, iron, and ironware. These earliest industries were in the Norwich and New London areas. A fishing industry was established from ports in Stonington and New London. New London was especially known for its whaling fleet.

industry, transportation, and markets

Commerce and industry are the main enterprises in the county. They are located mainly in the Thames River area from Norwich to the New London-Groton area on Long Island Sound. Major industries include shipbuilding and repair and the manufacture of chemicals, plastics, vacuum bottles, cartons, clothing, and wire goods. The major shipbuilding activity is the construction of submarines in the town of Groton.

Some towns have little industry but are heavily populated residential communities. A United States Navy submarine base is in the town of Groton. The United States Coast Guard Academy is in the town of New London.

New London County has a good network of roads. Interstate Highway 95 and State Routes 2, 11, and 52 are multilane, limited access highways extending through the county. There are several U.S. highways and other State highways throughout the county. The county is served by one major railroad extending east-west in the southern part of the county. Two smaller north-south railroad lines extend through the central part of the county and provide freight service. The county is served by bus lines. Groton-New London Airport is the only commercial airport in the county. The Connecticut River and Thames River serve oceangoing vessels throughout the year.

The county has easy access to markets in Hartford and New Haven, Connecticut; New York City, about 120 miles to the southwest; Providence, Rhode Island, about 50 miles to the northeast; and Boston, Massacchusetts, about 90 miles to the northeast.

tourism and recreation

The major tourist attractions are in the southern part of the county in the towns of New London, Groton, and Stonington. They consist of marine life exhibits, seaports, fishing villages, sailing ships, and submarines. The coastal areas of Old Lyme and East Lyme are heavily developed with seasonal housing near the shore. The population in this area increases greatly in the summer months.

The county has several large water bodies with public access, state parks, and state forests that provide opportunities for boating, swimming, fishing, hiking, camping, picnicking, horseback riding, and hunting. These areas are heavily used by people from the urban areas of Hartford and New Haven as well as by the population of New London County.

agriculture and forestry

Although farming has been decreasing, it is still important, especially in the northern part of the county. Dairying and poultry products are the major enterprises. Corn and forage crops are grown extensively to provide feed for dairy cattle. A few small orchards produce apples, peaches, and pears. Other crops in the county include nursery stock and grapes.

There are large tracts of woodland throughout the county. Many are owned by municipal water companies and used as watersheds to collect and provide water to municipalities. Other large tracts of woodland are owned by the state and managed for tree production and recreation. The woodlands supply lumber and other wood products and have been extensively used in recent years for the production and harvesting of firewood. Scattered throughout the county are small Christmas tree farms. Many wooded tracts are highly regarded as homesites for the expanding population of southeastern Connecticut.

climate

Prepared by the National Climatic Center, Asheville, North Carolina.

In New London County, winters are cold and summers are warm. Both the start and the end of the warm period are somewhat delayed because of the moderating influence of the Atlantic Ocean. In winter, the ground is frequently, but not continuously, covered with snow. Total annual precipitation is nearly always adequate for crops that are adapted to local temperatures.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Groton, Connecticut in the period 1958 to 1974. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season.

In winter the average temperature is 29 degrees F, and the average daily minimum temperature is 20 degrees. The lowest temperature on record, which occurred at Groton on January 22, 1961, is -14 degrees. In summer the average temperature is 69 degrees, and the average daily maximum temperature is 78 degrees. The highest recorded temperature, which occurred at Groton on July 3, 1966, is 97 degrees.

Growing degree days are shown in table 1. They are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (40 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The total annual precipitation is 48 inches. Of this, 22 inches, or 46 percent, usually falls in April through September, which includes the growing season for most

crops. In 2 years out of 10, the rainfall in April through September is less than 17 inches. The heaviest 1-day rainfall during the period of record was 7.43 inches at Groton on September 21, 1961. Thunderstorms occur on about 22 days each year, and most occur in summer.

Average seasonal snowfall is 26 inches. The greatest snow depth at any one time during the period of record was 19 inches. On an average of 19 days, at least 1 inch of snow is on the ground. The number of such days varies greatly from year to year.

The average relative humidity in midafternoon is about 60 percent. Humidity is higher at night, and the average at dawn is about 75 percent. The prevailing wind is from the southwest. Average windspeed is highest, 14 miles per hour, in February.

how this survey was made

Soil scientists made this survey to learn what soils are in the survey area, where they are, and how they can be used. They observed the steepness, length, and shape of slopes; the size of streams and the general pattern of drainage; the kinds of native plants or crops; and the kinds of rock. They dug many holes to study soil profiles. A profile is the sequence of natural layers, or horizons, in a soil. It extends from the surface down into the parent material, which has been changed very little by leaching or by plant roots.

The soil scientists recorded the characteristics of the profiles they studied and compared those profiles with others in nearby counties and in more distant places. They classified and named the soils according to nationwide uniform procedures. They drew the boundaries of the soils on aerial photographs. These photographs show trees, buildings, fields, roads, and other details that help in drawing boundaries accurately. The soil maps at the back of this publication were prepared from aerial photographs.

The areas shown on a soil map are called map units. Most map units are made up of one kind of soil. Some are made up of two or more kinds. The map units in this survey area are described under "General soil map units" and "Detailed soil map units."

While a soil survey is in progress, samples of some soils are taken for laboratory measurements and for engineering tests. All soils are field tested to determine their characteristics. Interpretations of those characteristics may be modified during the survey. Data are assembled from other sources, such as test results, records, field experience, and state and local specialists. For example, data on crop yields under defined management are assembled from farm records and from field or plot experiments on the same kinds of soil.

But only part of a soil survey is done when the soils have been named, described, interpreted, and delineated on aerial photographs and when the laboratory data and other data have been assembled. The mass of detailed information then needs to be organized so that it can be used by farmers, rangeland and woodland managers, engineers, planners, developers and builders, home buyers, and others.

general soil map units

The general soil map at the back of this publication shows broad areas that have a distinctive pattern of soils, relief, and drainage. Each map unit on the general soil map is a unique natural landscape. Typically, a map unit consists of one or more major soils and some minor soils. It is named for the major soils. The soils making up one unit can occur in other units but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils can be identified on the map. Likewise, areas where the soils are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure. The soils in any one map unit differ from place to place in slope, depth, stoniness, drainage, and other characteristics that affect management.

The six general soil map units in New London County are described in the following pages.

1. Charlton-Canton-Hollis

Gently sloping to steep, well drained and somewhat excessively drained, loamy soils; on glacial till uplands

The soils in this map unit (fig. 1) make up about 45 percent of the county. The landscape is undulating upland glacial till hills, ridges, and plains. Stones and boulders are common on the surface in most places, and many areas have outcrops of bedrock.

Charlton soils make up about 30 percent of this map unit. They are deep, well drained soils. Charlton soils are mostly gently sloping to sloping and are on hilltops, side slopes of ridges and till plains, and small areas between ridges and knolls.

Canton soils make up about 20 percent of this map unit. They are deep, well drained soils. Canton soils are mostly gently sloping to sloping and are on hilltops, side slopes of ridges and till plains, and small areas between ridges and knolls.

Hollis soils make up about 10 percent of this map unit. They are somewhat excessively drained soils that are underlain by bedrock at a depth of 10 to 20 inches. Hollis soils are dominantly gently sloping to steep and are on hilltops, small ridges, and side slopes of till plains.

Soils of minor extent make up about 40 percent of this map unit. They are mainly Agawam, Hinckley, Paxton, Montauk, Woodbridge, Sutton, Leicester, and Narragansett soils. The well drained Agawam soils and excessively drained Hinckley soils are underlain by sand and gravel and are on small terraces along streams. The well drained Paxton and Montauk soils and moderately well drained Woodbridge soils have a slowly permeable or very slowly permeable substratum and are on small drumloidal positions on glacial till plains. The moderately well drained Sutton soils and poorly drained Leicester soils are in slight depressions and small drainageways of upland glacial till landscapes. The well drained Narragansett soils are in the southeastern part of the survey area on landscape positions similar to Canton and Charlton soils; Narragansett soils have a silt loam surface layer and subsoil.

Most areas of this map unit are in woodland. Cleared areas are used mainly to grow hay and pasture. A few areas are used to grow silage corn. Many small areas, mostly in the southern part of the county and along the Thames River, are in community developments.

The soils of this map unit are suited to farming, but stones, boulders, and rock outcrops hinder the use of farming equipment. Stones and boulders need to be removed in most areas. Hollis soils have a shallow rooting depth and are droughty. Steep slopes hinder the use of farming equipment in some areas.

Canton and Charlton soils are suited to trees. Hollis soils have a shallow rooting depth, and windthrow of trees is common.

The Canton and Charlton soils are suited to community development. Stones and boulders need to be removed in most places. Steep slopes are a limiting factor in some areas. The shallow depth to bedrock is a limiting factor for community development on the Hollis soils. Most excavations on Hollis soils require blasting. Rock outcrops and steepness of slope are limiting factors in some areas.

2. Woodbridge-Paxton-Montauk

Nearly level to steep, well drained and moderately well drained, loamy soils that have a compact substratum; on drumloidal glacial till uplands

The soils in this map unit (fig. 2) make up about 27 percent of the county. The landscape is drumloidal upland landforms that have a north-south orientation. Stones and boulders are common on the surface in many places.

Woodbridge soils make up about 30 percent of this map unit. They are deep, moderately well drained, loamy

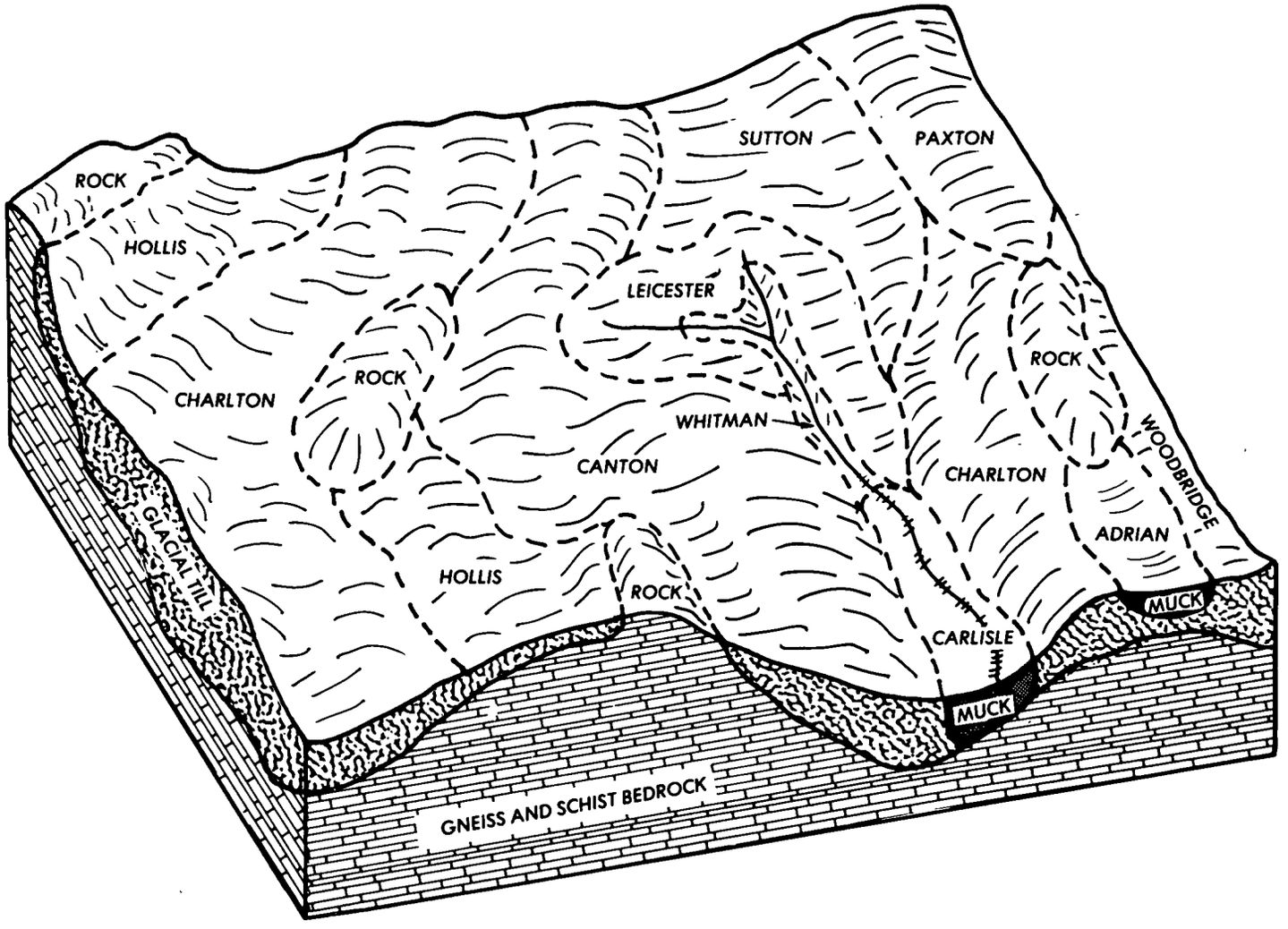


Figure 1.—Typical pattern of soils in the Charlton-Canton-Hollis general soil map unit.

soils that have slow or very slow permeability in the substratum. Woodbridge soils are nearly level to sloping and are on hilltops and toe slopes of drumlins.

Paxton soils make up about 10 percent of this map unit. They are deep, well drained, loamy soils that have slow or very slow permeability in the substratum. Paxton soils are gently sloping to steep and are on hilltops and side slopes of drumlins.

Montauk soils make up about 10 percent of this map unit. They are deep, well drained, sandy soils that have slow or moderately slow permeability in the substratum. Montauk soils are mostly gently sloping to sloping and are on hilltops and side slopes of drumlins.

Soils of minor extent make up about 50 percent of this map unit. They are mainly Broadbrook, Canton, Charlton, Hollis, Leicester, Rainbow, Sutton, Ridgebury, and Whitman soils. The well drained Canton and Charlton soils have moderate or moderately rapid permeability in the substratum and are on glacial till hills, ridges, and plains. The somewhat excessively drained Hollis soils are shallow to bedrock and are on hilltops and ridges. The moderately well drained Sutton soils and poorly drained Leicester soils have moderate or moderately rapid permeability in the substratum and are in slight depressions and small drainageways of upland glacial till landscapes. The poorly drained Ridgebury soils and very poorly drained Whitman soils are in slight depressions and small drainageways of drumlins. The well drained Broadbrook soils and moderately well drained Rainbow soils are on drumloidal upland landforms.

Most areas of this map unit are in woodland, or they are cleared and used for cultivated crops, hay, and pasture. A few areas are in community developments.

The soils of this map unit are suited to farming. Stones and boulders need to be removed in some areas.

Woodbridge soils are wet early in spring and late in fall. This hinders the use of farming equipment.

These soils are suited to trees. Woodbridge soils are wet early in spring and late in fall. Wetness hinders the use of harvesting equipment in places.

The major limiting factors for community development are slow or very slow permeability in the substratum in Paxton and Montauk soils, and slow or very slow permeability in the substratum and a seasonal high water table in Woodbridge soils. Stones and boulders need to be removed in some areas.

3. Hinckley-Merrimac-Agawam

Nearly level to steep, excessively drained to well drained, sandy and loamy soils; on outwash plains and terraces

The soils in this map unit (fig. 3) make up about 16 percent of the county. The landscape consists of outwash plains, stream terraces, kames, and eskers in valleys between glacial till uplands.

Hinckley soils make up about 28 percent of this map unit. They are deep, excessively drained soils that have rapid or very rapid permeability. Hinckley soils are mostly sloping to steep and are on kames, eskers, and outwash plains and terraces.

Merrimac soils make up about 12 percent of this map unit. They are deep, somewhat excessively drained, sandy soils that have rapid permeability in the substratum. Merrimac soils are mostly nearly level to gently sloping and are on outwash plains and stream terraces.

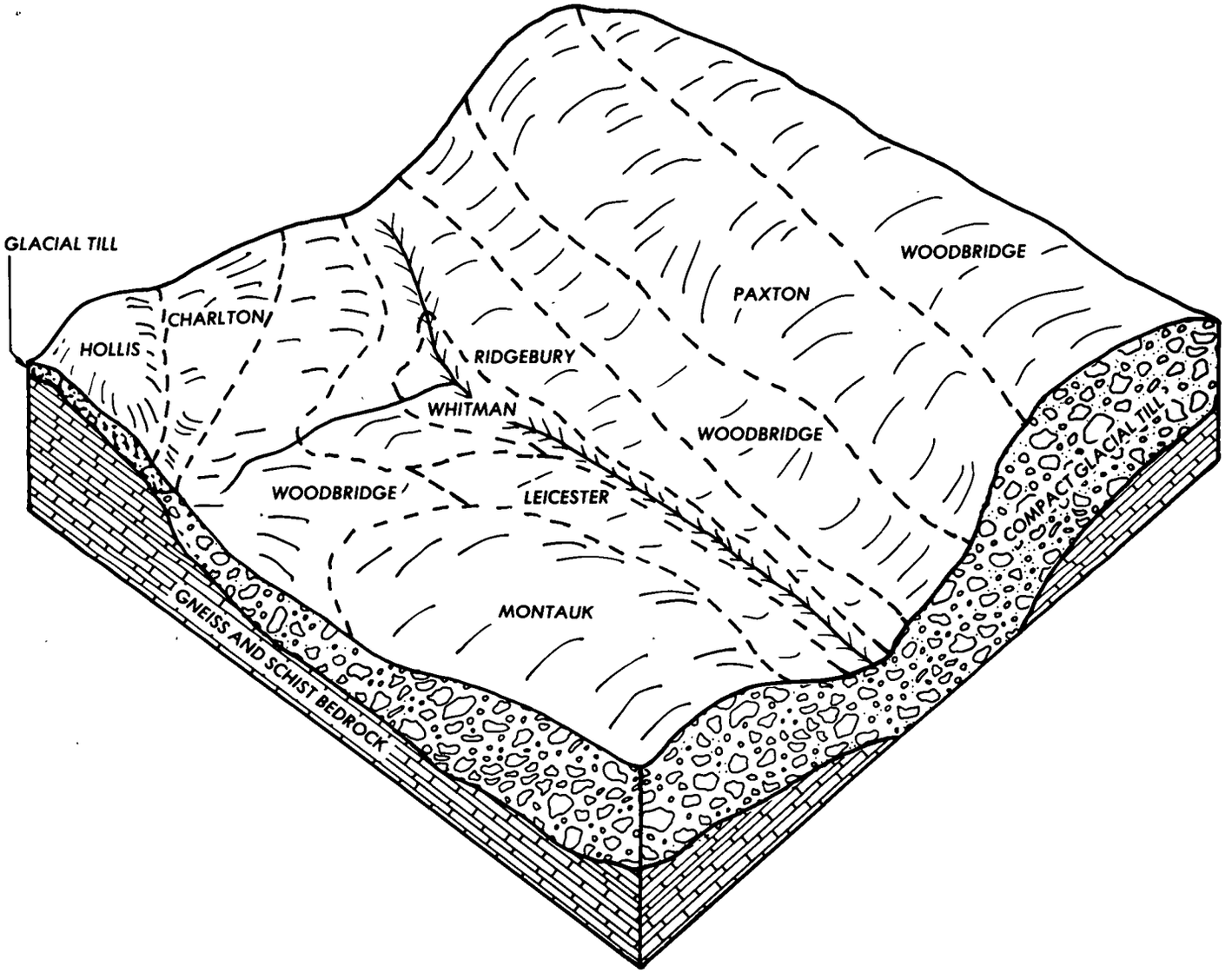


Figure 2.—Typical pattern of soils in the Woodbridge-Paxton-Montauk general soil map unit.

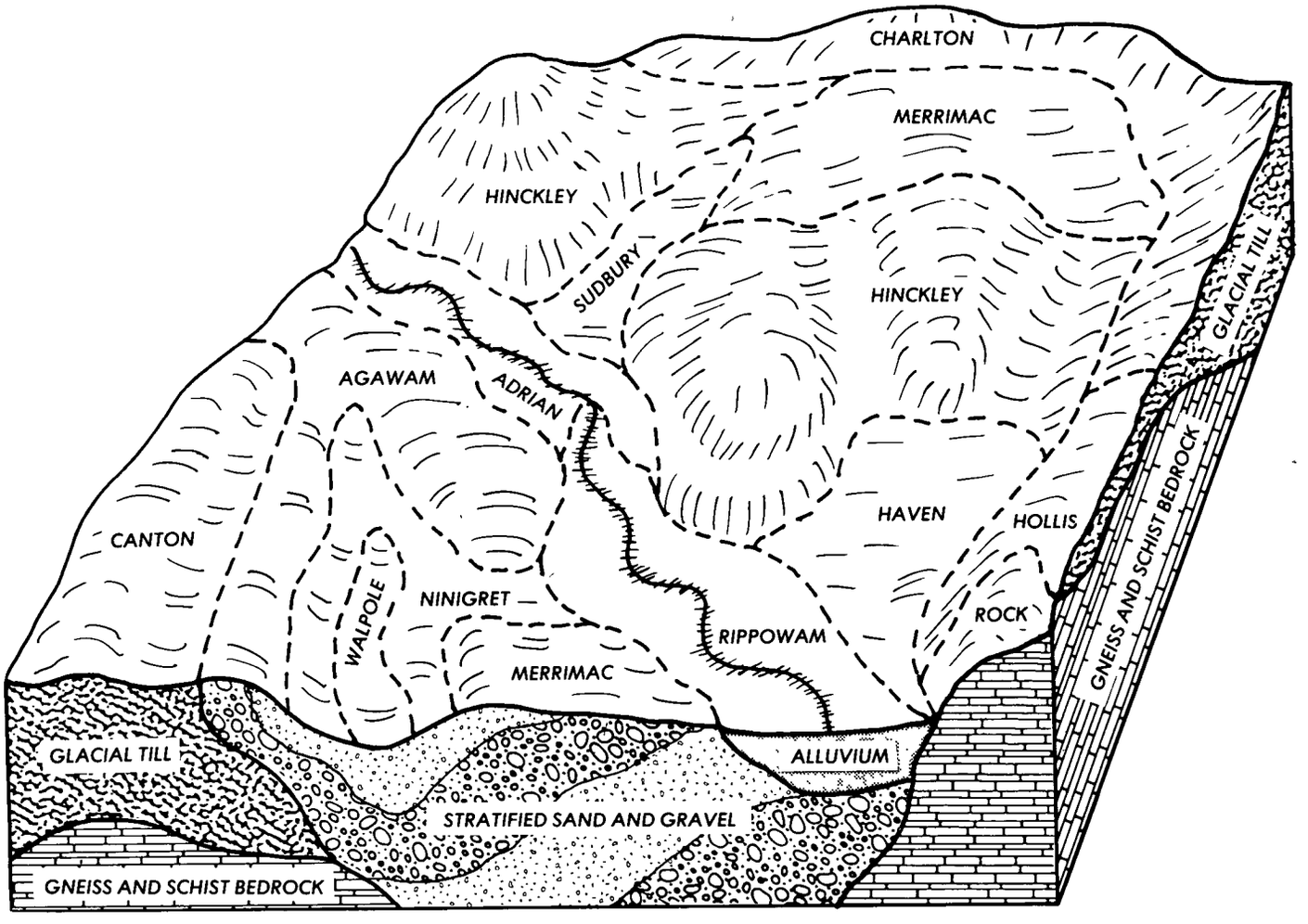


Figure 3.—Typical pattern of soils in the Hinckley-Merrimac-Agawam general soil map unit.

Agawam soils make up about 10 percent of this map unit. They are deep, well drained, loamy soils that have rapid permeability in the substratum. Agawam soils are nearly level to gently sloping and are on outwash plains and stream terraces.

Soils of minor extent make up about 50 percent of this map unit. They are mainly the Windsor, Canton, Charlton, Ninigret, Sudbury, Walpole, Rippowam, and Scarboro soils. The excessively drained Windsor soils have a sandier subsoil than Hinckley, Merrimac, and Agawam soils and are on outwash plains, stream terraces, kames, and eskers. The well drained Canton and Charlton soils are on glacial till uplands. The moderately well drained Ninigret and Sudbury soils, poorly drained Walpole soils, and very poorly drained Scarboro soils are in slight depressions and drainageways of outwash plains and stream terraces. The poorly drained Rippowam soils are on flood plains along major streams and their tributaries.

Most areas of this map unit are cleared and used for cultivated crops, hay, or pasture, or they are in community developments. A few areas are used for woodland.

The soils of this map unit are suited to farming and trees. Hinckley soils are droughty. Steep slopes in some areas of Hinckley and Merrimac soils hinder the use of farming and tree harvesting equipment.

The major limiting factor for community development is rapid or very rapid permeability in the substratum, which can cause ground water pollution if onsite septic systems are used in these soils. Hinckley soils are droughty. Steep slopes are a limiting factor in some areas of Hinckley and Merrimac soils.

4. Hollis-Charlton

Gently sloping to very steep, somewhat excessively drained and well drained, loamy soils; on glacial till uplands

This map unit makes up about 6 percent of the county. The landscape is undulating upland glacial till hills, ridges, and plains. Stones and boulders are common on

the surface in most places, and most areas have outcrops of bedrock.

Hollis soils make up about 35 percent of this map unit. They are somewhat excessively drained soils that are underlain by bedrock at a depth of 10 to 20 inches. Hollis soils are gently sloping to very steep and are on hilltops, ridges, and side slopes of till plains.

Charlton soils make up about 20 percent of this map unit. They are deep, well drained soils. Charlton soils are mostly gently sloping to sloping and are on hilltops, side slopes of ridges and till plains, and small areas between ridges and knolls.

Soils of minor extent make up the remaining 45 percent of this map unit. They are mainly the Canton, Narragansett, Sutton, Leicester, and Adrian soils. The well drained Canton and Narragansett soils are on hilltops and side slopes of ridges and plains, and small areas between ridges and knolls. The moderately well drained Sutton soils, poorly drained Leicester soils, and very poorly drained Adrian soils are in slight depressions and small drainageways between ridges and knolls.

Most areas of this map unit are in woodland. A few areas are cleared and used for pasture, or they are idle.

The soils of this map unit are poorly suited to farming. Rock outcrops, stones, boulders, steepness of slopes, shallow rooting depth, and droughtiness are the major limiting factors.

The Charlton soils are suited to trees. Hollis soils have a shallow rooting depth, and windthrow of trees is common. Hollis soils are also droughty.

The Charlton soils are suited to community development. Stones and boulders need to be removed in most places. Steepness of slopes is a limiting factor in some areas. The shallow depth to bedrock limits community development of the Hollis soils. Most excavations on Hollis soils require blasting. Rock outcrops and steep slopes are limiting factors in many areas.

5. Haven-Hinckley

Nearly level to steep, well drained and excessively drained, loamy and sandy soils; on outwash plains and terraces

This map unit makes up about 5 percent of the county. The soils are on outwash plains, stream terraces, and eskers in valleys, mostly in the southern part of the county.

Haven soils make up about 35 percent of this map unit. They are deep, well drained, loamy soils that have very rapid permeability in the substratum. Haven soils are nearly level to gently sloping and are on outwash plains and stream terraces.

Hinckley soils make up about 15 percent of this map unit. They are deep, excessively drained, sandy soils that have very rapid permeability in the substratum. Hinckley soils are mostly sloping to steep and are on kames, eskers, and outwash plains and terraces.

Soils of minor extent make up about 50 percent of this map unit. They are mainly the Canton, Charlton, Narragansett, Tisbury, Ninigret, Raypol, Rippowam, Scarboro, and Carlisle soils. The well drained Canton, Charlton, and Narragansett soils are on glacial till uplands. The moderately well drained Tisbury and Ninigret soils, poorly drained Raypol soils, and very poorly drained Scarboro and Carlisle soils are in slight depressions and drainageways of outwash plains and stream terraces. The poorly drained Rippowam soils are on flood plains along the major streams and their tributaries.

Most areas of this map unit are cleared and used for cultivated crops, hay, or pasture, or they are in community developments. A few areas are woodland.

The soils of this map unit are suited to farming and trees. Hinckley soils are droughty. Steep slopes in some areas of Hinckley soils hinder the use of farming and tree harvesting equipment.

The major limiting factor for community development is rapid or very rapid permeability in the substratum, which can cause ground water pollution if onsite septic systems are used in these soils. Hinckley soils are droughty. Steep slopes are a limiting factor in some areas of Hinckley soils.

6. Westbrook-Pawcatuck

Nearly level, very poorly drained, organic soils; on tidal flats

This map unit makes up about 1 percent of the county. The landscape is nearly level and is along coastal areas and major rivers in the southern part of the county. The soils of this map unit are subject to twice-daily inundations of saltwater.

Westbrook soils make up about 40 percent of this map unit. They are very poorly drained, organic soils over loamy material.

Pawcatuck soils make up about 25 percent of this map unit. They are very poorly drained, organic soils over sandy material.

Soils of minor extent make up about 35 percent of this map unit. They are mainly the Canton, Charlton, Hinckley, Ipswich, and Rippowam soils. The well drained Canton and Charlton soils formed in glacial till. The Hinckley soils formed in glacial outwash. The very poorly drained Ipswich soils consist of deep organic deposits that are deeper to the loamy or sandy deposits than Westbrook and Pawcatuck soils on tidal marshes. The poorly drained Rippowam soils are on flood plains.

Most areas of this map unit provide habitat for wildlife. Areas of high salt content which have salt-tolerant grasses provide habitat for the reproduction of shellfish. Areas of low salt content which have tall vegetation provide habitat for game birds and songbirds.

The soils of this map unit are not suited to farming, trees, or community development. The major limiting factors are a high water table at or above the surface for most of the year and daily inundations by saltwater.

detailed soil map units

The map units on the detailed soil maps at the back of this survey represent the soils in the survey area. The map unit descriptions in this section, along with the soil maps, can be used to determine the suitability and potential of a soil for specific uses. They also can be used to plan the management needed for those uses. More information on each map unit, or soil, is given under "Use and management of the soils."

Each map unit on the detailed soil maps represents an area on the landscape and consists of one or more soils for which the unit is named.

A symbol identifying the soil precedes the map unit name in the soil descriptions. Each description includes general facts about the soil and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer or of the underlying material, 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 or of the underlying material. They also can differ in slope, stoniness, salinity, wetness, 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, Woodbridge fine sandy loam, 3 to 8 percent slopes, is one of several phases in the Woodbridge series.

Some map units are made up of two or more major soils. These map units are called soil complexes or undifferentiated groups.

A *soil complex* consists of two or more soils in such an intricate pattern or in such small areas that they cannot be shown separately on the soil maps. The pattern and proportion of the soils are somewhat similar in all areas. Hollis-Charlton-Rock outcrop complex, 3 to 15 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils 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 in a mapped area are not uniform. An area can be made up of only one of the major soils, or it can be made up of all of them. Adrian and Palms mucks is an undifferentiated group in this survey area.

Most map units include small scattered areas of soils other than those for which the map unit is named. Some of these included soils have properties that differ substantially from those of the major soil or soils. Such differences could significantly affect use and management of the soils in the map unit. The included soils are identified in each map unit description. Some small areas of strongly contrasting soils are identified by a special symbol on the soil maps.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Urban land is an example. Miscellaneous areas are shown on the soil maps. Some that are too small to be shown are identified by a special symbol on the soil maps.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables (see "Summary of tables") give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils.

Aa—Adrian and Palms mucks. These nearly level, very poorly drained soils are in pockets and depressions of stream terraces, outwash plains, and glacial till uplands. Mapped areas are dominantly irregular in shape and range mostly from 2 to 25 acres. Slopes range from 0 to 2 percent.

The mapped acreage of this undifferentiated group is about 55 percent Adrian soils, 30 percent Palms soils, and 15 percent other soils. Mapped areas consist of either Adrian soils or Palms soils, or both. These soils were mapped together because there are no major differences in most uses and management.

Typically, the Adrian soils have black and very dark grayish brown layers of muck 42 inches thick. The substratum is gray, light yellowish brown, and strong brown gravelly sand to a depth of 60 inches or more.

Typically, the Palms soils have black and very dark brown layers of muck 22 inches thick. The substratum is dark yellowish brown and olive very fine sandy loam and loamy very fine sand to a depth of 60 inches or more.

Included with these soils in mapping are small areas of poorly drained Ridgebury, Leicester, Raypol, Walpole, Limerick Variant, and Rippowam soils and very poorly drained Carlisle, Whitman, and Scarboro soils.

Adrian soils have a high water table which is at or near the surface for most of the year. Permeability is moderately rapid in the organic layers and rapid in the

substratum. The available water capacity is high. Runoff is very slow or ponded. Adrian soils are strongly acid through slightly acid.

Palms soils have a high water table which is at or near the surface for most of the year. Permeability is moderately rapid in the organic layers and moderately slow in the substratum. The available water capacity is high. Runoff is very slow or ponded. Palms soils are strongly acid through slightly acid.

Most areas of these soils are wooded. Other areas are cleared and are idle.

These soils are not suited to cultivated crops. Wetness and low strength make the use of farming equipment impractical. Most areas do not have adequate drainage outlets.

These soils are suited to trees. Wetness and low strength make machine planting of seedlings and construction and use of woodland roads impractical. Windthrow is common because of the shallow rooting depth above the water table.

These soils are poorly suited to community development. The major limiting factors are low strength and a high water table which is at or near the surface for most of the year. If drained, the organic material shrinks and subsides. Wetness and low strength make the establishment and maintenance of lawns and gardens difficult.

These soils are in capability subclass VIw.

AfA—Agawam fine sandy loam, 0 to 3 percent slopes. This nearly level, well drained soil is on stream terraces and outwash plains. Mapped areas are dominantly irregular in shape and range mostly from 2 to 25 acres.

Typically, this Agawam soil has a dark brown, fine sandy loam surface layer 9 inches thick. The subsoil is dark yellowish brown fine sandy loam 15 inches thick. The substratum is light olive brown sand and very gravelly coarse sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of somewhat excessively drained Merrimac soils, well drained Haven soils, moderately well drained Ninigret soils, and poorly drained Walpole and Raypol soils. Included areas make up about 15 percent of this map unit.

Permeability of the Agawam soil is moderately rapid in the surface layer and subsoil and rapid in the substratum. The available water capacity is moderate. Runoff is slow. This Agawam soil warms up and dries out rapidly in the spring. Unless limed, the soil is strongly acid or medium acid.

Most areas of this soil are cleared and used for cultivated crops, hay, or pasture, or they are idle. Small areas are used for community development, or they are in woodland.

This soil is well suited to cultivated crops. The hazard of erosion is slight. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Machine planting is practical.

This soil is well suited to community development. Onsite septic systems function with normal design and installation, but they pollute the ground water in places. Slopes of excavated areas are unstable. Lawns are easy to establish and maintain. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability class I.

AfB—Agawam fine sandy loam, 3 to 8 percent slopes. This gently sloping, well drained soil is on stream terraces and outwash plains. Mapped areas are dominantly irregular in shape and range mostly from 2 to 25 acres.

Typically, this Agawam soil has a dark brown, fine sandy loam surface layer 9 inches thick. The subsoil is dark yellowish brown fine sandy loam 15 inches thick. The substratum is light olive brown sand and very gravelly coarse sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of somewhat excessively drained Merrimac soils, well drained Haven soils, moderately well drained Ninigret soils, and poorly drained Raypol and Walpole soils. Included areas make up about 15 percent of this map unit.

Permeability of the Agawam soil is moderately rapid in the surface layer and subsoil and rapid in the substratum. The available water capacity is moderate. Runoff is medium. This soil warms up and dries out rapidly in the spring. Unless limed, the soil is strongly acid or medium acid.

Most areas of this soil are cleared and used for cultivated crops, hay, or pasture, or they are idle. Other areas are used for community development, or they are in woodland.

This soil is well suited to cultivated crops. The hazard of erosion is moderate. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Machine planting is practical.

Onsite septic systems function with normal design and installation, but they pollute the ground water in places. Slopes of excavated areas are unstable. Lawns are easy to establish and maintain. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass IIe.

Ba—Beaches. This map unit consists of sandy, gravelly, and cobbly shores which are washed and rewashed by waves. Areas are partly covered with water during high tides or stormy periods. Mapped areas are dominantly long and narrow and range mostly from 2 to 20 acres. Slopes range from 0 to 8 percent.

Included in this map unit are small, intermingled areas of Udorthents and Westbrook, Pawcatuck, and Ipswich soils. Included areas make up about 15 percent of this map unit.

Most areas are used for recreation. A few areas have seasonal cottages and houses. This map unit requires onsite investigation and evaluation for most uses.

This map unit is not assigned to a capability subclass.

BrB—Broadbrook silt loam, 3 to 8 percent slopes. This gently sloping, well drained soil is on drumloidal glacial till uplands. Mapped areas are dominantly irregular in shape and range mostly from 2 to 30 acres.

Typically, this Broadbrook soil has a very dark grayish brown, silt loam surface layer 8 inches thick. The subsoil is dark yellowish brown silt loam and olive brown fine sandy loam 18 inches thick. The substratum is very firm, brittle, olive brown fine sandy loam to a depth of 60 inches or more.

Included with this soil in mapping are small areas of well drained Paxton, Montauk, and Narragansett soils; moderately well drained Rainbow and Woodbridge soils; and poorly drained Ridgebury soils. Included areas make up about 15 percent of this map unit.

Permeability of the Broadbrook soil is moderate in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is high. Runoff is medium. This soil warms up and dries out rapidly in the spring. Unless limed, the soil is strongly acid or medium acid.

Most areas of this soil are cleared and used for cultivated crops, hay, or pasture, or they are idle. Other areas are used for community development, or they are in woodland.

This soil is well suited to cultivated crops. The hazard of erosion is moderate. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Machine planting is practical.

Onsite septic systems need special design and installation to prevent seepage of effluent to the surface. Steep slopes of excavations slump when saturated. Lawns are often wet and soggy late in autumn and early in spring. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass IIe.

CbB—Canton and Charlton fine sandy loams, 3 to 8 percent slopes. These gently sloping, well drained soils are on glacial till upland hills, plains, and ridges. Mapped areas are dominantly irregular in shape and range mostly from 2 to 40 acres.

The mapped acreage of this undifferentiated group is about 55 percent Canton soil, 25 percent Charlton soil, and 20 percent others soils. Areas of this unit consist of either Canton soil or Charlton soil, or both. These soils were mapped together because there are no major differences in use and management.

Typically, the Canton soil has a very dark grayish brown, fine sandy loam surface layer 8 inches thick. The subsoil is dark yellowish brown fine sandy loam and sandy loam 16 inches thick. The substratum is grayish brown gravelly sand to a depth of 60 inches or more.

Typically, the Charlton soil has a very dark grayish brown, fine sandy loam surface layer 8 inches thick. The subsoil is dark yellowish brown, yellowish brown, and light olive brown fine sandy loam 21 inches thick. The substratum is grayish brown fine sandy loam to a depth of 60 inches or more.

Included with these soils in mapping are small areas of well drained Narragansett, Paxton, and Montauk soils; moderately well drained Sutton soils; and poorly drained Leicester soils.

Permeability of the Canton soil is moderately rapid in the surface layer and subsoil and rapid in the substratum. The available water capacity is moderate. Runoff is medium. This soil warms up and dries out rapidly in the spring. Unless limed, the soil is strongly acid or medium acid.

Permeability of the Charlton soil is moderate or moderately rapid. The available water capacity is moderate. Runoff is medium. This soil warms up and dries out rapidly in the spring. Unless limed, the soil is strongly acid or medium acid.

Most areas of these soils are cleared and used for cultivated crops, pasture, or hay, or they are idle. Other areas are in community developments. A few small areas are in woodland.

These soils are well suited to cultivated crops. The hazard of erosion is moderate. Minimum tillage and the use of cover crops help to control erosion.

These soils are suited to trees. Machine planting is practical.

Onsite septic systems need careful design and installation. Lawns are easy to establish and maintain. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

These soils are in capability subclass IIe.

CbC—Canton and Charlton fine sandy l ams, 8 to 15 percent slopes. These sloping, well drained soils are on glacial till upland hills, plains, and ridges. Mapped areas are dominantly irregular in shape and mostly 2 to 20 acres.

The mapped acreage of this undifferentiated group is about 55 percent Canton soil, 25 percent Charlton soil, and 20 percent other soils. Mapped areas consist of either Canton soil or Charlton soil, or both. These soils were mapped together because there are no major differences in use and management.

Typically, the Canton soil has a very dark grayish brown, fine sandy loam surface layer 8 inches thick. The subsoil is dark yellowish brown fine sandy loam and sandy loam 16 inches thick. The substratum is grayish brown gravelly sand to a depth of 60 inches or more.

Typically, the Charlton soil has a very dark grayish brown, fine sandy loam surface layer 8 inches thick. The subsoil is dark yellowish brown, yellowish brown, and light olive brown fine sandy loam 21 inches thick. The substratum is grayish brown fine sandy loam to a depth of 60 inches or more.

Included with these soils in mapping are small areas of well drained Narragansett, Paxton, and Montauk soils and moderately well drained Sutton soils.

Permeability of the Canton soil is moderately rapid in the surface layer and subsoil and rapid in the substratum. The available water capacity is moderate. Runoff is rapid. This soil warms up and dries out rapidly in the spring. Unless limed, the soil is strongly acid or medium acid.

Permeability of the Charlton soil is moderate or moderately rapid. The available water capacity is moderate. Runoff is rapid. The soil warms up and dries out rapidly in the spring. Unless limed, the soil is strongly acid or medium acid.

Most areas of these soils are cleared and used for cultivated crops, pasture, or hay, or they are idle. Other areas are in community developments. A few small areas are in woodland.

These soils are suited to cultivated crops. However, the hazard of erosion is severe. Minimum tillage and the use of diversions, grass waterways, and cover crops help to control erosion.

These soils are suited to trees. Machine planting is practical.

The major limiting factor for community development is steepness of slope. Onsite septic systems need careful design and installation to prevent effluent from seeping to the surface in areas downslope from the leaching system. Quickly establishing a plant cover and using mulch and netting, temporary diversions, and sediment basins help to control erosion during construction.

These soils are in capability subclass IIIe.

CbD—Canton and Charlton fine sandy loams, 15 to 25 percent slopes. These moderately steep, well drained soils are on glacial till upland hills, plains, and ridges. Mapped areas are dominantly long and narrow or irregular in shape and range mostly from 2 to 20 acres.

The mapped acreage of this undifferentiated group is about 55 percent Canton soil, 25 percent Charlton soil, and 20 percent other soils. Mapped areas consist of either Canton soil or Charlton soil, or both. These soils were mapped together because there are no major differences in use and management.

Typically, the Canton soil has a very dark grayish brown, fine sandy loam surface layer 6 inches thick. The subsoil is dark yellowish brown fine sandy loam and sandy loam 18 inches thick. The substratum is grayish brown gravelly sand to a depth of 60 inches or more.

Typically, the Charlton soil has a very dark grayish brown, fine sandy loam surface layer 6 inches thick. The subsoil is dark yellowish brown, yellowish brown, and light olive brown fine sandy loam 23 inches thick. The substratum is grayish brown fine sandy loam to a depth of 60 inches or more.

Included with these soils in mapping are small areas of well drained Narragansett, Paxton, and Montauk soils.

Permeability of the Canton soil is moderately rapid in the surface layer and subsoil and rapid in the substratum. The available water capacity is moderate. Runoff is very rapid. This soil warms up and dries out rapidly in the spring. Unless limed, the soil is strongly acid or medium acid.

Permeability of the Charlton soil is moderate or moderately rapid. The available water capacity is moderate. Runoff is very rapid. This soil warms up and dries out rapidly in the spring. Unless limed, the soil is strongly acid or medium acid.

Most areas of these soils are cleared and used for pasture, or they are idle. A few areas are used for cultivated crops or hay, or they are in woodland. A few areas are in community developments.

These soils are poorly suited to cultivated crops. The steepness of slope makes the use of farming equipment difficult. The hazard of erosion is severe. Minimum tillage and the use of cover crops, diversions, and grass waterways help to control erosion.

These soils are suited to trees. Machine planting is practical. Care is needed in laying out woodland roads to prevent erosion.

The major limiting factor for community development is steepness of slope. Onsite septic systems need special design and installation to prevent seepage of effluent to the surface in areas downslope from the leaching system. Quickly establishing a plant cover and using mulch and netting, temporary diversions, and sediment basins help to control erosion during construction.

These soils are in capability subclass IVe.

CcB—Canton and Charlton very stony fine sandy loams, 3 to 8 percent slopes. These gently sloping, well drained soils are on glacial till upland hills, plains, and ridges. Stones and boulders cover 1 to 8 percent of the surface. Mapped areas are dominantly irregular in shape and are mostly 2 to 50 acres.

The mapped acreage of this undifferentiated group is about 55 percent Canton soil, 25 percent Charlton soil, and 20 percent other soils. Mapped areas consist of either Canton soil or Charlton soil, or both. These soils were mapped together because there are no major differences in use and management.

Typically, the Canton soil has a black, fine sandy loam surface layer 1 inch thick. The subsoil is dark yellowish brown fine sandy loam and sandy loam 23 inches thick. The substratum is grayish brown gravelly sand to a depth of 60 inches or more.

Typically, the Charlton soil has a very dark grayish brown, fine sandy loam surface layer 3 inches thick. The subsoil is dark yellowish brown, yellowish brown, and light olive brown fine sandy loam 26 inches thick. The

substratum is grayish brown fine sandy loam to a depth of 60 inches or more.

Included with these soils in mapping are small areas of well drained Narragansett, Paxton, and Montauk soils; moderately well drained Sutton soils; and poorly drained Leicester soils.

Permeability of the Canton soil is moderately rapid in the surface layer and subsoil and rapid in the substratum. The available water capacity is moderate. Runoff is medium. This soil warms up and dries out rapidly in the spring. The soil is strongly acid or medium acid.

Permeability of the Charlton soil is moderate or moderately rapid. The available water capacity is moderate. Runoff is medium. This soil warms up and dries out rapidly in the spring. It is strongly acid or medium acid.

Most areas of these soils are wooded. Other areas are cleared and used for pasture, or they are idle. A few areas are used for community developments.

These soils are not suited to cultivated crops. Stones and boulders make the use of farming equipment difficult. Stone removal is costly. The hazard of erosion is moderate. Maintaining a permanent plant cover helps to control erosion.

These soils are suited to trees. Machine planting is generally practical, but stones and boulders hinder the use of planting equipment.

Onsite septic systems need careful design and installation. Stones and boulders need to be removed in order to establish lawns. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

These soils are in capability subclass VIs.

CcC—Canton and Charlton very stony fine sandy l ams, 8 to 15 percent slopes. These sloping, well drained soils are on glacial till upland hills, plains, and ridges. Stones and boulders cover 1 to 8 percent of the surface. Mapped areas are dominantly irregular in shape and mostly 2 to 25 acres.

The mapped acreage of this undifferentiated group is about 55 percent Canton soil, 25 percent Charlton soil, and 20 percent other soils. Mapped areas consist of either Canton soil or Charlton soil, or both. These soils were mapped together because there are no major differences in use and management.

Typically, the Canton soil has a black, fine sandy loam surface layer 1 inch thick. The subsoil is dark yellowish brown fine sandy loam and sandy loam 23 inches thick. The substratum is grayish brown gravelly sand to a depth of 60 inches or more.

Typically, the Charlton soil has a very dark grayish brown, fine sandy loam surface layer 3 inches thick. The subsoil is dark yellowish brown, yellowish brown, and light olive brown fine sandy loam 26 inches thick. The substratum is grayish brown fine sandy loam to a depth of 60 inches or more.

Included with these soils in mapping are small areas of well drained Narragansett, Paxton, and Montauk soils and moderately well drained Sutton soils.

Permeability of the Canton soil is moderately rapid in the surface layer and subsoil and rapid in the substratum. The available water capacity is moderate. Runoff is rapid. The soil warms up and dries out rapidly in the spring. It is strongly acid or medium acid.

Permeability of the Charlton soil is moderate or moderately rapid. The available water capacity is moderate. Runoff is rapid. The soil warms up and dries out rapidly in the spring. It is strongly acid or medium acid.

Most areas of these soils are wooded. Other areas are cleared and used for pasture, or they are idle. A few areas are in community developments.

These soils are not suited to cultivated crops. Stones and boulders make the use of farming equipment difficult. Stone removal is costly. Maintaining a permanent plant cover helps to control erosion.

These soils are suited to trees. Machine planting is generally practical, but stones and boulders hinder the use of planting equipment.

Steepness of slope is a major limiting factor for community development. Onsite septic systems need careful design and installation to prevent effluent from seeping to the surface in areas downslope from the leaching system. Stones and boulders need to be removed for landscaping. Quickly establishing a plant cover and using mulch and netting, temporary diversions, and sediment basins help to control erosion during construction.

These soils are in capability subclass VIs.

CdC—Canton and Charlton extremely st ny fine sandy loams, 3 to 15 percent slopes. These gently sloping and sloping, well drained soils are on glacial till upland hills, plains, and ridges. Stones and boulders cover 8 to 25 percent of the surface. Mapped areas are dominantly irregular in shape and mostly 2 to 40 acres.

The mapped acreage of this undifferentiated group is about 55 percent Canton soil, 25 percent Charlton soil, and 20 percent other soils. Mapped areas consist of Canton soil or Charlton soil, or both. These soils were mapped together because there are no major differences in use and management.

Typically, the Canton soil has a black, fine sandy loam surface layer 1 inch thick. The subsoil is dark yellowish brown fine sandy loam and sandy loam 23 inches thick. The substratum is grayish brown gravelly sand to a depth of 60 inches or more.

Typically, the Charlton soil has a very dark grayish brown, fine sandy loam surface layer 3 inches thick. The subsoil is dark yellowish brown, yellowish brown, and light olive brown fine sandy loam 26 inches thick. The substratum is grayish brown fine sandy loam to a depth of 60 inches or more.

Included with these soils in mapping are small areas of well drained Narragansett, Paxton, and Montauk soils;

moderately well drained Sutton soils; and poorly drained Leicester soils.

Permeability of the Canton soil is moderately rapid in the surface layer and subsoil and rapid in the substratum. The available water capacity is moderate. Runoff is medium or rapid. The Canton soil warms up and dries out rapidly in the spring. It is strongly acid or medium acid.

Permeability of the Charlton soil is moderate or moderately rapid. The available water capacity is moderate. Runoff is medium or rapid. The Charlton soil warms up and dries out rapidly in the spring. It is strongly acid or medium acid.

Most areas of these soils are in woodland. Other areas are cleared and used for pasture, or they are idle. A few areas are in community developments.

These soils are not suited to cultivated crops. Stones and boulders make the use of farming equipment impractical. Stone removal is costly. The hazard of erosion is moderate or severe. Maintaining a permanent plant cover helps to control erosion.

These soils are suited to trees. Stoniness makes machine planting impractical.

Onsite septic systems need careful design and installation to prevent effluent from seeping to the surface in areas downslope from the leaching system. Stones and boulders need to be removed for landscaping. Quickly establishing a plant cover and using mulch and netting, temporary diversions, and sediment basins help to control erosion during construction.

These soils are in capability subclass VIIs.

CdD—Canton and Charlton extremely stony fine sandy loams, 15 to 35 percent slopes. These moderately steep to steep, well drained soils are on glacial till upland hills, plains, and ridges. Stones and boulders cover 8 to 25 percent of the surface. Mapped areas are dominantly irregular or long and narrow in shape and mostly 2 to 50 acres.

The mapped acreage of this undifferentiated group is about 55 percent Canton soil, 25 percent Charlton soil, and 20 percent other soils. Mapped areas consist of Canton soil or Charlton soil, or both. These soils were mapped together because there are no major differences in use and management.

Typically, the Canton soil has a black, fine sandy loam surface layer 1 inch thick. The subsoil is dark yellowish brown fine sandy loam and sandy loam 23 inches thick. The substratum is grayish brown gravelly sand to a depth of 60 inches or more.

Typically, the Charlton soil has a very dark grayish brown, fine sandy loam surface layer 3 inches thick. The subsoil is dark yellowish brown, yellowish brown, and light olive brown fine sandy loam 26 inches thick. The substratum is grayish brown fine sandy loam to a depth of 60 inches or more.

Included with these soils in mapping are small areas of well drained Narragansett, Paxton, and Montauk soils.

Permeability of the Canton soil is moderately rapid in the surface layer and subsoil and rapid in the substratum. The available water capacity is moderate. Runoff is very rapid. The Canton soil warms up and dries out rapidly in the spring. It is strongly acid or medium acid.

Permeability of the Charlton soil is moderate or moderately rapid. The available water capacity is moderate. Runoff is very rapid. The Charlton soil warms up and dries out rapidly in the spring. It is strongly acid or medium acid.

Most areas of these soils are wooded. A few areas are cleared and are idle.

These soils are not suited to cultivated crops. Stones and boulders make the use of farm equipment impractical. The hazard of erosion is severe. Maintaining a permanent plant cover helps to control erosion.

These soils are suited to trees. Stoniness makes machine planting impractical. Careful layout of woodland roads is needed to prevent erosion.

Steepness of slope is a major limitation for community development. Onsite septic systems need special design and installation to prevent effluent from seeping to the surface in areas downslope from the leaching system. Stones and boulders need to be removed for landscaping. Quickly establishing a plant cover and using mulch and netting, temporary diversions, and sediment basins help to control erosion during construction.

These soils are in capability subclass VIIs.

Ce—Carlisle muck. This nearly level, very poorly drained soil is in pockets and depressions of flood plains, stream terraces, outwash plains, and glacial till uplands. Mapped areas are dominantly irregular in shape and mostly 2 to 50 acres. Slopes range from 0 to 2 percent.

Typically, this Carlisle soil has black and dark reddish brown, muck organic deposits to a depth of 60 inches or more.

Included with this soil in mapping are small areas of poorly drained Limerick Variant and Rippowam soils and very poorly drained Adrian, Palms, Scarboro, and Whitman soils. Included areas make up about 10 percent of this map unit.

The Carlisle soil has a high water table near or above the surface for most of the year. Permeability is moderately rapid. The available water capacity is high. Runoff is very slow. The soil is strongly acid through slightly acid.

Most areas of this soil are wooded. A few areas are cleared and are idle.

This soil is not suited to cultivated crops because of wetness. Most areas do not have a suitable drainage outlet.

This soil is poorly suited to trees. Machine planting is not practical. Windthrow is common because of the shallow rooting depth above the high water table.

This soil is generally not suited to community development. Onsite septic systems are not feasible

without extensive filling. The organic material does not support foundations. If drained, the organic layers shrink and subside. Lawns are difficult to maintain.

This soil is in capability subclass Vlw.

CrC—Charlton-Hollis fine sandy loams, very rocky, 3 t 15 percent slopes. This gently sloping to sloping complex consists of somewhat excessively drained and well drained soils on glacial till uplands. Rock outcrops cover up to 10 percent of the surface (fig. 4). Stones and boulders cover 1 to 8 percent of the surface. Mapped areas are dominantly irregular in shape and mostly 2 to 60 acres.

The soils of this complex are so intermingled on the landscape that it was not practical to separate them in mapping at the scale used. This complex is about 55 percent Charlton soil, 20 percent Hollis soil, and 25 percent other soils and rock outcrops.

Typically, the Charlton soil has a very dark grayish brown, fine sandy loam surface layer 3 inches thick. The subsoil is dark yellowish brown, yellowish brown, and light olive brown fine sandy loam 26 inches thick. The substratum is grayish brown fine sandy loam to a depth of 60 inches or more.

Typically, the Hollis soil has a very dark brown, fine sandy loam surface layer 2 inches thick. The subsoil is dark brown and dark yellowish brown fine sandy loam 15 inches thick. Hard, unweathered bedrock is at a depth of 17 inches.

Included with these soils in mapping are small areas of well drained Canton, Narragansett, Paxton, and Montauk soils; moderately well drained Sutton and Woodbridge soils; and poorly drained Leicester soils. Many small areas have bedrock at a depth of 20 to 40 inches. A few small areas in the northwestern part of the county have redder colors in the subsoil.

Permeability of the Charlton soil is moderate or moderately rapid. The available water capacity is moderate. Runoff is medium or rapid. Charlton soil warms up and dries out rapidly in the spring. It is strongly acid or medium acid.

Permeability of the Hollis soil is moderate or moderately rapid above the bedrock. The available water capacity is low. Runoff is medium or rapid. Hollis soil

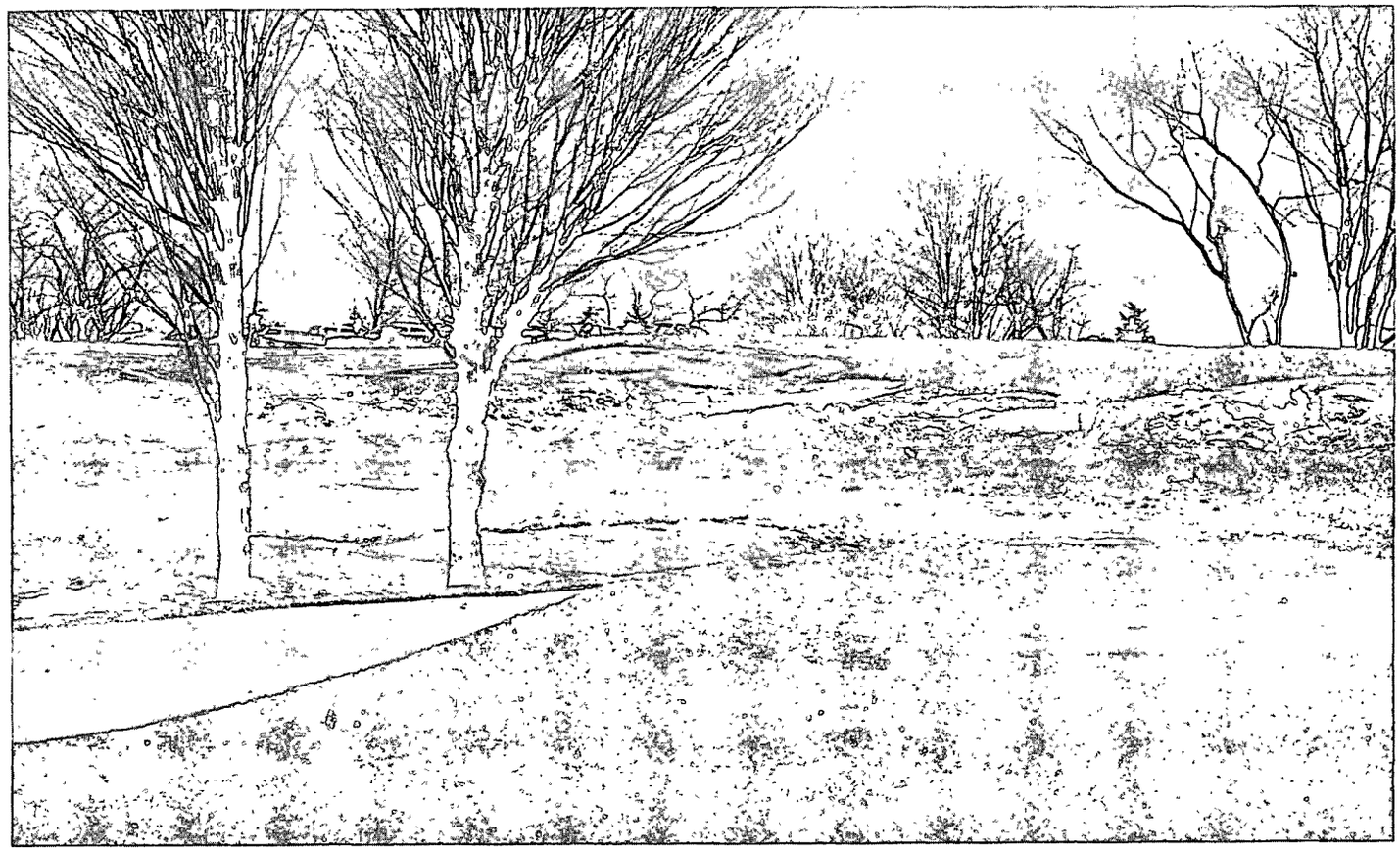


Figure 4.—A golf course on an area of Charlton-Hollis fine sandy loams, very rocky, 3 to 15 percent slopes.

warms up and dries out rapidly in the spring. It is strongly acid or medium acid.

Most areas of this complex are wooded. Other areas are used for community developments. A few areas are cleared and used for pasture, or they are idle.

These soils are not suited to cultivated crops. Stoniness and rock outcrops generally make the use of farming equipment impractical. The Hollis soil has a shallow rooting depth and is droughty. The hazard of erosion is moderate to severe. Maintaining a permanent plant cover helps to control erosion.

These soils are suited to trees. Stoniness and rock outcrops hinder machine planting in many places. Windthrow is common on the Hollis soil because of the shallow rooting depth.

The major limiting factor for community development is the shallow depth to bedrock. Extensive onsite investigations are often needed to locate a suitable site for an onsite septic system. Onsite septic systems need special design and installation to prevent effluent from seeping to the surface in areas downslope from the leaching system. Excavations require blasting in many places. Quickly establishing a plant cover and using mulch and netting, temporary diversions, and sediment basins help to control erosion during construction. Stones and boulders need to be removed for landscaping. The Hollis soil has a shallow rooting depth to bedrock and is droughty. Rock outcrops provide attractive settings for homes in many places.

These soils are in capability subclass VIs.

CrD—Charlton-Hollis fine sandy loams, very rocky, 15 t 45 percent slopes. This moderately steep to steep complex consists of somewhat excessively drained and well drained soils on glacial till uplands. Rock outcrops cover up to 10 percent of the surface. Stones and boulders cover 1 to 8 percent of the surface. Mapped areas are dominantly irregular in shape and mostly 2 to 60 acres.

The soils of this complex are so intermingled on the landscape that it was not practical to separate them in mapping at the scale used. The complex is about 55 percent Charlton soil, 20 percent Hollis soil, and 25 percent other soils and rock outcrops.

Typically, the Charlton soil has a very dark grayish brown, fine sandy loam surface layer 3 inches thick. The subsoil is dark yellowish brown, yellowish brown, and light olive brown fine sandy loam 26 inches thick. The substratum is grayish brown fine sandy loam to a depth of 60 inches or more.

Typically, the Hollis soil has a very dark brown, fine sandy loam surface layer 2 inches thick. The subsoil is dark brown and dark yellowish brown fine sandy loam 15 inches thick. Hard, unweathered bedrock is at a depth of 17 inches.

Included with these soils in mapping are small areas of well drained Canton and Narragansett soils. Many small areas have bedrock at a depth of 20 to 40 inches. A few small areas in the northwestern part of the county have redder colors in the subsoil.

Permeability of the Charlton soil is moderate or moderately rapid. The available water capacity is moderate. Runoff is rapid or very rapid. Charlton soil warms up and dries out rapidly in the spring. It is strongly acid or medium acid.

Permeability of the Hollis soil is moderate or moderately rapid above the bedrock. The available water capacity is low. Runoff is rapid or very rapid. Hollis soil warms up and dries out rapidly in the spring. It is strongly acid or medium acid.

Most areas of this complex are wooded. A few areas are cleared and used for pasture, or they are idle. A few small areas are used for community development.

These soils are not suited to cultivated crops. Stoniness and rock outcrops make the use of farming equipment impractical. The Hollis soil has a shallow rooting depth and is droughty. Maintaining a permanent plant cover helps to control erosion.

These soils are suited to trees. Stoniness and rock outcrops generally make machine planting impractical. Windthrow is common on the Hollis soil because of the shallow rooting depth.

The major limiting factors for community development are steepness of slope, shallow depth to bedrock, and rock outcrops. Extensive onsite investigations are often needed to locate a suitable site for an onsite septic system. Onsite septic systems need careful design and installation to prevent effluent from seeping to the surface in areas downslope from the leaching system. Stones and boulders need to be removed for landscaping. The Hollis soil is droughty. Excavations require blasting in many places. Quickly establishing a plant cover and using mulch and netting, temporary diversions, and sediment basins help to control erosion during construction.

These soils are in capability subclass VIIs.

Du—Dumps. These areas are used for the disposal of trash. They are commonly called landfills or sanitary landfills. Dumps exist throughout the county. Most areas are 2 to 40 acres. Trash in the dumps is covered daily with about 6 inches of soil material.

Included in mapping are small areas of Udorthents and Canton, Charlton, Montauk, Paxton, and Agawam soils.

Dumps require onsite investigation and evaluation if considered for other uses.

This map unit is not assigned to a capability subclass.

HcA—Haven silt loam, 0 to 3 percent slopes. This nearly level, well drained soil is on stream terraces and outwash plains. Mapped areas are dominantly irregular in shape and mostly 2 to 40 acres.

Typically, this Haven soil has a dark brown, silt loam surface layer 7 inches thick. The subsoil is brown, yellowish brown, and dark yellowish brown silt loam 16 inches thick. The substratum is light yellowish brown very gravelly sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of excessively drained Hinckley soils, well drained Agawam soils, and moderately well drained Ninigret and Tisbury soils. A few areas have a gravelly surface layer and subsoil. Included areas make up about 15 percent of this map unit.

Permeability of the Haven soil is moderate in the surface layer and subsoil and very rapid in the substratum. The available water capacity is high. Runoff is slow. Haven soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

Most areas of this soil are cleared and used for cultivated crops, hay, or pasture, or they are idle. Many areas are in community developments. A few small areas are in woodland.

This soil is well suited to cultivated crops. The hazard of erosion is slight. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Machine planting is practical.

Onsite septic systems function with normal design and installation, but they can pollute the ground water in places. Slopes of excavated areas are unstable. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability class I.

HcB—Haven silt loam, 3 to 8 percent slopes. This gently sloping, well drained soil is on stream terraces and outwash plains. Mapped areas are dominantly irregular in shape and mostly 2 to 30 acres.

Typically, this Haven soil has a dark brown, silt loam surface layer 7 inches thick. The subsoil is brown, yellowish brown, and dark yellowish brown silt loam 16 inches thick. The substratum is light yellowish brown very gravelly sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of excessively drained Hinckley soils, well drained Agawam soils, and moderately well drained Ninigret and Tisbury soils. A few areas have a gravelly surface layer and subsoil. Included areas make up about 15 percent of this map unit.

Permeability of the Haven soil is moderate in the surface layer and subsoil and very rapid in the substratum. The available water capacity is high. Runoff is medium. Haven soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

Most areas of this soil are cleared and used for cultivated crops, hay, or pasture, or they are idle. Many areas are in community developments. A few small areas are in woodland.

This soil is well suited to cultivated crops. The hazard of erosion is moderate. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Machine planting is practical.

Onsite septic systems function with normal design and installation, but they can pollute the ground water in places. Slopes of excavated areas are unstable. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass IIe.

HkA—Hinckley gravelly sandy loam, 0 to 3 percent slopes. This nearly level, excessively drained soil is on stream terraces and outwash plains. Areas are dominantly irregular in shape and mostly 2 to 35 acres.

Typically, this Hinckley soil has a dark brown, gravelly sandy loam surface layer 7 inches thick. The subsoil is yellowish brown gravelly loamy sand 15 inches thick. The substratum is brownish yellow very gravelly coarse sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of somewhat excessively drained Merrimac soils, well drained Agawam and Haven soils, and moderately well drained Sudbury soils. A few areas have less gravel in the surface layer, and some areas have a gravelly silt loam surface layer and subsoil. Included areas make up about 15 percent of this map unit.

Permeability of the Hinckley soil is rapid in the surface layer and subsoil and very rapid in the substratum. The available water capacity is low. Runoff is slow. Hinckley soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

Most areas of this soil are cleared and used for cultivated crops, hay, or pasture, or they are idle. Many areas are in community developments. A few small areas are in woodland.

This soil is suited to cultivated crops. It is droughty, and irrigation is needed. The hazard of erosion is slight. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Machine planting is practical.

Onsite septic systems function with normal design and installation, but they pollute the ground water in places. Slopes of excavated areas are unstable. Lawns and gardens need watering during the summer. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass IIIs.

HkC—Hinckley gravelly sandy loam, 3 t 15 percent slopes. This gently sloping and sloping, excessively drained soil is on stream terraces, outwash plains, kames, and eskers (fig. 5). Mapped areas are dominantly irregular in shape and mostly 2 to 25 acres.

Typically, this Hinckley soil has a dark brown, gravelly sandy loam surface layer 7 inches thick. The subsoil is yellowish brown gravelly loamy sand 15 inches thick. The substratum is brownish yellow very gravelly coarse sand to a depth of 60 inches or more.

Figure 5.—An area of Hinckley gravelly sandy loam, 3 to 15 percent slopes.

Included with this soil in mapping are small areas of excessively drained Windsor soils, somewhat excessively drained Merrimac soils, well drained Agawam and Haven soils, and moderately well drained Sudbury soils. A few areas have a gravelly silt loam surface layer and subsoil. Included areas make up about 20 percent of this map unit.

Permeability of the Hinckley soil is rapid in the surface layer and subsoil and very rapid in the substratum. The available water capacity is low. Runoff is medium or rapid. Hinckley soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

Most areas of this soil are cleared and used for cultivated crops, hay, or pasture, or they are idle. Many areas are in community developments. Other areas are in woodland.

This soil is suited to cultivated crops. Hinckley soil is droughty, and irrigation is needed. The hazard of erosion is moderate or severe. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Machine planting is practical.

Onsite septic systems function with normal design and installation, but they pollute the ground water in places. Slopes of excavated areas are unstable. Lawns and gardens require watering in summer. Quickly establishing a plant cover and using mulch and netting, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass IVs.

HkD—Hinckley gravelly sandy loam, 15 to 35 percent slopes. This moderately steep and steep, excessively drained soil is on stream terraces, outwash plains, kames, and eskers. Mapped areas are dominantly irregular in shape and mostly 2 to 35 acres.

Typically, this Hinckley soil has a dark brown, gravelly sandy loam surface layer 2 inches thick. The subsoil is yellowish brown gravelly loamy sand 20 inches thick. The substratum is brownish yellow very gravelly coarse sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of excessively drained Windsor soils, somewhat excessively

drained Merrimac soils, and well drained Agawam and Haven soils. A few areas have a gravelly silt loam surface layer and subsoil. Included areas make up about 20 percent of this map unit.

Permeability of the Hinckley soil is rapid in the surface layer and subsoil and very rapid in the substratum. The available water capacity is low. Runoff is very rapid. Hinckley soil warms up and dries out rapidly in the spring. It is strongly acid or medium acid.

Most areas of this soil are wooded. A few cleared areas are used for pasture, or they are idle.

This soil is poorly suited to cultivated crops because of the steep slopes. Hinckley soil is droughty. The hazard of erosion is severe. Maintaining a permanent plant cover helps to control erosion.

This soil is suited to trees. Machine planting is practical in some areas, but other areas are too steep for the safe operation of planting equipment. Woodland roads need to be carefully laid out to prevent erosion.

Steepness of slopes is the major limiting factor for community development. Onsite septic systems need careful design and installation to prevent effluent from seeping to the surface in areas downslope from the leaching system. In places, onsite septic systems pollute the ground water. Slopes of excavated areas are unstable. Quickly establishing a plant cover and using mulch and netting, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass VIIs.

HrC—Hollis-Charlton-Rock outcrop complex, 3 to 15 percent slopes. This gently sloping to sloping complex consists of somewhat excessively drained and well drained soils and Rock outcrop on glacial till uplands. Stones and boulders cover 1 to 8 percent of the surface. Mapped areas are irregular in shape and mostly 2 to 45 acres.

The soils and Rock outcrop in this complex are so intermingled on the landscape that it was not practical to separate them in mapping at the scale used. This complex is about 40 percent Hollis soil, 25 percent Charlton soil, 20 percent Rock outcrop, and 15 percent other soils.

Typically, the Hollis soil has a very dark brown, fine sandy loam surface layer 2 inches thick. The subsoil is dark brown and dark yellowish brown fine sandy loam 15 inches thick. Hard, unweathered bedrock is at a depth of 17 inches.

Typically, the Charlton soil has a very dark grayish brown, fine sandy loam surface layer 3 inches thick. The subsoil is dark yellowish brown, yellowish brown, and light olive brown fine sandy loam 26 inches thick. The substratum is grayish brown fine sandy loam to a depth of 60 inches or more.

Included with these soils in mapping are small areas of well drained Canton and Narragansett soils, moderately well drained Sutton soils, and poorly drained Leicester soils. Many small areas have bedrock at a depth of 20 to 40 inches. A few small areas in the northwestern part of the county have a redder color in the subsoil.

Permeability of the Hollis soil is moderate or moderately rapid above the bedrock. The available water capacity is low. Runoff is medium or rapid. Hollis soil warms up and dries out rapidly in the spring. It is strongly acid or medium acid.

Permeability of the Charlton soil is moderate or moderately rapid. The available water capacity is moderate. Runoff is medium or rapid. Charlton soil warms up and dries out rapidly in the spring. It is strongly acid or medium acid.

Most areas of this complex are wooded. Other small areas are cleared and used for pasture, or they are idle.

These soils are not suited to cultivated crops. Stoniness and the Rock outcrop make the use of farming equipment impractical. The hazard of erosion is moderate to severe. Maintaining a permanent plant cover helps to control erosion.

These soils are suited to trees. Stoniness and the Rock outcrop make machine planting impractical in most places. Woodland roads need to be carefully planned to prevent erosion. Windthrow is common on the Hollis soil because of the shallow rooting depth.

The major limiting factors for community development are the shallow depth to bedrock in many places, and Rock outcrop. Extensive onsite investigations are often needed to locate a suitable site for onsite septic systems. Onsite septic systems need careful design and installation to prevent effluent from seeping to the surface in areas downslope from the leaching system. Stones and boulders need to be removed for landscaping. The Hollis soil is droughty. Rock outcrops provide an attractive setting for homes in many places. Excavations require blasting in many places. Quickly establishing a plant cover and using mulch and netting, temporary diversions, and sediment basins help to control erosion during construction.

These soils are in capability subclass VIIs.

HrD—Hollis-Charlton-Rock outcrop complex, 15 t 45 percent slopes. This moderately steep to very steep complex consists of somewhat excessively drained and well drained soils and Rock outcrop on glacial till uplands. Stones and boulders cover 1 to 8 percent of the surface. Mapped areas are irregular in shape and mostly 2 to 45 acres.

The soils and Rock outcrop in this complex are so intermingled on the landscape that it was not practical to separate them in mapping at the scale used. This complex is about 40 percent Hollis soil, 25 percent Charlton soil, 20 percent Rock outcrop, and 15 percent other soils.

Typically, the Hollis soil has a very dark brown, fine sandy loam surface layer 2 inches thick. The subsoil is dark brown and dark yellowish brown fine sandy loam 15 inches thick. Hard, unweathered bedrock is at a depth of 17 inches.

Typically, the Charlton soil has a very dark grayish brown, fine sandy loam surface layer 3 inches thick. The subsoil is dark yellowish brown, yellowish brown, and light olive brown fine sandy loam 26 inches thick. The substratum is grayish brown fine sandy loam to a depth of 60 inches or more.

Included with these soils in mapping are small areas of well drained Canton and Narragansett soils. Also included are many small areas that have bedrock at a depth of 20 to 40 inches. A few small areas in the northwestern part of the county have redder colors in the subsoil.

Permeability of the Hollis soil is moderate or moderately rapid above the bedrock. The available water capacity is low. Runoff is rapid or very rapid. Hollis soil warms up and dries out rapidly in the spring. It is strongly acid or medium acid.

Permeability of the Charlton soil is moderate or moderately rapid. The available water capacity is moderate. Runoff is rapid or very rapid. Charlton soil warms up and dries out rapidly in the spring. It is strongly acid or medium acid.

Most areas of this complex are wooded. A few small areas are cleared and are idle.

The soils in this complex are not suited to cultivated crops. Stoniness and the Rock outcrop make the use of farming equipment impractical. The hazard of erosion is severe. Maintaining a permanent plant cover helps to control erosion.

The soils in this complex are suited to trees, although stoniness, Rock outcrop, and steep slopes make machine planting impractical. The careful layout of woodland roads reduces erosion. Windthrow is common on the Hollis soil because of the shallow rooting depth.

The major limiting factors for community development are the steep slopes, shallow depth to bedrock, and Rock outcrop. Extensive onsite investigations are generally needed to locate suitable homesites. Onsite septic systems need careful design and installation to prevent effluent from seeping to the surface in areas downslope from the leaching system. Stones and boulders need to be removed for landscaping. Excavations require blasting in many places. Quickly establishing a plant cover and using mulch and netting, temporary diversions, and sediment basins help to reduce erosion during construction.

The soils in this complex are in capability subclass VIIs.

Ip—Ipswich mucky peat. This nearly level, very poorly drained soil is on tidal marshes adjacent to Long Island Sound and Fishers Island Sound. Areas are dominantly irregular in shape and mostly 2 to 25 acres. Slopes range from 0 to 1 percent.

Typically, this Ipswich soil has very dark grayish brown and very dark brown, mucky peat and muck organic layers more than 51 inches thick.

Included with this soil in mapping are small areas of very poorly drained Pawcatuck and Westbrook soils. Also included are small areas of Udorthents consisting of sand and silt dredged from the channel of rivers and streams.

The Ipswich soil has a high water table at or above the surface for most of the year. It is subject to daily inundations by saltwater. Permeability is moderate through rapid. The available water capacity is high. Runoff is very slow, or the soil is ponded. The Ipswich soil is slightly acid or neutral. If drained, this soil becomes extremely acid and is toxic to plants.

Most areas of this soil are in their natural state. They provide habitat for wildlife and are suited to the reproduction of shellfish.

This soil is not suited to cultivated crops or trees because of the daily inundations by saltwater.

This soil is not suited to community development because of daily inundations by saltwater.

This soil is in capability subclass VIIIw.

Ln—Limerick Variant silt loam. This nearly level, poorly drained soil is on flood plains along major rivers and streams. Mapped areas are dominantly long and narrow and mostly 2 to 25 acres. Slopes range from 0 to 3 percent.

Typically, this Limerick Variant soil has a very dark brown, silt loam surface layer 8 inches thick. The subsoil is grayish brown, dark grayish brown, and dark gray, mottled loamy fine sand and silt loam 28 inches thick. The substratum is grayish brown gravelly coarse sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of moderately well drained Pootatuck Variant soils, poorly drained Rippowam soils, and very poorly drained Adrian, Palms, and Carlisle soils. Included areas make up about 15 percent of this map unit.

The Limerick Variant soil has a seasonal high water table at a depth of about 6 inches. It is subject to frequent flooding. Permeability is moderate in the surface layer and subsoil and rapid or very rapid in the substratum. The available water capacity is high. Limerick Variant soil warms up and dries out slowly in the spring. It is strongly acid in the upper part of the soil and strongly acid through slightly acid in the lower part; it is medium acid or slightly acid within a depth of 40 inches.

Most areas of this soil are wooded. Other areas are cleared, or they are idle.

This soil is suited to cultivated crops. Wetness and flooding are the major limitations, but this soil is seldom flooded during the growing season. Artificial drainage helps to dry the soil earlier in the spring. The hazard of erosion is slight. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Machine planting is feasible if the soil is not wet. Windthrow is common because of the shallow rooting depth above the high water table.

This soil is poorly suited to community development because of flooding and wetness. Sediment deposited from floodwater can damage landscaped areas.

This soil is in capability subclass IIIw.

MyA—Merrimac sandy loam, 0 to 3 percent slopes. This nearly level, somewhat excessively drained soil is on stream terraces and outwash plains. Mapped areas are dominantly irregular in shape and mostly 2 to 35 acres.

Typically, this Merrimac soil has a very dark grayish brown, sandy loam surface layer 8 inches thick. The subsoil is dark yellowish brown and yellowish brown sandy loam 19 inches thick. The substratum is light olive brown gravelly coarse sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of excessively drained Hinckley soils, well drained Agawam soils, and moderately well drained Sudbury soils. Included areas make up about 15 percent of this map unit.

Permeability of the Merrimac soil is moderately rapid in the surface layer and subsoil and rapid in the substratum. The available water capacity is moderate. Runoff is slow. Merrimac soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

Most areas of this soil are cleared and used for cultivated crops, hay, or pasture, or they are idle. Other areas are in community developments. A few small areas are in woodland.

This soil is well suited to cultivated crops. It is droughty during the drier periods in summer. The hazard of erosion is slight. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Machine planting is practical.

Onsite septic systems function with normal design and installation, but they pollute the ground water in places. Slopes of excavated areas are unstable. Lawns need watering during the summer. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass IIs.

MyB—Merrimac sandy loam, 3 to 8 percent slopes. This gently sloping, somewhat excessively drained soil is on stream terraces, outwash plains, kames, and eskers. Mapped areas are dominantly irregular in shape and mostly 2 to 40 acres.

Typically, this Merrimac soil has a very dark grayish brown, sandy loam surface layer 8 inches thick. The subsoil is dark yellowish brown and yellowish brown sandy loam 19 inches thick. The substratum is light olive brown gravelly coarse sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of excessively drained Hinckley and Windsor soils, well drained Agawam soils, and moderately well drained Sudbury soils. Included areas make up about 15 percent of this map unit.

Permeability of the Merrimac soil is moderately rapid in the surface layer and subsoil and rapid in the substratum. The available water capacity is moderate. Runoff is medium. Merrimac soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

Most areas of this soil are cleared and used for cultivated crops, hay, or pasture, or they are idle. Other areas are in community developments. A few small areas are in woodland.

This soil is well suited to cultivated crops. It is droughty during the drier periods in summer. The hazard of erosion is moderate. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Machine planting is practical.

Onsite septic systems function with normal design and installation, but they pollute the ground water in places. Slopes of excavated areas are unstable. Lawns require watering in the summer. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass IIs.

MyC—Merrimac sandy loam, 8 to 15 p rcent slopes. This sloping, somewhat excessively drained soil is on stream terraces, outwash plains, kames, and eskers. Mapped areas are dominantly irregular in shape and mostly 2 to 20 acres.

Typically, this Merrimac soil has a very dark grayish brown, sandy loam surface layer 8 inches thick. The subsoil is dark yellowish brown and yellowish brown sandy loam 19 inches thick. The substratum is light olive brown gravelly coarse sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of excessively drained Hinckley and Windsor soils and well drained Agawam soils. Included areas make up about 15 percent of this map unit.

Permeability of the Merrimac soil is moderately rapid in the surface layer and subsoil and rapid in the substratum. The available water capacity is moderate. Runoff is rapid. Merrimac soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

Most areas of this soil are cleared and used for cultivated crops, hay, or pasture, or they are idle. Other areas are in woodland. A few areas are in community developments.

This soil is suited to cultivated crops. However, the hazard of erosion is severe. This soil is droughty during the summer. Minimum tillage and the use of cover crops, diversions, and grass waterways help to control erosion.

This soil is suited to trees. Machine planting is practical.

Onsite septic systems function if carefully installed, but they pollute the ground water in places. Slopes of

excavated areas are unstable. Lawns require watering in the summer. Quickly establishing a plant cover and using mulch and netting, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass IIIe.

NaB—Narragansett silt loam, 3 to 8 percent slopes. This gently sloping, well drained soil is on glacial till upland hills, ridges, and plains in the southeastern part of the county. Mapped areas are dominantly irregular in shape and mostly 2 to 30 acres.

Typically, this Narragansett soil has a dark brown, silt loam surface layer 8 inches thick. The subsoil is dark yellowish brown and yellowish brown silt loam 20 inches thick. The substratum is light olive brown gravelly loamy coarse sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of well drained Charlton, Canton, and Broadbrook soils; moderately well drained Sutton soils; and poorly drained Leicester soils. Included areas make up about 15 percent of this map unit.

Permeability of the Narragansett soil is moderate in the surface layer and subsoil and moderately rapid or rapid in the substratum. The available water capacity is high. Runoff is medium. Narragansett soil warms up and dries out rapidly in the spring. Unless limed, it is very strongly acid through medium acid.

Most areas of this soil are cleared and used for cultivated crops, hay, or pasture, or they are idle. Other areas are in community developments. A few small areas are in woodland.

This soil is well suited to cultivated crops. The hazard of erosion is moderate. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Machine planting is practical.

This soil is suited to community development. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass IIe.

NgB—Narragansett very stony silt loam, 3 to 8 p rcent sl pes. This gently sloping, well drained soil is on glacial till upland hills, ridges, and plains. Stones and boulders cover 1 to 8 percent of the surface. Mapped areas are dominantly irregular in shape and mostly 2 to 30 acres.

Typically, this Narragansett soil has a dark brown, silt loam surface layer 3 inches thick. The subsoil is dark yellowish brown and yellowish brown silt loam 25 inches thick. The substratum is light olive brown gravelly loamy coarse sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of well drained Charlton, Canton, and Broadbrook soils; moderately well drained Sutton soils; and poorly drained Leicester soils. Included areas make up about 15 percent of this map unit.

Permeability of the Narragansett soil is moderate in the surface layer and subsoil and moderately rapid or rapid in the substratum. The available water capacity is high. Runoff is medium. Narragansett soil warms up and dries out rapidly in the spring. It is very strongly acid through medium acid.

Most areas of this soil are wooded. Other areas are in community developments. A few areas are cleared and used for pasture, or they are idle.

This soil is not suited to cultivated crops because stoniness makes the use of farming equipment difficult. Stone removal is costly. The hazard of erosion is moderate. Maintaining a permanent plant cover helps to control erosion.

This soil is suited to trees. Machine planting is hindered by stoniness, but it is feasible in many places.

This soil is suited to community development. Stones and boulders need to be removed for landscaping. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass VIs.

NhC—Narragansett extremely stony silt loam, 3 to 15 percent slopes. This gently sloping and sloping, well drained soil is on glacial till upland hills, ridges, and plains. Stones and boulders cover 8 to 25 percent of the surface. Mapped areas are dominantly irregular in shape and mostly 2 to 40 acres.

Typically, this Narragansett soil has a dark brown, silt loam surface layer 3 inches thick. The subsoil is dark yellowish brown and yellowish brown silt loam 25 inches thick. The substratum is light olive brown gravelly loamy coarse sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of well drained Charlton, Canton, and Broadbrook soils; moderately well drained Sutton soils; and poorly drained Leicester soils. Included areas make up about 15 percent of this map unit.

Permeability of the Narragansett soil is moderate in the surface layer and subsoil and moderately rapid or rapid in the substratum. The available water capacity is high. Runoff is medium to rapid. Narragansett soil warms up and dries out rapidly in the spring. It is very strongly acid through medium acid.

Most areas of this soil are wooded. Other areas are cleared and are idle. A few small areas are in community developments.

This soil is not suited to cultivated crops. Stones and boulders make the use of farming equipment impractical. Stone removal is costly. The hazard of erosion is moderate or severe. Maintaining a permanent plant cover helps to control erosion.

This soil is suited to trees. Machine planting is not practical in most areas because of the stoniness. Care is needed in laying out woodland roads to control erosion.

This soil is suited to community development. Onsite septic systems need careful design and installation to

prevent effluent from seeping to the surface in areas downslope from the leaching system. Stones and boulders need to be removed for landscaping. Quickly establishing a plant cover and using mulch and netting, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass VIIs.

NhD—Narragansett extremely stony silt loam, 15 to 25 percent slopes. This moderately steep, well drained soil is on glacial till upland hills, ridges, and plains. Stones and boulders cover 8 to 25 percent of the surface. Mapped areas are dominantly irregular or long and narrow in shape and mostly 2 to 25 acres.

Typically, this Narragansett soil has a dark brown, silt loam surface layer 3 inches thick. The subsoil is dark yellowish brown and yellowish brown silt loam 25 inches thick. The substratum is light olive brown gravelly loamy coarse sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of well drained Charlton, Canton, and Broadbrook soils. Included areas make up about 15 percent of this map unit.

Permeability of the Narragansett soil is moderate in the surface layer and subsoil and moderately rapid or rapid in the substratum. The available water capacity is high. Runoff is very rapid. Narragansett soil warms up and dries out rapidly in the spring. It is very strongly acid through medium acid.

Most areas of this soil are wooded. A few small areas are cleared and are idle.

This soil is not suited to cultivated crops. Stoniness makes the use of farming equipment impractical. The hazard of erosion is severe. Maintaining a permanent plant cover helps to control erosion.

This soil is suited to trees. Machine planting is not practical because of the stoniness. Steepness of slopes and stoniness make the construction and use of woodland roads difficult.

The major limiting factor for community development is steepness of slope. Onsite septic systems need special design and installation to prevent effluent from seeping to the surface in areas downslope from the leaching system. Stones and boulders need to be removed for landscaping. Quickly establishing a plant cover and using mulch and netting, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass VIIs.

NlC—Narragansett-Hollis complex, very rocky, 3 to 15 percent slopes. This gently sloping to sloping complex consists of somewhat excessively drained and well drained soils on glacial till uplands. Rock outcrops cover as much as 10 percent of the surface. Stones and boulders cover 1 to 8 percent of the surface. Mapped areas are dominantly irregular in shape and mostly 2 to 60 acres.

The soils of this complex are so intermingled on the landscape that it was not practical to separate them in mapping at the scale used. This complex is about 55 percent Narragansett soil, 20 percent Hollis soil, and 25 percent other soils and rock outcrops.

Typically, the Narragansett soil has a dark brown, silt loam surface layer 6 inches thick. The subsoil is dark yellowish brown and yellowish brown silt loam 22 inches thick. The substratum is light olive brown gravelly loamy coarse sand to a depth of 60 inches or more.

Typically, the Hollis soil has a very dark brown, fine sandy loam surface layer 2 inches thick. The subsoil is dark brown and dark yellowish brown fine sandy loam 15 inches thick. Hard, unweathered bedrock is at a depth of 17 inches.

Included with these soils in mapping are small areas of well drained Broadbrook, Charlton, and Canton soils; moderately well drained Sutton and Rainbow soils; and poorly drained Leicester soils. Many small areas have bedrock at a depth of 20 to 40 inches.

Permeability of the Narragansett soil is moderate in the surface layer and subsoil and moderately rapid or rapid in the substratum. The available water capacity is high. Runoff is medium to rapid. Narragansett soil warms up and dries out rapidly in the spring. It is very strongly acid through medium acid.

Permeability of the Hollis soil is moderate or moderately rapid above the bedrock. The available water capacity is low. Runoff is medium or rapid. Hollis soil warms up and dries out rapidly in the spring. It is strongly acid or medium acid.

Most areas of this complex are wooded. Other areas are in community developments. A few small areas are cleared and used for pasture, or they are idle.

These soils are not suited to cultivated crops because stoniness and rock outcrops make the use of farming equipment difficult. The Hollis soil has a shallow rooting depth above the bedrock and is droughty. Stones and boulders are costly to remove. The hazard of erosion is moderate to severe. Maintaining a permanent plant cover helps to control erosion.

These soils are suited to trees. Stones, boulders, rock outcrops, and steepness of slope make machine planting impractical. Windthrow is common on the Hollis soil because of the shallow rooting depth.

The major limiting factors for community development are the steep slopes, shallow depth to bedrock, and rock outcrops. Onsite septic systems need careful design and installation to prevent effluent from seeping to the surface in areas downslope from the leaching system. Extensive onsite investigations are often needed to locate a suitable site for onsite septic systems. Excavations require blasting in many places. Stones and boulders need to be removed for landscaping. The Hollis soil is droughty. Quickly establishing a plant cover and using mulch and netting, temporary diversions, and sediment basins help to control erosion during construction.

These soils are in capability subclass VIs.

Nn—Ninigret fine sandy loam. This nearly level to gently sloping, moderately well drained soil is on outwash plains and stream terraces. Mapped areas are dominantly irregular in shape and mostly 2 to 15 acres. Slopes range from 0 to 5 percent.

Typically, this Ninigret soil has a very dark grayish brown, fine sandy loam surface layer 8 inches thick. The subsoil is yellowish brown, mottled fine sandy loam 18 inches thick. The substratum is pale brown, mottled loamy sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of well drained Agawam and Haven soils, moderately well drained Sudbury and Tisbury soils, and poorly drained Raypol and Walpole soils. Included areas make up about 15 percent of this map unit.

The Ninigret soil has a seasonal high water table at a depth of about 20 inches. Permeability is moderately rapid in the surface layer and subsoil and rapid in the substratum. The available water capacity is high. Runoff is slow or medium. Ninigret soil warms up and dries out slowly in the spring. Unless limed, it is strongly acid or medium acid.

Most areas of this soil are cleared and used for cultivated crops, hay, or pasture, or they are idle. Other areas are in woodland. A few areas are in community developments.

This soil is well suited to cultivated crops. Wetness limits the use of farming equipment early in spring and late in fall. The hazard of erosion is slight to moderate. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Machine planting is practical.

The major limiting factor for community development is the seasonal high water table. Onsite septic systems need special design and installation, and fill is required in many places. Onsite septic systems pollute the ground water in places. Slopes of excavated areas are unstable. Foundation drains help to prevent wet basements. Lawns are wet early in spring and late in fall. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass IIw.

Pa—Pawcatuck mucky peat. This nearly level, very poorly drained soil is on tidal marshes adjacent to Long Island Sound and Fishers Island Sound. Mapped areas are dominantly irregular in shape and mostly 2 to 75 acres. Slopes range from 0 to 1 percent.

Typically, this Pawcatuck soil has layers of very dark gray and black mucky peat 46 inches thick. The underlying mineral sediment is gray and black very fine sandy loam and loamy sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of very poorly drained Ipswich and Westbrook soils. Also included are small areas of Udorthents consisting of sand and silt dredged from the channel of rivers and streams. Included areas make up about 20 percent of this map unit.

The Pawcatuck soil has a high water table at or above the surface for most of the year. It is subject to daily inundations by saltwater. Permeability is moderate through rapid in the organic layers and very rapid in the underlying mineral sediment. The available water capacity is high. Runoff is very slow, or the soil is ponded. The soil is strongly acid through neutral. If drained, it becomes extremely acid and toxic to plants.

Most areas of this soil are in the natural state and provide habitat for wildlife. They are suited to the reproduction of shellfish.

This soil is not suited to cultivated crops or trees because of the high salt content.

This soil is not suited to community development because of daily inundations by saltwater.

This soil is in capability subclass VIIIw.

PbB—Paxton and Montauk fine sandy loams, 3 t 8 percent slopes. These gently sloping, well drained soils are on drumloidal, glacial till, upland landforms. Mapped areas are dominantly irregular in shape and mostly 2 to 50 acres.

The mapped acreage of this undifferentiated group is about 45 percent Paxton soil, 40 percent Montauk soil, and 15 percent other soils. Mapped areas consist of Paxton soil or Montauk soil, or both. These soils were mapped together because there are no major differences in their use and management.

Typically, the Paxton soil has a very dark grayish brown, fine sandy loam surface layer 8 inches thick. The subsoil is dark yellowish brown, yellowish brown, and light olive brown fine sandy loam 19 inches thick. The substratum is firm, very firm, and brittle, olive brown fine sandy loam to a depth of 60 inches or more.

Typically, the Montauk soil has a very dark grayish brown, fine sandy loam surface layer 7 inches thick. The subsoil is dark yellowish brown fine sandy loam and yellowish brown sandy loam 16 inches thick. The substratum is brown loamy sand and firm, very firm, and brittle, grayish brown loamy sand to a depth of 60 inches or more.

Included with these soils in mapping are small areas of well drained Broadbrook, Canton, and Charlton soils; moderately well drained Woodbridge soils; and poorly drained Ridgebury soils.

Permeability of the Paxton soil is moderate in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is moderate. Runoff is medium. The Paxton soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

Permeability of the Montauk soil is moderate or moderately rapid in the surface layer and subsoil and slow or moderately slow in the substratum. The available water capacity is moderate. Runoff is medium. The

Montauk soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

Most areas of these soils are cleared and used for cultivated crops, hay, and pasture, or they are idle. Other areas are in community developments. A few areas are in woodland.

These soils are well suited to cultivated crops. The hazard of erosion is moderate. Minimum tillage and the use of cover crops help to control erosion.

These soils are suited to trees. Machine planting is practical.

The major limiting factor for community development is the very slow, slow, or moderately slow permeability in the substratum. Onsite septic systems need special design and installation to prevent effluent from seeping to the surface. Steep slopes of excavations slump when wet. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to reduce erosion during construction.

These soils are in capability subclass IIe.

PbC—Paxton and Montauk fine sandy loams, 8 to 15 p rcent slopes. These sloping, well drained soils are on drumloidal, glacial till, upland landforms. Mapped areas are dominantly irregular in shape and mostly 2 to 30 acres.

The mapped acreage of this undifferentiated group is about 45 percent Paxton soil, 40 percent Montauk soil, and 15 percent other soils. Mapped areas consist of Paxton soil or Montauk soil, or both. These soils were mapped together because there are no major differences in use and management.

Typically, the Paxton soil has a very dark grayish brown, fine sandy loam surface layer 8 inches thick. The subsoil is dark yellowish brown, yellowish brown, and light olive brown fine sandy loam 19 inches thick. The substratum is firm, very firm, and brittle, olive brown fine sandy loam to a depth of 60 inches or more.

Typically, the Montauk soil has a very dark grayish brown, fine sandy loam surface layer 7 inches thick. The subsoil is dark yellowish brown fine sandy loam and yellowish brown sandy loam 16 inches thick. The substratum is brown loamy sand and firm, very firm, and brittle, grayish brown loamy sand to a depth of 60 inches or more.

Included with these soils in mapping are small areas of well drained Broadbrook, Canton, and Charlton soils; moderately well drained Woodbridge soils; and poorly drained Ridgebury soils.

Permeability of the Paxton soil is moderate in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is moderate. Runoff is rapid. Paxton soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

Permeability of the Montauk soil is moderate or moderately rapid in the surface layer and subsoil and slow or moderately slow in the substratum. The available water capacity is moderate. Runoff is rapid. Montauk soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

Most areas of these soils are cleared and used for cultivated crops, hay, or pasture, or they are idle. Other areas are in woodland. A few areas are in community developments.

These soils are suited to cultivated crops. However, the hazard of erosion is severe. Minimum tillage and the use of cover crops, diversions, and grass waterways help to control erosion.

These soils are suited to trees. Machine planting is practical.

The major limiting factor for community development is the very slow, slow, and moderately slow permeability in the substratum. Onsite septic systems need careful design and installation to prevent effluent from seeping to the surface in areas downslope from the leaching system. Quickly establishing a plant cover and using mulch and netting, temporary diversions, and sediment basins help to control erosion during construction.

These soils are in capability subclass IIIe.

PbD—Paxton and Montauk fine sandy loams, 15 to 25 percent slopes. These moderately steep, well drained soils are on drumloidal, glacial till, upland landforms. Mapped areas are dominantly irregular in shape and mostly 2 to 25 acres.

The mapped acreage of this undifferentiated group is about 45 percent Paxton soil, 40 percent Montauk soil, and 15 percent other soils. Mapped areas consist of Paxton soil or Montauk soil, or both. These soils were mapped together because there are no major differences in use and management.

Typically, the Paxton soil has a very dark grayish brown, fine sandy loam surface layer 8 inches thick. The subsoil is dark yellowish brown, yellowish brown, and light olive brown fine sandy loam 19 inches thick. The substratum is firm, very firm, and brittle, olive brown fine sandy loam to a depth of 60 inches or more.

Typically, the Montauk soil has a very dark grayish brown, fine sandy loam surface layer 7 inches thick. The subsoil is dark yellowish brown fine sandy loam and yellowish brown sandy loam 16 inches thick. The substratum is brown loamy sand and firm, very firm, and brittle, grayish brown loamy sand to a depth of 60 inches or more.

Included with these soils in mapping are small areas of well drained Broadbrook, Canton, and Charlton soils and moderately well drained Woodbridge soils.

Permeability of the Paxton soil is moderate in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is moderate. Runoff is very rapid. Paxton soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

Permeability of the Montauk soil is moderate or moderately rapid in the surface layer and subsoil and

slow or moderately slow in the substratum. The available water capacity is moderate. Runoff is very rapid. Montauk soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

Most areas of these soils are cleared and used for hay or pasture, or they are idle. Other areas are in woodland. A few areas are in community developments.

These soils are poorly suited to cultivated crops. Steep slopes make the use of farming equipment difficult. The hazard of erosion is severe. Minimum tillage and the use of cover crops, diversions, grass waterways, or a permanent plant cover help to control erosion.

These soils are suited to trees. Machine planting is practical. Woodland roads need to be carefully laid out to prevent erosion.

The major limiting factors for community development are very slow, slow, and moderately slow permeability in the substratum and the steep slopes. Onsite septic systems need careful design and installation to prevent effluent from seeping to the surface in areas downslope from the leaching system. Quickly establishing a plant cover and using mulch and netting, temporary diversions, and sediment basins help to control erosion during construction.

These soils are in capability subclass IVe.

PdB—Paxton and Montauk very stony fine sandy loams, 3 to 8 percent slopes. These gently sloping, well drained soils are on drumloidal, glacial till, upland landforms. Stones and boulders cover 1 to 8 percent of the surface. Mapped areas are dominantly irregular in shape and mostly 2 to 50 acres.

The mapped acreage of this undifferentiated group is about 45 percent Paxton soil, 40 percent Montauk soil, and 15 percent other soils. Mapped areas consist of Paxton soil or Montauk soil, or both. These soils were mapped together because there are no major differences in use and management.

Typically, the Paxton soil has a very dark grayish brown, fine sandy loam surface layer 3 inches thick. The subsoil is dark yellowish brown, yellowish brown, and light olive brown fine sandy loam 24 inches thick. The substratum is firm, very firm, and brittle, olive brown fine sandy loam to a depth of 60 inches or more.

Typically, the Montauk soil has a very dark grayish brown, fine sandy loam surface layer 3 inches thick. The subsoil is dark yellowish brown fine sandy loam and yellowish brown sandy loam 20 inches thick. The substratum is brown loamy sand and firm, very firm, and brittle, grayish brown loamy sand to a depth of 60 inches or more.

Included with these soils in mapping are small areas of well drained Broadbrook, Canton, and Charlton soils; moderately well drained Woodbridge soils; and poorly drained Ridgebury soils.

Permeability of the Paxton soil is moderate in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is moderate. Runoff is medium. Paxton soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

Permeability of the Montauk soil is moderate or moderately rapid in the surface layer and subsoil and slow or moderately slow in the substratum. The available water capacity is moderate. Runoff is medium. Montauk soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

Most areas of these soils are wooded. A few small areas are cleared and used for pasture, or they are idle. Other areas are in community developments.

These soils are not suited to cultivated crops because stoniness makes the use of farming equipment difficult. Stone removal is costly. The hazard of erosion is moderate. Maintaining a permanent plant cover helps to control erosion.

These soils are suited to trees. Machine planting is practical, but stoniness limits the use of equipment in places.

The major limiting factor for community development is very slow, slow, and moderately slow permeability in the substratum. Onsite septic systems need careful design and installation to prevent effluent from seeping to the surface in areas downslope from the leaching system. Stones and boulders need to be removed for landscaping. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

These soils are in capability subclass VIs.

PdC—Paxton and Montauk very stony fine sandy loams, 8 to 15 percent slopes. These sloping, well drained soils are on drumloidal, glacial till, upland landforms. Stones and boulders cover 1 to 8 percent of the surface. Mapped areas are dominantly irregular in shape and mostly 2 to 30 acres.

The mapped acreage of this undifferentiated group is about 45 percent Paxton soil, 40 percent Montauk soil, and 15 percent other soils. Mapped areas consist of Paxton soil or Montauk soil, or both. These soils were mapped together because there are no major differences in use and management.

Typically, the Paxton soil has a very dark grayish brown, fine sandy loam surface layer 3 inches thick. The subsoil is dark yellowish brown, yellowish brown, and light olive brown fine sandy loam 24 inches thick. The substratum is firm, very firm, and brittle, olive brown fine sandy loam to a depth of 60 inches or more.

Typically, the Montauk soil has a very dark grayish brown, fine sandy loam surface layer 3 inches thick. The subsoil is dark yellowish brown fine sandy loam and yellowish brown sandy loam 20 inches thick. The substratum is brown loamy sand and firm, very firm, and brittle, grayish brown loamy sand to a depth of 60 inches or more.

Included with these soils in mapping are small areas of well drained Broadbrook, Canton, and Charlton soils;

moderately well drained Woodbridge soils; and poorly drained Ridgebury soils.

Permeability of the Paxton soil is moderate in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is moderate. Runoff is rapid. Paxton soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

Permeability of the Montauk soil is moderate or moderately rapid in the surface layer and subsoil and slow or moderately slow in the substratum. The available water capacity is moderate. Runoff is rapid. Montauk soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

Most areas of these soils are wooded. A few small areas are cleared and used for pasture, or they are idle. Other areas are in community developments.

These soils are not suited to cultivated crops because stoniness makes the use of farming equipment difficult. Stone removal is costly. The hazard of erosion is severe. Maintaining a permanent plant cover helps to control erosion.

These soils are suited to trees. Machine planting is hindered by stoniness, but it is feasible in places. Woodland roads need to be laid out carefully to prevent erosion.

The major limiting factors for community development are very slow, slow, and moderately slow permeability in the substratum. Onsite septic systems need special design and installation to prevent effluent from seeping to the surface in areas downslope from the leaching system. Stones and boulders need to be removed for landscaping. Quickly establishing a plant cover and using mulch and netting, temporary diversions, and sediment basins help to control erosion during construction.

These soils are in capability subclass VIs.

PeC—Paxton and Montauk extremely stony fine sandy loams, 3 to 15 percent slopes. These gently sloping to sloping, well drained soils are on drumloidal, glacial till, upland landforms. Stones and boulders cover 8 to 25 percent of the surface. Mapped areas are dominantly irregular in shape and mostly 2 to 30 acres.

The mapped acreage of this undifferentiated group is about 45 percent Paxton soil, 40 percent Montauk soil, and 15 percent other soils. Mapped areas are composed of Paxton soil or Montauk soil, or both. These soils were mapped together because there are no major differences in use and management.

Typically, the Paxton soil has a very dark grayish brown, fine sandy loam surface layer 3 inches thick. The subsoil is dark yellowish brown, yellowish brown, and light olive brown fine sandy loam 24 inches thick. The substratum is firm, very firm, and brittle, olive brown fine sandy loam to a depth of 60 inches or more.

Typically, the Montauk soil has a very dark grayish brown, fine sandy loam surface layer 3 inches thick. The subsoil is dark yellowish brown fine sandy loam and yellowish brown sandy loam 20 inches thick. The substratum is brown loamy sand and firm, very firm, and brittle, grayish brown loamy sand to a depth of 60 inches or more.

Included with these soils in mapping are small areas of well drained Broadbrook, Canton, and Charlton soils; moderately well drained Woodbridge soils; and poorly drained Ridgebury soils.

Permeability of the Paxton soil is moderate in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is moderate. Runoff is medium or rapid. Paxton soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

Permeability of the Montauk soil is moderate or moderately rapid in the surface layer and subsoil and slow or moderately slow in the substratum. The available water capacity is moderate. Runoff is medium to rapid. Montauk soil warms up and dries out rapidly in the spring. Unless limed, it is very strongly acid or medium acid.

Most areas of these soils are wooded. Other areas are used for community developments. A few areas are cleared and used for pasture, or they are idle.

These soils are not suited to cultivated crops. Stones and boulders make the use of farming equipment impractical (fig. 6). Stone removal is costly. The hazard of erosion is moderate or severe. Maintaining a permanent plant cover helps to control erosion.

These soils are suited to trees. Stoniness makes machine planting impractical in most places. Woodland roads need to be laid out carefully to prevent erosion.

The major limiting factor for community development is the very slow, slow, and moderately slow permeability in the substratum. Onsite septic systems need careful design and installation to prevent effluent from seeping to the surface in areas downslope from the leaching system. Stones and boulders need to be removed for landscaping. Quickly establishing a plant cover and using mulch and netting, temporary diversions, and sediment basins help to control erosion during construction.

These soils are in capability subclass VIIs.

PeD—Paxton and Montauk extremely stony fine sandy loams, 15 to 35 percent slopes. These moderately steep to steep, well drained soils are on drumloidal, glacial till, upland landforms. Stones and boulders cover 8 to 25 percent of the surface. Mapped areas are dominantly irregular in shape and mostly 2 to 25 acres.

The mapped acreage of this undifferentiated group is about 45 percent Paxton soil, 40 percent Montauk soil, and 15 percent other soils. Mapped areas consist of Paxton soil or Montauk soil, or both. These soils were mapped together because there are no major differences in use and management.

Typically, the Paxton soil has a very dark grayish brown, fine sandy loam surface layer 3 inches thick. The subsoil is dark yellowish brown, yellowish brown, and

Figure 6.—Large stones in areas of Paxton and Montauk extremely stony fine sandy loams, 3 to 15 percent slopes, makes the use of farming equipment impractical.

light olive brown fine sandy loam 24 inches thick. The substratum is firm, very firm, and brittle, olive brown fine sandy loam to a depth of 60 inches or more.

Typically, the Montauk soil has a very dark grayish brown, fine sandy loam surface layer 3 inches thick. The subsoil is dark yellowish brown fine sandy loam and yellowish brown sandy loam 20 inches thick. The substratum is brown loamy sand and firm, very firm, and brittle, grayish brown loamy sand to a depth of 60 inches or more.

Included with these soils in mapping are small areas of well drained Broadbrook, Canton, and Charlton soils and moderately well drained Woodbridge soils.

Permeability of the Paxton soil is moderate in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is moderate. Runoff is very rapid. Paxton soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

Permeability of the Montauk soil is moderate or moderately rapid in the surface layer and subsoil and slow or moderately slow in the substratum. The available water capacity is moderate. Runoff is very rapid. Montauk soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid.

Most areas of these soils are wooded. A few small areas are cleared and are idle.

These soils are not suited to cultivated crops. Stoniness makes the use of farming equipment

impractical. The hazard of erosion is severe. Maintaining a permanent plant cover helps to control erosion.

These soils are suited to trees. Stoniness and the steep slopes make machine planting impractical. Woodland roads need to be laid out carefully to prevent erosion.

The major limiting factors for community development are very slow, slow, and moderately slow permeability in the substratum and the steep slopes. Onsite septic systems need special design and installation to prevent effluent from seeping to the surface in areas downslope from the leaching system. Stones and boulders need to be removed for landscaping. Quickly establishing a plant cover and using mulch and netting, temporary diversions, and sediment basins help to control erosion during construction.

These soils are in capability subclass VIIs.

Ps—Pootatuck Variant fine sandy loam. This nearly level, moderately well drained soil is on flood plains of major streams and rivers (fig. 7). Mapped areas are dominantly long and narrow or irregular in shape and mostly 2 to 25 acres. Slopes range from 0 to 3 percent.

Typically, this Pootatuck Variant soil has a very dark brown, fine sandy loam surface layer 9 inches thick. The subsoil is dark brown, mottled loamy fine sand and fine sand 19 inches thick. The substratum is dark grayish brown, mottled fine sand and dark yellowish brown gravelly sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of poorly drained Rippowam and Limerick Variant soils. Included areas make up about 20 percent of this map unit.

The Pootatuck Variant soil has a seasonal high water table at a depth of about 18 inches. It is subject to frequent flooding. Permeability is moderate or moderately rapid in the surface layer and subsoil and rapid or very

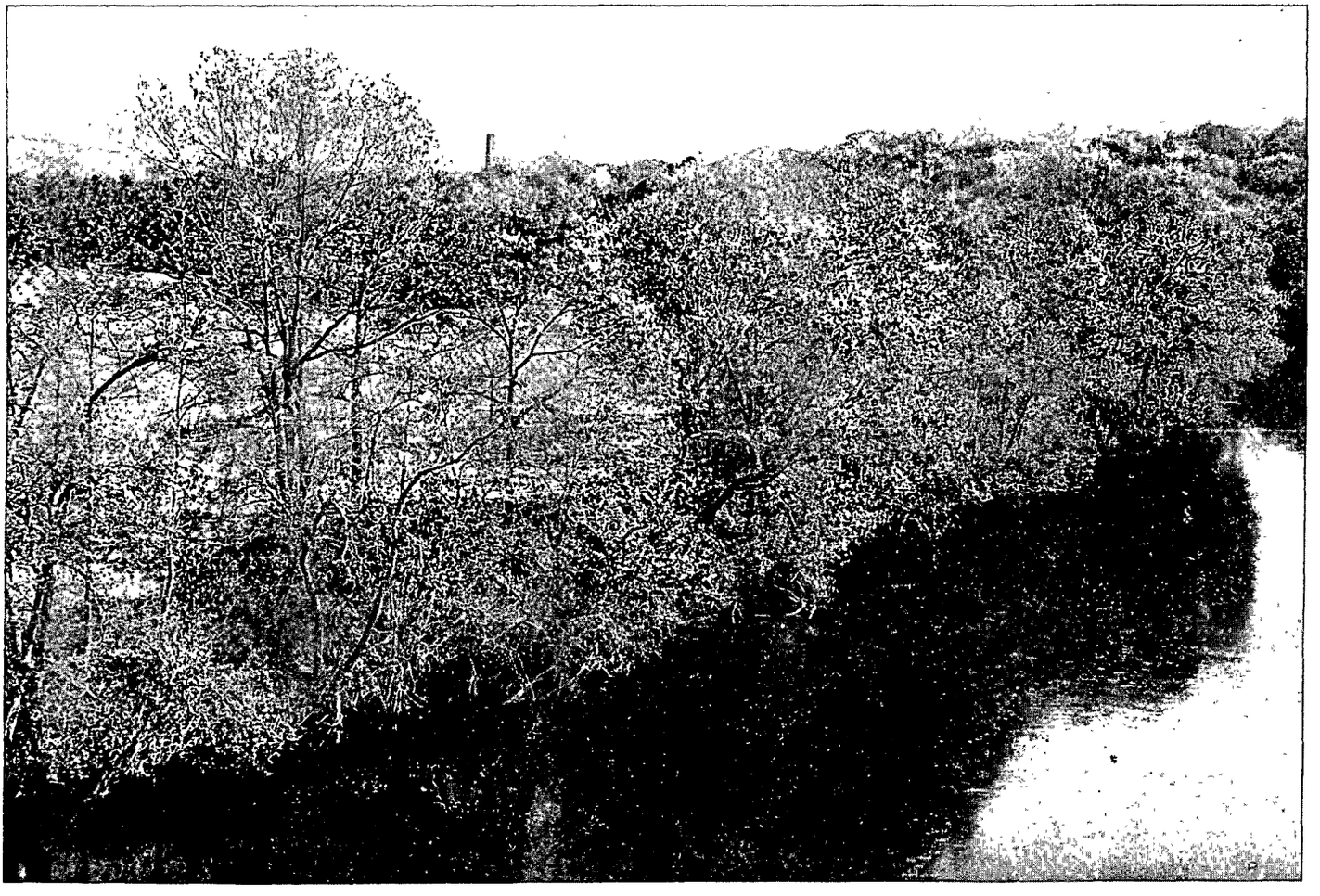


Figure 7.—An area of Pootatuck Variant fine sandy loam along the Quinebaug River.

rapid in the substratum. The available water capacity is moderate. Runoff is slow. Pootatuck Variant soil warms up and dries out slowly in the spring. Unless limed, it is strongly acid or medium acid.

Most areas of this soil are wooded. Other areas are cleared and used for cultivated crops, hay, or pasture, or they are idle.

This soil is well suited to cultivated crops. Wetness limits the use of farming equipment early in spring and late in fall. This soil is seldom flooded during the growing season. Artificial drainage helps to dry the soil earlier in the spring. The hazard of erosion is slight. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Machine planting is limited when the soil is wet.

This soil is poorly suited to community development because of flooding and a seasonal high water table. Sediment deposited during flooding can damage lawns and gardens. Lawns are wet and soggy early in spring and late in fall.

This soil is in capability subclass IIw.

RaA—Rainbow silt loam, 0 to 3 percent slopes. This nearly level, moderately well drained soil is on drumloidal, glacial till, upland landforms. Mapped areas are dominantly irregular in shape and mostly 2 to 30 acres.

Typically, this Rainbow soil has a dark brown, silt loam surface layer 8 inches thick. The subsoil is yellowish brown and light yellowish brown, mottled silt loam 18 inches thick. The substratum is very firm, brittle, pale brown, mottled fine sandy loam to a depth of 60 inches or more.

Included with this soil in mapping are small areas of well drained Broadbrook soils, moderately well drained Sutton and Woodbridge soils, and poorly drained Ridgebury soils. Included areas make up about 15 percent of this map unit.

The Rainbow soil has a seasonal high water table at a depth of about 18 inches. Permeability is moderate in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is moderate. Runoff is slow. Rainbow soil warms up and dries out slowly in the spring. Unless limed, it is strongly acid or medium acid.

Most areas of this soil are cleared and used for cultivated crops, hay, or pasture, or they are idle. Other areas are in woodland. A few areas are in community developments.

This soil is well suited to cultivated crops. Wetness limits the use of farming equipment early in spring and late in fall. Artificial drainage helps to dry the soil earlier in the spring. The hazard of erosion is slight. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Machine planting is limited when the soil is wet, mainly early in spring and late in fall.

The major limiting factors for community development are the seasonal high water table and slow to very slow permeability in the substratum. Onsite septic systems need careful design and installation to prevent effluent from seeping to the surface. Slopes of excavated areas slump when wet. Foundation drains help to prevent wet basements. Lawns are wet and soggy early in spring and late in fall. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass IIw.

RaB—Rainbow silt loam, 3 to 8 percent slopes. This gently sloping, moderately well drained soil is on drumloidal, glacial till, upland landforms. Mapped areas are dominantly irregular in shape and mostly 2 to 20 acres.

Typically, this Rainbow soil has a dark brown, silt loam surface layer 8 inches thick. The subsoil is yellowish brown and light yellowish brown, mottled silt loam 18 inches thick. The substratum is very firm, brittle, pale brown, mottled fine sandy loam to a depth of 60 inches or more.

Included with this soil in mapping are small areas of well drained Broadbrook soils, moderately well drained Sutton and Woodbridge soils, and poorly drained Ridgebury soils. Included areas make up about 15 percent of this map unit.

The Rainbow soil has a seasonal high water table at a depth of about 18 inches. Permeability is moderate in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is moderate. Runoff is medium. Rainbow soil warms up and dries out slowly in the spring. Unless limed, it is strongly acid or medium acid.

Most areas of this soil are cleared and used for cultivated crops, hay, or pasture, or they are idle. Other areas are in woodland. A few areas are in community developments.

This soil is well suited to cultivated crops. Wetness limits the use of farming equipment early in spring and late in fall. Artificial drainage helps to dry the soil earlier in the spring. The hazard of erosion is moderate. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Machine planting is limited when the soil is wet, mainly early in spring and late in fall.

The major limiting factors for community development are the seasonal high water table and slow or very slow permeability in the substratum. Onsite septic systems need special design and installation to prevent effluent from seeping to the surface in areas downslope from the leaching system. Slopes of excavated areas slump when wet. Foundation drains help to prevent wet basements. Lawns are wet and soggy early in spring and late in fall. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass IIw.

RbB—Rainbow very stony silt loam, 0 to 8 percent slopes. This nearly level to gently sloping, moderately well drained soil is on drumloidal, glacial till, upland landforms. Stones and boulders cover 1 to 8 percent of the surface. Mapped areas are dominantly irregular in shape and mostly 2 to 50 acres.

Typically, this Rainbow soil has a dark brown, silt loam surface layer 6 inches thick. The subsoil is yellowish brown and light yellowish brown, mottled silt loam 20 inches thick. The substratum is very firm, brittle, pale brown, mottled fine sandy loam to a depth of 60 inches or more.

Included with this soil in mapping are small areas of well drained Broadbrook soils, moderately well drained Sutton and Woodbridge soils, and poorly drained Ridgebury soils. Included areas make up about 15 percent of this map unit.

The Rainbow soil has a seasonal high water table at a depth of about 18 inches. Permeability is moderate in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is moderate. Runoff is slow to medium. Rainbow soil warms up and dries out slowly in the spring. It is strongly acid or medium acid.

Most areas of this soil are wooded. Other areas are cleared and used for pasture, or they are idle. A few areas are in community developments.

This soil is not suited to cultivated crops. Stoniness makes the use of farming equipment difficult. Stone removal is costly. Wetness limits the use of farming equipment early in spring and late in fall. Artificial drainage helps to dry the soil earlier in the spring. The hazard of erosion is moderate. Maintaining a permanent plant cover helps to control erosion.

This soil is suited to trees. Wetness hinders machine planting when the soil is wet.

The major limiting factors for community development are a seasonal high water table and slow to very slow permeability in the substratum. Onsite septic systems need special design and installation to prevent effluent from seeping to the surface in areas downslope from the leaching system. Slopes of excavated areas slump when wet. Foundation drains help to prevent wet basements. Stones and boulders need to be removed for landscaping. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass VIs.

Rc—Raypol silt loam. This nearly level, poorly drained soil is on stream terraces and outwash plains. Mapped areas are dominantly irregular in shape and mostly 2 to 20 acres.

Typically, this Raypol soil has a very dark brown, silt loam surface layer 5 inches thick. The subsoil is yellowish brown and light brownish gray, mottled silt loam 22 inches thick. The substratum is light brownish gray, mottled gravelly fine sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of moderately well drained Tisbury and Ninigret soils, poorly drained Walpole soils, and very poorly drained Scarboro soils. Included areas make up about 15 percent of the map unit.

The Raypol soil has a seasonal high water table at a depth of about 6 inches. Permeability is moderate in the surface layer and subsoil and rapid or very rapid in the substratum. The available water capacity is high. Runoff is slow. Raypol soil warms up and dries out slowly in the spring. It is very strongly acid or strongly acid above a depth of 40 inches and strongly acid through slightly acid below a depth of 40 inches.

Most areas of this soil are wooded. Other areas are cleared and are idle. A few areas are cleared and used for cultivated crops, hay, or pasture.

This soil is suited to cultivated crops. Wetness limits the use of farming equipment in spring and fall. Artificial drainage is needed. The hazard of erosion is slight. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Wetness limits the use of machine planting when the soil is wet. Windthrow is common because of the shallow rooting depth above the water table.

The major limiting factor for community development is the seasonal high water table. Onsite septic systems need special design and installation, and most sites require extensive filling. In places, onsite septic systems pollute the ground water. Slopes of excavated areas are unstable. Foundation drains help to prevent wet basements. Lawns are wet and soggy in the spring and fall. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass IIIw.

Rd—Ridgebury fine sandy loam. This nearly level, poorly drained soil is on drumloidal, glacial till, upland landforms. Mapped areas are dominantly long and narrow and mostly 2 to 20 acres. Slopes range from 0 to 3 percent.

Typically, this Ridgebury soil has a black, fine sandy loam surface layer 4 inches thick. The subsoil is gray and brown, mottled fine sandy loam 16 inches thick. The substratum is very firm, brittle, grayish brown, mottled sandy loam to a depth of 60 inches or more.

Included with this soil in mapping are small areas of moderately well drained Rainbow and Woodbridge soils, poorly drained Leicester soils, and very poorly drained Whitman soils. A few small areas have stones and boulders on the surface. A few areas in the southeastern part of the county have a silt loam surface layer and subsoil. Included areas make up about 15 percent of this map unit.

The Ridgebury soil has a seasonal high water table at a depth of about 6 inches. Permeability is moderate or moderately rapid in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is moderate. Runoff is very slow or slow. Ridgebury soil warms up and dries out slowly in the spring. Unless limed, it is strongly acid through slightly acid.

Most areas of this soil are cleared and used for pasture, or they are idle. A few small areas are cultivated or are in woodland.

This soil is suited to cultivated crops. Wetness limits the use of farming equipment in spring and fall. Artificial drainage is needed. The hazard of erosion is slight. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Wetness limits machine planting when the soil is wet. Windthrow is common because of the shallow rooting depth above the high water table.

The major limiting factors for community development are the slow or very slow permeability in the substratum and the seasonal high water table. Onsite septic systems need special design and installation, and most areas need extensive filling. Slopes of excavated areas slump when wet. Foundation drains help to prevent wet basements. Lawns are wet and soggy in the spring and fall. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass IIIw.

Rn—Ridgebury, Leicester, and Whitman extremely st ny fine sandy loams. These nearly level, poorly drained and very poorly drained soils are in drainageways and depressions of glacial till upland hills, ridges, plains, and drumloidal landforms. Stones and boulders cover 8 to 25 percent of the surface (fig. 8). Mapped areas are long and narrow or irregular in shape and mostly 2 to 40 acres. Slopes range from 0 to 3 percent.

The mapped acreage of this undifferentiated group is about 35 percent Ridgebury soil, 30 percent Leicester soil, 20 percent Whitman soil, and 15 percent other soils. Some mapped areas consist of one of these soils, and other areas consist of two or three. These soils were mapped together because there are no major differences in use and management.

Typically, this Ridgebury soil has a black, fine sandy loam surface layer 4 inches thick. The subsoil is gray and brown, mottled fine sandy loam 16 inches thick. The substratum is very firm, brittle, grayish brown, mottled sandy loam to a depth of 60 inches or more.

Typically, this Leicester soil has a very dark gray, fine sandy loam surface layer 6 inches thick. The subsoil is dark grayish brown, grayish brown, and pale olive, mottled fine sandy loam 26 inches thick. The substratum is light olive gray, mottled gravelly fine sandy loam to a depth of 60 inches or more.

Typically, this Whitman soil has a black, fine sandy loam surface layer 9 inches thick. The subsoil is dark grayish brown, mottled fine sandy loam 7 inches thick. The substratum is very firm, brittle, grayish brown, mottled fine sandy loam to a depth of 60 inches or more.

Included with these soils in mapping are small areas of moderately well drained Rainbow, Sutton, and Woodbridge soils and very poorly drained Adrian and Palms soils. A few areas in the southeastern part of the county have a silt loam surface layer and subsoil. Many small areas have fewer stones on the surface.

The Ridgebury soil has a seasonal high water table at a depth of about 6 inches. Permeability is moderate or moderately rapid in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is moderate. Runoff is very slow or slow. Ridgebury soil warms up and dries out slowly in the spring. It is strongly acid through slightly acid.

The Leicester soil has a seasonal high water table at a depth of about 6 inches. Permeability is moderate or moderately rapid. The available water capacity is moderate. Runoff is very slow or slow. Leicester soil warms up and dries out slowly in the spring. It is very strongly acid through medium acid.

The Whitman soil has a high water table at or near the surface for most of the year. Permeability is moderate or moderately rapid in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is moderate. Runoff is very slow, or the soil is ponded. Whitman soil warms up and dries out very slowly. It is very strongly acid through slightly acid.

Most areas of these soils are wooded. A few areas are cleared and used for pasture, or they are idle.

These soils are not suited to cultivated crops. Stoniness makes the use of farming equipment impractical. The erosion hazard is slight. Maintaining a permanent plant cover helps to control erosion.

These soils are suited to trees. Stoniness makes the use of machine planting impractical, and woodland roads are difficult to construct in most places. Windthrow is common because of the shallow rooting depth above the high water table.

The major limiting factors for community development are the high water table and the slow or very slow permeability in the substratum. Onsite septic systems need special design and installation, and sites generally require extensive filling. Slopes of excavated areas slump when wet. Foundation drains help to prevent wet basements. Stones and boulders need to be removed for landscaping. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

These soils are in capability subclass VIIs.

Ro—Rippowam fine sandy loam. This nearly level, poorly drained soil is on flood plains of major streams, rivers, and their tributaries. Mapped areas are dominantly

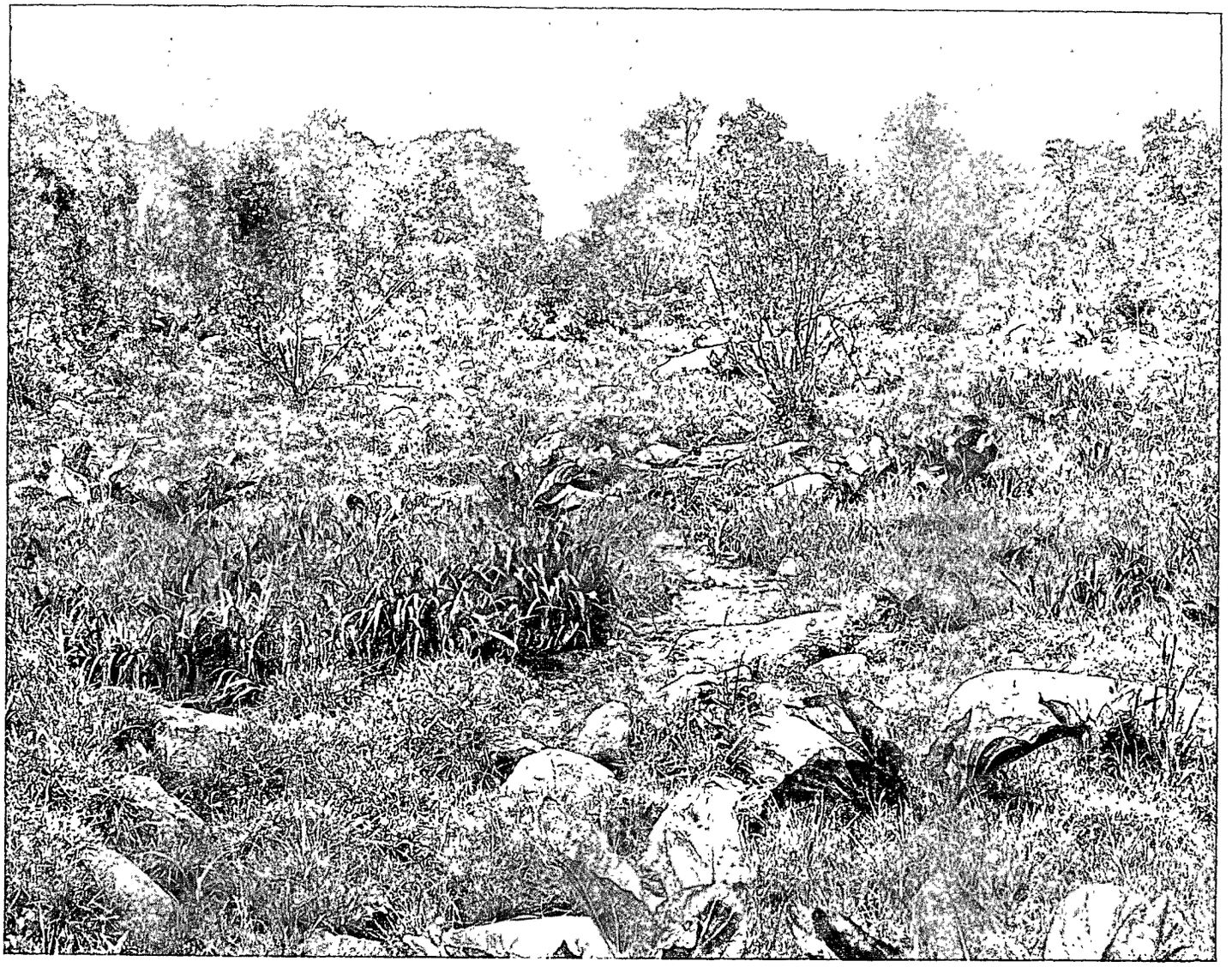


Figure 8.—An area of Ridgebury, Leicester, and Whitman extremely stony fine sandy loams.

long and narrow or irregular in shape and mostly 2 to 35 acres.

Typically, this Rippowam soil has a black, fine sandy loam surface layer 8 inches thick. The subsoil is dark grayish brown and dark gray, mottled fine sandy loam 27 inches thick. The substratum is dark grayish brown gravelly coarse sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of moderately well drained Pootatuck Variant soils and poorly drained Limerick Variant soils. Included areas make up about 20 percent of this map unit.

The Rippowam soil has a seasonal high water table at a depth of about 6 inches. It is subject to frequent flooding. Permeability is moderate or moderately rapid in the surface layer and subsoil and rapid or very rapid in the substratum. The available water capacity is moderate. Runoff is slow. Rippowam soil warms up and dries out slowly in the spring. It is strongly acid or medium acid but has a medium acid layer within a depth of 40 inches.

Most areas of this soil are wooded. Other areas are cleared and used for pasture, or they are idle.

This soil is suited to cultivated crops. Wetness is the major limitation, and artificial drainage is needed. This soil is seldom flooded during the growing season. Artificial drainage helps to dry the soil earlier in the spring. The hazard of erosion is slight. Areas that cannot

be drained are poorly suited to crops. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Machine planting is limited when the soil is wet. Tree windthrow is common because of the shallow rooting depth above the high water table.

This soil is poorly suited to community development because of flooding and the seasonal high water table. Areas used for onsite septic systems require extensive filling, and systems require special design and installation. Areas need to be protected from flooding. Sediment deposited by flooding damages lawns. Lawns are wet and soggy in the fall and spring.

This soil is in capability subclass IIIw.

Rp—R ck outcrop-Hollis complex. This gently sloping to very steep complex consists of Rock outcrop and a somewhat excessively drained soil on glacial till uplands. Stones and boulders cover 1 to 8 percent of the surface. Mapped areas are irregular in shape and mostly 2 to 15 acres. Slopes range from 3 to 45 percent.

Rock outcrop and Hollis soil are so intermingled on the landscape that it was not practical to separate them in mapping at the scale used. This complex is about 50 percent Rock outcrop, 30 percent Hollis soil, and 20 percent other soils.

Rock outcrop is hard, unweathered, exposed bedrock. It is mainly gneiss and schist.

Typically, the Hollis soil has a very dark brown, fine sandy loam surface layer 2 inches thick. The subsoil is dark brown and dark yellowish brown fine sandy loam 15 inches thick. Hard, unweathered bedrock is at a depth of 17 inches.

Included in this complex are small areas of well drained Canton, Charlton, and Narragansett soils and moderately well drained Sutton soils. Also included are many small areas that have bedrock at a depth of 20 to 40 inches. A few small areas in the northwestern part of the county have redder colors in the subsoil.

Permeability of the Hollis soil is moderate or moderately rapid above the bedrock. The available water capacity is low. Runoff is medium through very rapid. Hollis soil warms up and dries out rapidly in the spring. It is strongly acid or medium acid.

Most areas of this complex are wooded. Other areas are cleared and are idle.

This complex is not suited to cultivated crops. The hazard of erosion is severe. Maintaining a permanent plant cover helps to control erosion.

This complex is poorly suited to trees, but it is better suited to trees than to most other uses. Rock outcrop and stones and boulders make machine planting impractical. Windthrow is common on the Hollis soil because of the shallow rooting depth.

The major limiting factors for community development are the shallow depth to bedrock and Rock outcrop. Suitable sites for onsite septic systems commonly require large lots and specially designed systems. Excavations require blasting. Stoniness and Rock outcrop severely limit landscaping. Quickly establishing a plant cover and using mulch and netting, temporary diversions, and sediment basins help to control erosion during construction.

This complex is in capability subclass VIIs.

Sf—Scarboro mucky fine sandy loam. This nearly level, very poorly drained soil is on stream terraces and outwash plains. Mapped areas are dominantly irregular in shape and mostly 2 to 25 acres. Slopes range from 0 to 3 percent.

Typically, this Scarboro soil has an organic layer of black muck 5 inches thick. The mineral surface layer is black, mucky fine sandy loam 4 inches thick. The substratum is gray and grayish brown, mottled loamy sand and sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of poorly drained Raypol and Walpole soils and very poorly drained Whitman, Adrian, and Palms soils. Many small areas have a silt loam surface layer. Included areas make up about 20 percent of this map unit.

The Scarboro soil has a high water table at or near the surface for most of the year. Permeability is rapid in the organic layer and rapid or very rapid in the mineral surface layer and substratum. The available water capacity is low. Runoff is very slow, or the soil is ponded. Scarboro soil is very strongly acid through medium acid.

Most areas of this soil are wooded. A few areas are cleared and are idle.

This soil is not suited to cultivated crops because of wetness. Most areas do not have suitable drainage outlets. The hazard of erosion is slight, and controlling erosion is easy.

This soil is suited to trees. Machine planting is difficult because the soil is wet for most of the year. Tree windthrow is common because of the shallow rooting depth above the high water table.

The major limiting factor for community development is wetness. Extensive filling is needed in areas where this soil is used for community development. Slopes of excavated areas are unstable.

This soil is in capability subclass Vw.

Sg—Sudbury sandy loam. This nearly level to gently sloping, moderately well drained soil is on outwash plains and stream terraces. Mapped areas are dominantly irregular in shape and mostly 2 to 20 acres. Slopes range from 0 to 5 percent.

Typically, this Sudbury soil has a very dark brown, sandy loam surface layer 4 inches thick. The subsoil is dark yellowish brown and yellowish brown, mottled sandy loam 20 inches thick. The substratum is dark yellowish brown, mottled sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of excessively drained Hinckley and Windsor soils, somewhat excessively drained Merrimac soils,

moderately well drained Ninigret soils, and poorly drained Walpole soils. Included areas make up about 15 percent of this map unit.

The Sudbury soil has a seasonal high water table at a depth of about 18 inches. Permeability is moderately rapid in the surface layer and subsoil and rapid in the substratum. The available water capacity is moderate. Runoff is slow or medium. Sudbury soil warms up and dries out slowly in the spring. Unless limed, it is strongly acid or medium acid.

Most areas of this soil are cleared and used for cultivated crops, hay, or pasture, or they are idle. Other areas are in woodland, and a few areas are in community developments.

This soil is well suited to cultivated crops. Wetness hinders the use of farming equipment early in spring and late in fall. The hazard of erosion is slight. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Machine planting is practical.

The major limiting factor for community development is the seasonal high water table. Onsite septic systems need special design and installation, and sites generally require filling. In places, onsite septic systems pollute the ground water. Slopes of excavations are unstable. Foundation drains help to prevent wet basements. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass IIw.

SvA—Sutton fine sandy loam, 0 to 3 percent slopes. This nearly level, moderately well drained soil is on upland glacial till plains, hills, and ridges. Mapped areas are dominantly irregular in shape and mostly 2 to 20 acres.

Typically, this Sutton soil has a very dark grayish brown, fine sandy loam surface layer 9 inches thick. The subsoil is yellowish brown, dark yellowish brown, and dark brown, mottled fine sandy loam and sandy loam 24 inches thick. The substratum is olive brown, mottled sandy loam to a depth of 60 inches or more.

Included with this soil in mapping are small areas of well drained Canton, Charlton, and Narragansett soils; moderately well drained Woodbridge and Rainbow soils; and poorly drained Leicester soils. A few areas have a silt loam surface layer and subsoil. Included areas make up about 10 percent of this map unit.

The Sutton soil has a seasonal high water table at a depth of about 18 inches. Permeability is moderate or moderately rapid. The available water capacity is moderate. Runoff is slow. Sutton soil warms up and dries out slowly in the spring. Unless limed, it is strongly acid or medium acid in the surface layer and subsoil and strongly acid through slightly acid in the substratum.

Most areas of this soil are cleared and used for cultivated crops, hay, or pasture, or they are idle. Other areas are wooded, and a few areas are in community developments.

This soil is well suited to cultivated crops. Wetness hinders the use of farming equipment early in spring and late in fall. Artificial drainage helps to dry the soil earlier in the spring. The hazard of erosion is slight. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Machine planting is practical.

The major limiting factor for community development is the seasonal high water table. Onsite septic systems need special design and installation to prevent effluent from seeping to the surface. Foundation drains help to prevent wet basements. Lawns are wet and soggy in fall and spring. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass IIw.

SvB—Sutton fine sandy loam, 3 to 8 percent slopes. This gently sloping, moderately well drained soil is on upland glacial till plains, hills, and ridges. Mapped areas are dominantly irregular in shape and mostly 2 to 20 acres.

Typically, this Sutton soil has a very dark grayish brown, fine sandy loam surface layer 9 inches thick. The subsoil is yellowish brown, dark yellowish brown, and dark brown, mottled fine sandy loam and sandy loam 24 inches thick. The substratum is olive brown, mottled sandy loam to a depth of 60 inches or more.

Included with this soil in mapping are small areas of well drained Canton, Charlton, and Narragansett soils; moderately well drained Woodbridge and Rainbow soils; and poorly drained Leicester soils. A few areas in the southeastern part of the county have a silt loam surface layer and subsoil. Included areas make up about 10 percent of this map unit.

The Sutton soil has a seasonal high water table at a depth of about 18 inches. Permeability is moderate or moderately rapid. The available water capacity is moderate. Runoff is medium. Sutton soil warms up and dries out slowly in the spring. Unless limed, it is strongly acid or medium acid in the surface layer and subsoil and strongly acid through slightly acid in the substratum.

Most areas of this soil are cleared and used for cultivated crops, hay, or pasture, or they are idle. Other areas are wooded, and a few areas are in community developments.

This soil is well suited to cultivated crops. Wetness hinders the use of farming equipment early in spring and late in fall. Artificial drainage helps to dry the soil earlier in the spring. The hazard of erosion is moderate. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Machine planting is practical.

The major limiting factor for community development is the seasonal high water table. Onsite septic systems

need special design and installation to prevent effluent from seeping to the surface. Foundation drains help to prevent wet basements. Lawns are wet and soggy in the fall and spring. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass IIw.

SwB—Sutton very stony fine sandy loam, 0 to 8 percent sl pes. This nearly level to gently sloping, moderately well drained soil is on upland glacial till plains, hills, and ridges. Stones and boulders cover 1 to 8 percent of the surface. Mapped areas are dominantly irregular in shape and mostly 2 to 25 acres.

Typically, this Sutton soil has a very dark grayish brown, fine sandy loam surface layer 4 inches thick. The subsoil is yellowish brown, dark yellowish brown, and dark brown, mottled fine sandy loam and sandy loam 29 inches thick. The substratum is olive brown, mottled sandy loam to a depth of 60 inches or more.

Included with this soil in mapping are small areas of well drained Canton, Charlton, and Narragansett soils; moderately well drained Woodbridge and Rainbow soils; and poorly drained Leicester soils. A few areas in the southeastern part of the county have a silt loam surface layer and subsoil. Included areas make up about 10 percent of this map unit.

The Sutton soil has a seasonal high water table at a depth of about 18 inches. Permeability is moderate or moderately rapid. The available water capacity is moderate. Runoff is slow or medium. Sutton soil warms up and dries out slowly in the spring. It is strongly acid or medium acid in the surface layer and subsoil and strongly acid through slightly acid in the substratum.

Most areas of this soil are wooded. Other areas are cleared and used for pasture, or they are idle. A few areas are in community developments.

This soil is not suited to cultivated crops. Stones and boulders make the use of farming equipment difficult, and stone removal is costly. Wetness hinders the use of farming equipment early in spring and late in fall. Artificial drainage helps to dry the soil earlier in the spring. The hazard of erosion is slight or moderate. Maintaining a permanent plant cover helps to control erosion.

This soil is suited to trees. Machine planting is hindered in many places by the stoniness.

The major limiting factor for community development is the seasonal high water table. Onsite septic systems need special design and installation to prevent effluent from seeping to the surface. Foundation drains help to prevent wet basements. Lawns are wet and soggy in the fall and spring. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass VIs.

SxB—Sutt n xtremely stony fine sandy loam, 0 to 8 percent slopes. This nearly level to gently sloping, moderately well drained soil is on upland glacial till plains, hills, and ridges. Stones and boulders cover 8 to 25 percent of the surface. Mapped areas are dominantly irregular in shape and mostly 2 to 25 acres.

Typically, this Sutton soil has a very dark grayish brown, fine sandy loam surface layer 4 inches thick. The subsoil is yellowish brown, dark yellowish brown, and dark brown, mottled fine sandy loam and sandy loam 29 inches thick. The substratum is olive brown, mottled sandy loam to a depth of 60 inches or more.

Included with this soil in mapping are small areas of well drained Canton, Charlton, and Narragansett soils; moderately well drained Woodbridge and Rainbow soils; and poorly drained Leicester soils. A few areas in the southeastern part of the county have a silt loam surface layer and subsoil. Included areas make up about 10 percent of this map unit.

The Sutton soil has a seasonal high water table at a depth of about 18 inches. Permeability is moderate or moderately rapid. The available water capacity is moderate. Runoff is slow or medium. Sutton soil warms up and dries out slowly in the spring. It is strongly acid or medium acid in the surface layer and subsoil and strongly acid through slightly acid in the substratum.

Most areas of this soil are wooded. Other areas are cleared and are idle, or they are used for pasture. A few areas are in community developments.

This soil is not suited to cultivated crops because stoniness makes the use of farming equipment impractical. The hazard of erosion is slight or moderate. Maintaining a permanent plant cover helps to control erosion.

This soil is suited to trees. However, stones and boulders make machine planting impractical in most areas.

The major limiting factor for community development is the seasonal high water table. Onsite septic systems need special design and installation to prevent effluent from seeping to the surface. Foundation drains help to prevent wet basements. Stones and boulders need to be removed for landscaping. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass VIIs.

Ts—Tisbury silt loam. This nearly level to gently sloping, moderately well drained soil is on stream terraces and outwash plains. Mapped areas are dominantly irregular in shape and mostly 2 to 20 acres. Slopes range from 0 to 5 percent.

Typically, this Tisbury soil has a very dark grayish brown, silt loam surface layer 8 inches thick. The subsoil is yellowish brown and brownish yellow, mottled silt loam 18 inches thick. The substratum is grayish brown, mottled very gravelly sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of well drained Haven soils, moderately well drained

Ninigret soils, and poorly drained Raypol soils. Included areas make up about 15 percent of this map unit.

The Tisbury soil has a seasonal high water table at a depth of about 18 inches. Permeability is moderate in the surface layer and subsoil and rapid or very rapid in the substratum. The available water capacity is moderate. Runoff is slow or medium. Tisbury soil warms up and dries out slowly in the spring. Unless limed, it is strongly acid or medium acid.

Most areas of this soil are cleared and used for cultivated crops, hay, or pasture, or they are idle. Other areas are in woodland, and a few areas are in community developments.

This soil is well suited to cultivated crops. Wetness hinders the use of farming equipment early in spring and late in fall. The hazard of erosion is slight. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Machine planting is practical. Woodland roads are wet early in spring and late in fall.

The major limiting factor for community development is the seasonal high water table. Onsite septic systems need careful design and installation, and many areas require filling. Onsite septic systems pollute the ground water in places. Steep slopes of excavations are unstable. Foundation drains help to prevent wet basements. Lawns and gardens are wet in the spring and fall. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass IIw.

Ub—Udorthents-Pits complex, gravelly. This complex consists of excessively drained to moderately well drained soils that have been disturbed by cutting or filling, and areas of gravel pits (fig. 9). Areas of this complex are mostly 5 to 30 acres. Slopes range from 0 to 15 percent. About 65 percent of this complex is Udorthents, 25 percent is gravel pits, and 10 percent is other soils. Areas of Udorthents and gravel pits are so intermingled that it was not practical to map them separately.

Some areas of Udorthents have been cut to a depth of 2 feet or more, and others have been covered with more than 2 feet of fill. Gravel pits lack vegetation. Most areas have steep side slopes.

Included with this complex in mapping are small, intermingled areas of undisturbed soils. A few mapped areas are entirely gravel pits, and a few areas have a seasonal high water table.

Permeability of the Udorthents is moderately rapid to very rapid. The available water capacity and runoff are variable.

Most areas have been used as a source of sand, gravel, and roadfill. Most areas are now idle. This

Figure 9.—Sand and gravel being mixed in an area of Udorthents-Pits complex, gravelly.

complex requires onsite investigation and evaluation for most uses.

This complex is not assigned to a capability subclass.

Ud—Ud rthents-Urban land complex. This complex consists of excessively drained to moderately well drained soils that have been disturbed by cutting or filling, and areas that are covered by buildings or pavement. Mapped areas are mostly 5 to 40 acres. Slopes range from 0 to 15 percent. About 60 percent of this complex is Udorthents, 25 percent is Urban land, and 15 percent is other soils. The areas of Udorthents and Urban land are so intermingled that it was not practical to map them separately.

Some areas of Udorthents have been cut to a depth of 2 feet or more, and some have been covered with more than 2 feet of fill.

Urban land consists mainly of areas of houses, small commercial buildings, schools, streets, parking lots, roads, and highways.

Included with this complex in mapping are small, intermingled areas of undisturbed soils. A few mapped areas are entirely Udorthents. A few areas have a seasonal high water table.

Permeability of the Udorthents is slow to very rapid. The available water capacity and runoff are variable.

Most areas were cut or filled in order to smooth sites for community developments, recreational facilities, and roads. This complex requires onsite investigation and evaluation for most uses.

This complex is not assigned to a capability subclass.

Ur—Urban land. This map unit consists of land where more than 85 percent of the surface is covered by streets, parking lots, buildings, and other structures. The areas are mostly in densely populated regions of the county, and they are mostly 5 to 30 acres.

Most of the original soils underlying Urban land have been altered by excavating or have been covered with fill material.

Included with this map unit in mapping are small, intermingled areas of Udorthents. Included areas make up about 10 percent of this map unit.

This unit requires onsite investigation and evaluation for most uses.

This map unit is not assigned to a capability subclass.

Wd—Walpole fine sandy loam. This nearly level, poorly drained soil is on stream terraces and outwash plains. Mapped areas are dominantly irregular in shape and mostly 2 to 20 acres. Slopes range from 0 to 3 percent.

Typically, this Walpole soil has a very dark brown, fine sandy loam surface layer 6 inches thick. The subsoil is dark brown and dark grayish brown, mottled sandy loam 15 inches thick. The substratum is grayish brown and olive brown, mottled loamy sand, sand, and coarse sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of moderately well drained Sudbury and Ninigret soils, poorly drained Raypol soils, and very poorly drained Scarboro soils. Many areas have a loamy sand or sand subsoil. Included areas make up about 15 percent of this map unit.

The Walpole soil has a seasonal high water table at a depth of about 6 inches. Permeability is moderately rapid in the surface layer and subsoil and rapid or very rapid in the substratum. The available water capacity is moderate. Runoff is slow. Walpole soil warms up and dries out slowly in the spring. It is very strongly acid or medium acid.

Most areas of this soil are wooded. Other areas are cleared and are idle. A few areas are used for cultivated crops, hay, or pasture.

This soil is suited to cultivated crops. Wetness hinders the use of farming equipment in spring and fall. Artificial drainage is needed. The hazard of erosion is slight. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Wetness hinders machine planting when the soil is wet. Woodland roads are wet and soft in the spring and fall. Windthrow is common because of the shallow rooting depth above the high water table.

The major limiting factor for community development is the seasonal high water table. Onsite septic systems need special and often unusual design and installation, and areas commonly require extensive filling. In places, onsite septic systems pollute the ground water. Steep slopes of excavations are unstable. Foundation drains help to prevent wet basements. Lawns are wet and soggy in the fall and spring. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass IIIw.

We—Westbrook mucky peat. This nearly level, very poorly drained soil is on tidal marshes adjacent to Long Island Sound. Mapped areas are dominantly irregular in shape and mostly 2 to 75 acres. Slopes range from 0 to 1 percent.

Typically, this Westbrook soil has very dark brown and dark brown, mucky peat organic layers 27 inches thick. The mineral sediment is very dark grayish brown and very dark gray silt loam and very fine sandy loam to a depth of 60 inches or more.

Included with this soil in mapping are small areas of very poorly drained Pawcatuck and Ipswich soils. Also included are small areas of Udorthents, consisting mainly of sand and silt dredged from rivers and streams. Included areas make up about 15 percent of this map unit.

The Westbrook soil has a high water table at or above the surface for most of the year. It is subject to daily inundations by saltwater. Permeability is moderate

through rapid in the organic layers and moderate in the underlying mineral deposits. The available water capacity is high. Runoff is very slow, or the soil is ponded. The soil is slightly acid or neutral, and it becomes extremely acid and toxic to plants if drained.

Most areas of this soil are in their natural state. They provide habitat for wildlife and for the reproduction of shellfish.

This soil is not suited to cultivated crops or trees.

This soil is not suited to community development because of daily inundations by saltwater.

This soil is in capability subclass VIIIw.

Wh—Westbrook mucky peat, low salt. This nearly level, very poorly drained soil is on tidal marshes adjacent to Long Island Sound, Fishers Island Sound, and the Connecticut River. Mapped areas are dominantly irregular in shape and mostly 2 to 30 acres. Slopes range from 0 to 1 percent.

Typically, this Westbrook soil has very dark brown and dark brown, mucky peat organic layers 27 inches thick. The mineral sediment is very dark grayish brown and very dark gray silt loam and very fine sandy loam to a depth of 60 inches or more.

Included with this soil in mapping are small areas of very poorly drained Pawcatuck and Ipswich soils. Also included are many small areas of Udorthents, consisting mainly of sand and silt dredged from rivers and streams. Included areas make up about 15 percent of this map unit.

The Westbrook soil has a high water table at or above the surface for most of the year. It is subject to daily inundations. Permeability is moderate through rapid in the organic layers and moderate in the underlying mineral sediment. The available water capacity is high. Runoff is very slow, or the soil is ponded. The soil is slightly acid or neutral, and it becomes extremely acid and toxic to plants if drained.

Most areas of this soil are in their natural state and provide habitat for game birds and songbirds.

This soil is not suited to cultivated crops or trees. Daily inundations by estuary water prevent crop and tree growth.

This soil is not suited to community development because of daily inundations by estuary water.

This soil is in capability subclass VIIIw.

WvA—Windsor loamy sand, 0 to 3 percent slopes. This nearly level, excessively drained soil is on stream terraces and outwash plains. Mapped areas are dominantly irregular in shape and mostly 2 to 20 acres.

Typically, this Windsor soil has a dark brown, loamy sand surface layer 7 inches thick. The subsoil is yellowish brown and brownish yellow loamy sand 21 inches thick. The substratum is light yellowish brown sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of excessively drained Hinckley soils, somewhat excessively drained Merrimac soils, and moderately well drained Sudbury soils. Included areas make up 5 to 25 percent of this map unit.

The Windsor soil has rapid or very rapid permeability. The available water capacity is low. Runoff is slow. This soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid in the surface layer and subsoil and strongly acid through slightly acid in the substratum.

Most areas of this soil are cleared and used for cultivated crops, hay, or pasture, or they are idle. Other areas are used for community developments, and a few areas are in woodland.

This soil is suited to cultivated crops. However, it is droughty, and irrigation is needed. The hazard of erosion is slight. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Machine planting is practical. This soil is droughty, and seedling mortality is high.

Onsite septic systems function with normal design and installation, but they pollute the ground water in places. Steep slopes of excavations are unstable. Lawns need watering in the summer. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass IIIs.

WvB—Windsor loamy sand, 3 to 8 percent slopes. This gently sloping, excessively drained soil is on stream terraces and outwash plains. Mapped areas are dominantly irregular in shape and mostly 2 to 30 acres.

Typically, this Windsor soil has a dark brown, loamy sand surface layer 7 inches thick. The subsoil is yellowish brown and brownish yellow loamy sand 21 inches thick. The substratum is light yellowish brown sand to a depth of 60 inches or more.

Included with this soil in mapping are small areas of excessively drained Hinckley soils, somewhat excessively drained Merrimac soils, and moderately well drained Sudbury soils. Included areas make up about 15 percent of this map unit.

The Windsor soil has rapid or very rapid permeability. The available water capacity is low. Runoff is medium. The soil warms up and dries out rapidly in the spring. Unless limed, it is strongly acid or medium acid in the surface layer and subsoil and strongly acid through slightly acid in the substratum.

Most areas of this soil are cleared and used for cultivated crops, hay, or pasture, or they are idle. Other areas are in community developments, and a few areas are in woodland.

This soil is suited to cultivated crops. However, it is droughty, and irrigation is needed. The hazard of erosion is slight. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Machine planting is practical. This soil is droughty, and seedling mortality is high.

Onsite septic systems function with normal design and installation, but they pollute the ground water in places. Steep slopes of excavations are unstable. Lawns need watering during the summer. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass IIIs.

WxA—Woodbridge fine sandy loam, 0 to 3 percent slopes. This nearly level, moderately well drained soil is on drumloidal, glacial till, upland landforms. Mapped areas are dominantly irregular in shape and mostly 2 to 30 acres.

Typically, this Woodbridge soil has a very dark brown, fine sandy loam surface layer 9 inches thick. The subsoil is dark yellowish brown, light olive brown, and grayish brown, mottled fine sandy loam and sandy loam 19 inches thick. The substratum is very firm, brittle, olive sandy loam to a depth of 60 inches or more.

Included with this soil in mapping are small areas of well drained Montauk and Paxton soils; moderately well drained Rainbow and Sutton soils; and poorly drained Ridgebury soils. Also included are many small areas that have a loamy sand substratum. Included areas make up about 15 percent of this map unit.

The Woodbridge soil has a seasonal high water table at a depth of about 18 inches. Permeability is moderate in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is moderate. Runoff is slow. This Woodbridge soil warms up and dries out slowly in the spring. Unless limed, it is strongly acid or medium acid in the surface layer and subsoil and strongly acid through slightly acid in the substratum.

Most areas are cleared and used for cultivated crops, hay, or pasture, or they are idle. Other areas are in community developments, and a few small areas are wooded.

This soil is well suited to cultivated crops. Wetness hinders the use of farming equipment early in spring and late in fall. Artificial drainage helps to dry the soil earlier in the spring. The hazard of erosion is slight. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Machine planting is practical. Woodland roads are wet and soft in the spring.

The major limiting factors for community development are the seasonal high water table and the slow or very slow permeability in the substratum. Onsite septic systems need special design and installation to prevent effluent from seeping to the surface. Slopes of excavated areas slump when wet. Foundation drains help to prevent wet basements. Lawns are wet and soggy in the fall and spring. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to reduce erosion during construction.

This soil is in capability subclass IIw.

WxB—Woodbridge fine sandy loam, 3 to 8 percent slopes. This gently sloping, moderately well drained soil is on drumloidal, glacial till, upland landforms. Mapped areas are dominantly irregular in shape and mostly 2 to 40 acres.

Typically, this Woodbridge soil has a very dark brown, fine sandy loam surface layer 9 inches thick. The subsoil is dark yellowish brown, light olive brown, and grayish brown, mottled fine sandy loam and sandy loam 19 inches thick. The substratum is very firm, brittle, olive sandy loam to a depth of 60 inches or more.

Included with this soil in mapping are small areas of well drained Montauk and Paxton soils, moderately well drained Rainbow and Sutton soils, and poorly drained Ridgebury soils. Also included are many small areas that have a loamy sand substratum. Included areas make up about 15 percent of this map unit.

The Woodbridge soil has a seasonal high water table at a depth of about 18 inches. It has moderate permeability in the surface layer and subsoil and slow or very slow permeability in the substratum. The available water capacity is moderate. Runoff is medium. This soil warms up and dries out slowly in the spring. Unless limed, it is strongly acid or medium acid in the surface layer and subsoil and strongly acid through slightly acid in the substratum.

Most areas of this soil are cleared and used for cultivated crops, hay, or pasture, or they are idle. Other areas are in community developments (fig. 10), and a few areas are in woodland.

This soil is well suited to cultivated crops. Wetness hinders the use of farming equipment early in spring and late in fall. Artificial drainage helps to dry the soil earlier in the spring. The hazard of erosion is moderate. Minimum tillage and the use of cover crops help to control erosion.

This soil is suited to trees. Machine planting is practical. Woodland roads are wet and soft early in spring and late in fall.

The major limiting factors for community development are the seasonal high water table and slow or very slow permeability in the substratum. Onsite septic systems need special design and installation to prevent effluent from seeping to the surface in areas downslope from the leaching system. Slopes of excavated areas slump when wet. Foundation drains help to prevent wet basements. Lawns are wet and soggy in the fall and spring. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass IIw.

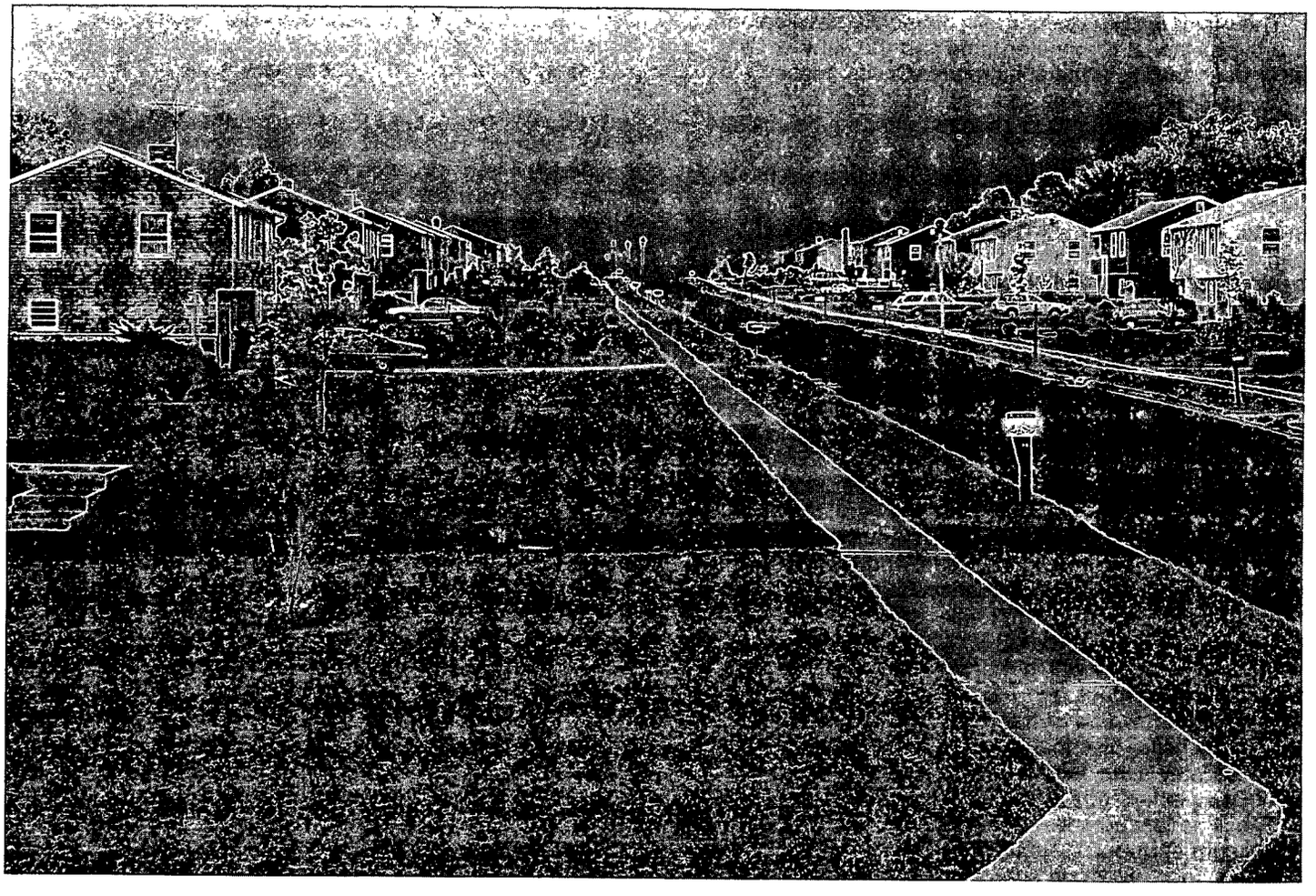


Figure 10.—Community development on an area of Woodbridge fine sandy loam, 3 to 8 percent slopes.

WxC—Woodbridge fine sandy loam, 8 to 15 perc nt slopes. This sloping, moderately well drained soil is on drumloidal, glacial till, upland landforms. Mapped areas are dominantly irregular in shape and mostly 2 to 25 acres.

Typically, this Woodbridge soil has a very dark brown, fine sandy loam surface layer 9 inches thick. The subsoil is yellowish brown, light olive brown, and grayish brown, mottled fine sandy loam 19 inches thick. The substratum is very firm, brittle, olive sandy loam to a depth of 60 inches or more.

Included with this soil in mapping are small areas of well drained Montauk and Paxton soils and moderately well drained Rainbow and Sutton soils. Also included are many small areas that have a loamy sand substratum. Included areas make up about 15 percent of this map unit.

The Woodbridge soil has a seasonal high water table at a depth of about 18 inches. Permeability is moderate in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is moderate. Runoff is rapid. The Woodbridge soil warms up and dries out slowly in the spring. Unless limed, it is strongly acid or medium acid in the surface layer and subsoil and strongly acid through slightly acid in the substratum.

Most areas of this soil are cleared and used for cultivated crops, hay, or pasture, or they are idle. A few small areas are used for woodland or community developments.

This soil is suited to cultivated crops. Wetness hinders the use of farming equipment early in spring and late in fall. Artificial drainage helps to dry the soil earlier in the spring. The hazard of erosion is severe. Minimum tillage and the use of cover crops, diversions, and grass waterways help to control erosion.

This soil is suited to trees. Machine planting is practical. Woodland roads are wet and soft early in spring and late in fall.

The major limiting factors for community development are the seasonal high water table and the slow or very slow permeability in the substratum. Onsite septic systems need special design and installation to prevent effluent from seeping to the surface in areas downslope from the leaching system. Slopes of excavated areas slump when wet. Foundation drains help to prevent wet basements. Lawns are wet and soggy in the fall and spring. Quickly establishing a plant cover and using mulch and netting, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capabiity subclass IIIe.

WyB—W dbridge very stony fine sandy loam, 0 t 8 percent slopes. This nearly level to gently sloping, moderately well drained soil is on drumloidal, glacial till, upland landforms. Stones and boulders cover 1 to 8 percent of the surface. Mapped areas are dominantly irregular in shape and mostly 2 to 25 acres.

Typically, this Woodbridge soil has a very dark brown, fine sandy loam surface layer 6 inches thick. The subsoil is yellowish brown, light olive brown, and grayish brown, mottled fine sandy loam and sandy loam 22 inches thick. The substratum is very firm, brittle, olive sandy loam to a depth of 60 inches or more.

Included with this soil in mapping are small areas of well drained Montauk and Paxton soils; moderately well drained Rainbow and Sutton soils; and poorly drained Ridgebury soils. Also included are many small areas that have a loamy sand substratum. Included areas make up about 15 percent of this map unit.

The Woodbridge soil has a seasonal high water table at a depth of about 18 inches. Permeability is moderate in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is moderate. Runoff is medium. This Woodbridge soil warms up and dries out slowly in the spring. It is strongly acid or medium acid in the surface layer and subsoil and strongly acid through slightly acid in the substratum.

Most areas of this soil are wooded. Other areas are cleared and used for pasture, or they are idle. A few areas are in community developments.

This soil is not suited to cultivated crops because of stoniness. Stone removal is costly. The hazard of erosion is moderate. Maintaining a permanent plant cover helps to control erosion.

This soil is suited to trees. Machine planting is limited by stoniness. Woodland roads are wet and soft early in spring and late in fall.

The major limiting factors for community development are the seasonal high water table and the slow or very slow permeability in the substratum. Onsite septic systems need special design and installation to prevent effluent from seeping to the surface. Slopes of excavated areas slump when wet. Foundation drains help to prevent wet basements. Stones need to be removed for landscaping. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass VIs.

WyC—Woodbridge very stony fine sandy loam, 8 to 15 percent slopes. This sloping, moderately well drained soil is on drumloidal, glacial, upland landforms. Stones and boulders cover 1 to 8 percent of the surface. Mapped areas are dominantly irregular in shape and mostly 2 to 25 acres.

Typically, this Woodbridge soil has a very dark brown, fine sandy loam surface layer 6 inches thick. The subsoil is yellowish brown, light olive brown, and grayish brown, mottled fine sandy loam and sandy loam 22 inches thick. The substratum is very firm, brittle, olive sandy loam to a depth of 60 inches or more.

Included with this soil in mapping are small areas of well drained Montauk, Broadbrook, and Paxton soils and moderately well drained Rainbow and Sutton soils. Also included are many areas that have a loamy sand substratum. Included areas make up about 15 percent of this map unit.

The Woodbridge soil has a seasonal high water table at a depth of about 18 inches. Permeability is moderate in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is moderate. Runoff is rapid. This Woodbridge soil warms up and dries out slowly in the spring. It is strongly acid or medium acid in the surface layer and subsoil and strongly acid through slightly acid in the substratum.

Most areas of this soil are wooded. Other areas are cleared and used for pasture, or they are idle. A few areas are in community developments.

This soil is not suited to cultivated crops because of stoniness. Stone removal is costly. The hazard of erosion is moderate. Maintaining a permanent plant cover helps to control erosion.

This soil is suited to trees. Machine planting is limited by stoniness. Woodland roads are wet and soft in the fall and spring.

The major limiting factors for community development are the seasonal high water table and the slow or very slow permeability in the substratum. Onsite septic systems need special design and installation to prevent effluent from seeping to the surface in areas downslope from the leaching system. Slopes of excavated areas slump when wet. Foundation drains help to prevent wet basements. Stones need to be removed for landscaping. Quickly establishing a plant cover and using mulch and netting, temporary diversions, and sediment basins help to control erosion during construction.

This soil is in capability subclass VIs.

WzA—Woodbridge and Rainbow extremely st ny soils, 0 to 3 percent slopes. These nearly level, moderately well drained soils are on drumloidal, glacial till, upland landforms. Stones and boulders cover 8 to 25 percent of the surface. Mapped areas are dominantly irregular in shape and mostly 2 to 20 acres.

The mapped acreage of this undifferentiated group is about 55 percent Woodbridge soils, 25 percent Rainbow soils, and 20 percent other soils. Mapped areas consist of Woodbridge soils or Rainbow soils, or both. These soils were mapped together because there are no major differences in their use and management.

Typically, the Woodbridge soil has a very dark brown, fine sandy loam surface layer 3 inches thick. The subsoil is yellowish brown, light olive brown, and grayish brown, mottled fine sandy loam and sandy loam 25 inches thick. The substratum is very firm, brittle, olive sandy loam to a depth of 60 inches or more.

Typically, the Rainbow soil has a dark brown, silt loam surface layer 3 inches thick. The subsoil is yellowish brown and light yellowish brown, mottled silt loam 23 inches thick. The substratum is very firm, brittle, pale brown fine sandy loam to a depth of 60 inches or more.

Included with these soils in mapping are small areas of well drained Broadbrook, Montauk, and Paxton soils; moderately well drained Sutton soils; and poorly drained Leicester and Ridgebury soils. Also included are many small areas of soils that have a loamy sand substratum.

The Woodbridge soil has a seasonal high water table at a depth of about 18 inches. Permeability is moderate in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is moderate. Runoff is slow. Woodbridge soils warm up and dry out slowly in the spring. They are strongly acid or medium acid in the surface layer and subsoil and strongly acid through slightly acid in the substratum.

The Rainbow soil has a seasonal high water table at a depth of about 18 inches. Permeability is moderate in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is high. Runoff is slow. Rainbow soils warm up and dry out slowly in the spring. They are strongly acid or medium acid.

Most areas of these soils are wooded. Other areas are cleared and used for pasture, or they are idle. A few areas are in community developments.

These soils are not suited to cultivated crops because of stoniness. The hazard of erosion is moderate. Maintaining a permanent plant cover helps to control erosion.

These soils are suited to trees. Machine planting is generally not practical because of stoniness. Woodland roads are wet and soft in the fall and spring.

The major limiting factors for community development are the seasonal high water table and the slow or very slow permeability in the substratum. Onsite septic systems need special design and installation to prevent effluent from seeping to the surface in areas downslope from the leaching system. Slopes of excavated areas slump when wet. Foundation drains help to prevent wet basements. Stones need to be removed for landscaping. Quickly establishing a plant cover and using mulch, temporary diversions, and sediment basins help to reduce erosion during construction.

These soils are in capability subclass VIIs.

WzC—Woodbridge and Rainbow extremely st ny soils, 3 to 15 percent slopes. These gently sloping and sloping, moderately well drained soils are on drumloidal, glacial till, upland landforms. Stones and boulders cover 8 to 25 percent of the surface. Mapped areas are dominantly irregular in shape and mostly 2 to 40 acres.

The mapped acreage of this undifferentiated group is about 55 percent Woodbridge soils, 25 percent Rainbow soils, and 20 percent other soils. Mapped areas consist of Woodbridge soils or Rainbow soils, or both. These soils were mapped together because there are no major differences in use and management.

Typically, the Woodbridge soil has a very dark brown, fine sandy loam surface layer 3 inches thick. The subsoil is yellowish brown, light olive brown, and grayish brown, mottled fine sandy loam and sandy loam 26 inches thick. The substratum is very firm, brittle, olive sandy loam to a depth of 60 inches or more.

Typically, the Rainbow soil has a dark brown, silt loam surface layer 3 inches thick. The subsoil is yellowish brown and light yellowish brown, mottled silt loam 23 inches thick. The substratum is very firm, brittle, pale brown fine sandy loam to a depth of 60 inches or more.

Included with these soils in mapping are small areas of well drained Paxton, Montauk, and Broadbrook soils; moderately well drained Sutton soils; and poorly drained Leicester and Ridgebury soils. Also included are many small areas of soils that have a loamy sand substratum.

The Woodbridge soil has a seasonal high water table at a depth of about 18 inches. Permeability is moderate in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is moderate. Runoff is medium or rapid. Woodbridge soils warm up and dry out slowly in the spring. They are strongly acid or medium acid in the surface layer and subsoil and strongly acid through slightly acid in the substratum.

The Rainbow soil has a seasonal high water table at a depth of about 18 inches. Permeability is moderate in the surface layer and subsoil and slow or very slow in the substratum. The available water capacity is high. Runoff is medium or rapid. Rainbow soils warm up and dry out slowly in the spring. They are strongly acid or medium acid.

Most areas of these soils are wooded. Other areas are cleared and used for pasture, or they are idle. A few areas are in community developments.

These soils are not suited to cultivated crops because of stoniness. The hazard of erosion is moderate. Maintaining a permanent plant cover helps to control erosion.

These soils are suited to trees. Machine planting is not practical in most places because of stoniness. Woodland roads are wet and soft in the spring and fall.

The major limiting factors for community development are the seasonal high water table and the slow or very slow permeability in the substratum. Onsite septic systems need special design and installation to prevent

effluent from seeping to the surface in areas downslope from the leaching system. Slopes of excavated areas slump when wet. Foundation drains help to prevent wet basements. Stones need to be removed for landscaping. Quickly establishing a plant cover and using mulch and netting, temporary diversions, and sediment basins help to control erosion during construction.

These soils are in capability subclass VIIs.

prim farmland

Prime farmland, as defined by the U.S. Department of Agriculture, is the land that is best suited to producing food, feed, forage, fiber, and oilseed crops. It has adequate soil quality, growing season, and moisture supply to economically produce a sustained high yield of crops if acceptable farming methods are used. Prime farmland produces the highest yields with minimal inputs of energy and money, and farming it results in the least damage to the environment. Prime farmland is of major importance in satisfying the Nation's short- and long-range needs for food and fiber. The supply of high quality farmland is limited, and the U.S. Department of Agriculture recognizes that all levels of government, as well as groups and individuals, must encourage and facilitate the use of prime farmland with wisdom and foresight.

Prime farmland may now be in crops, pasture, woodland, or other land, but not urban and built-up land or water areas. It must either be used for producing food or fiber or be available for these uses.

Prime farmland usually has an adequate and dependable supply of moisture from precipitation. It has favorable temperature and growing season and acceptable soil reaction. It has few or no rocks and is permeable to water and air. Prime farmland is not excessively erodible or saturated with water for long periods and is not flooded during the growing season. The slope ranges mainly from 0 to 8 percent. For more detailed information on the criteria for prime farmland, consult the local staff of the Soil Conservation Service.

About 73,300 acres, or nearly 17 percent of New London County, meets the soil requirements for prime farmland. Areas are scattered throughout the county, but most are in the northern part. A large part of this acreage has been taken out of production during the past 50 or 60 years and returned to woodland. A recent trend in land use in some parts of the county has been the loss of some prime farmland acreage to industrial and urban uses. This is particularly true in towns near Long Island Sound, Fishers Island Sound, and the Thames River.

Soil map units that make up prime farmland in New London County are listed in this section. This list does not constitute a recommendation for a particular land use. The extent of each listed map unit is shown in table 4. The location is shown on the detailed soil maps in the back of this publication. The soil qualities that affect use and management are described in the section "Detailed soil map units."

The map units that meet the requirements for prime farmland are:

AfA—Agawam fine sandy loam, 0 to 3 percent slopes
AfB—Agawam fine sandy loam, 3 to 8 percent slopes
BrB—Broadbrook silt loam, 3 to 8 percent slopes
CbB—Canton and Charlton fine sandy loams, 3 to 8 percent slopes
HcA—Haven silt loam, 0 to 3 percent slopes
HcB—Haven silt loam, 3 to 8 percent slopes
MyA—Merrimac sandy loam, 0 to 3 percent slopes
MyB—Merrimac sandy loam, 3 to 8 percent slopes
NaB—Narragansett silt loam, 3 to 8 percent slopes
Nn—Ninigret fine sandy loam
PbB—Paxton and Montauk fine sandy loams, 3 to 8 percent slopes
Ps—Pootatuck Variant fine sandy loam
RaA—Rainbow silt loam, 0 to 3 percent slopes
RaB—Rainbow silt loam, 3 to 8 percent slopes
Sg—Sudbury sandy loam
SvA—Sutton fine sandy loam, 0 to 3 percent slopes
SvB—Sutton fine sandy loam, 3 to 8 percent slopes
Ts—Tisbury silt loam
WxA—Woodbridge fine sandy loam, 0 to 3 percent slopes
WxB—Woodbridge fine sandy loam, 3 to 8 percent slopes

use and management of the soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help avoid soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavior characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as woodland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreation facilities; and for wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

crops and pasture

General management needed for crops and pasture is suggested in this section. The crops or pasture plants best suited to the soils, including some not commonly grown in the survey area, are identified; the system of land capability classification used by the Soil Conservation Service is explained (*8*); and the estimated yields of the main crops and hay and pasture plants are listed for each soil.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under "Detailed soil map units." Specific information can be obtained from the local office of the Soil Conservation Service or the Cooperative Extension Service.

The main crops in New London County are forage crops and corn for silage. The forage crops are mainly alfalfa, timothy, red clover, and ladino clover. These are used mostly as forage for dairy herds.

Specialty crops are fruits, vegetables, and nursery stock. Fruit crops include apples, peaches, pears, strawberries, and blueberries. There has been an increase in recent years in the acreage of grapes for the production of wine. Vegetables are mostly sweet corn, squash, beans, cucumbers, tomatoes, peppers, and lettuce.

The major management concerns throughout the county are slope, wetness, low fertility, soil reaction, and stoniness in some areas. Management is needed to control erosion, provide drainage, maintain or improve organic matter content, and increase fertility.

Practices that help control erosion are growing cover crops, utilizing grass waterways, constructing diversions and ditches to intercept runoff, and using minimum tillage. Contour farming and stripcropping are suitable erosion control practices, but the small size of most fields in the county limits their use. Practices that help to provide drainage are the construction of open ditches and the installation of tile.

Applying lime and fertilizer as needed according to the results of soil tests is helpful in raising the pH value of soil and improving the fertility. Commercial fertilizers, green manure from cover crops, and dairy and poultry wastes are used to fertilize the soil and maintain or improve organic matter content.

yields per acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 5. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations are also considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil

and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green-manure crops; and harvesting that insures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in table 5 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Soil Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils.

land capability classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The grouping does not take into account major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor does it consider possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for woodland or for engineering purposes.

In the capability system, soils are generally grouped at three levels: capability class, subclass, and unit (*8*). Only class and subclass are used in this survey. These levels are defined in the following paragraphs.

Capability classes, the broadest groups, are designated by Roman numerals I through VIII. The numerals indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class I soils have slight limitations that restrict their use.

Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class III soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.

Class IV soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.

Class V soils are not likely to erode but have other limitations, impractical to remove, that limit their use.

Class VI soils have severe limitations that make them generally unsuitable for cultivation.

Class VII soils have very severe limitations that make them unsuitable for cultivation.

Class VIII soils and miscellaneous areas have limitations that nearly preclude their use for commercial crop production.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, IIe. The letter *e* shows that the main limitation is risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class I there are no subclasses because the soils of this class have few limitations. Class V contains only the subclasses indicated by *w, s,* or *c* because the soils in class V are subject to little or no erosion. They have other limitations that restrict their use to pasture, woodland, wildlife habitat, or recreation.

Capability units are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, IIe-4 or IIIe-6.

The acreage of soils in each capability class and subclass is shown in table 6. The capability classification of each map unit is given in the section "Detailed soil map units."

woodland management and productivity

This section contains interpretations for soils as they apply to woodland use and management. Commercial forest land occupies about 65 percent of New London County. Approximately 91 percent of the forest land is privately owned (*10*).

The majority of the commercial forest land is composed of two tree associations. The oak-hickory association accounts for 44 percent of the commercial forest land while the elm-ash-red maple association occupies 23 percent. Other associations present in lesser amounts include maple-beech-birch, oak-pine, white pine and red pine-hemlock, pitch pine-eastern red cedar, aspen-birch, and spruce-fir.

Major products derived from forest land include saw logs for lumber and fuelwood.

Table 7 can be used by woodland owners or forest managers in planning the use of soils for wood crops. Only those soils suitable for wood crops are listed. The table lists the ordination (woodland suitability) symbol for

each soil. Soils assigned the same ordination symbol require the same general management and have about the same potential productivity.

The first part of the *ordination symbol*, a number, indicates the potential productivity of the soils for important trees. The number 1 indicates very high productivity; 2, high; 3, moderately high; 4, moderate; and 5, low. The second part of the symbol, a letter, indicates the major kind of soil limitation. The letter *x* indicates stoniness or rockiness; *w*, excessive water in or on the soil; *t*, toxic substances in the soil; *d*, restricted root depth; *c*, clay in the upper part of the soil; *s*, sandy texture; *f*, high content of coarse fragments in the soil profile; and *r*, steep slopes. The letter *o* indicates that limitations or restrictions are insignificant. If a soil has more than one limitation, the priority is as follows: x, w, t, d, c, s, f, and r.

In table 7, *slight, moderate,* and *severe* indicate the degree of the major soil limitations to be considered in management.

Ratings of the *erosion hazard* indicate the risk of loss of soil in well managed woodland. The risk is *slight* if the expected soil loss is small, *moderate* if measures are needed to control erosion during logging and road construction, and *severe* if intensive management or special equipment and methods are needed to prevent excessive loss of soil.

Ratings of *equipment limitation* reflect the characteristics and conditions of the soil that restrict use of the equipment generally needed in woodland management or harvesting. A rating of *slight* indicates that use of equipment is not limited to a particular kind of equipment or time of year; *moderate* indicates a short seasonal limitation or a need for some modification in management or in equipment; and *severe* indicates a seasonal limitation, a need for special equipment or management, or a hazard in the use of equipment.

Seedling mortality ratings indicate the degree to which the soil affects the mortality of tree seedlings. Plant competition is not considered in the ratings. The ratings apply to seedlings from good stock that are properly planted during a period of sufficient rainfall. A rating of *slight* indicates that the expected mortality is less than 25 percent; *moderate*, 25 to 50 percent; and *severe*, more than 50 percent.

Ratings of *windthrow hazard* are based on soil characteristics that affect the development of tree roots and the ability of the soil to hold trees firmly. A rating of *slight* indicates that a few trees may be blown down by normal winds; *moderate*, that some trees will be blown down during periods of excessive soil wetness and strong winds; and *severe*, that many trees are blown down during periods of excessive soil wetness and moderate or strong winds.

The *potential productivity* of merchantable or *common trees* on a soil is expressed as a *site index*. This index is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that woodland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability.

Trees to plant are those that are suited to the soils and to commercial wood production.

recreation

The soils of the survey area are rated in table 8 according to limitations that affect their suitability for recreation. The ratings are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewerlines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation are also important. Soils subject to flooding are limited for recreation use by the duration and intensity of flooding and the season when flooding occurs. In planning recreation facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

In table 8, the degree of soil limitation is expressed as slight, moderate, or severe. *Slight* means that soil properties are generally favorable and that limitations are minor and easily overcome. *Moderate* means that limitations can be overcome or alleviated by planning, design, or special maintenance. *Severe* means that soil properties are unfavorable and that limitations can be offset only by costly soil reclamation, special design, intensive maintenance, limited use, or by a combination of these measures.

The information in table 8 can be supplemented by other information in this survey, for example, interpretations for septic tank absorption fields in table 11 and interpretations for dwellings without basements and for local roads and streets in table 10.

Camp areas require site preparation such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The best soils have mild slopes and are not wet or subject to flooding during the period of use. The surface has few or no stones or boulders, absorbs rainfall readily but remains firm, and is not dusty when dry. Strong slopes and stones or boulders can greatly increase the cost of constructing campsites.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The best soils for picnic areas are firm when wet, are not dusty when dry, are not subject to flooding

during the period of use, and do not have slopes or stones or boulders that increase the cost of shaping sites or of building access roads and parking areas.

Playgrounds require soils that can withstand intensive foot traffic. The best soils are almost level and are not wet or subject to flooding during the season of use. The surface is free of stones and boulders, is firm after rains, and is not dusty when dry. If grading is needed, the depth of the soil over bedrock or a hardpan should be considered.

Paths and trails for hiking, horseback riding, and bicycling should require little or no cutting and filling. The best soils are not wet, are firm after rains, are not dusty when dry, and are not subject to flooding more than once a year during the period of use. They have moderate slopes and few or no stones or boulders on the surface.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. The best soils for use as golf fairways are firm when wet, are not dusty when dry, and are not subject to prolonged flooding during the period of use. They have moderate slopes and no stones or boulders on the surface. The suitability of the soil for tees or greens is not considered in rating the soils.

wildlife habitat

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 9, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flood hazard. Soil temperature and soil moisture are also considerations. Examples of grain and seed crops are corn and wheat.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flood hazard, and slope. Soil temperature and soil moisture are also considerations. Examples of grasses and legumes are fescue, bromegrass, clover, and alfalfa.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flood hazard. Soil temperature and soil moisture are also considerations. Examples of wild herbaceous plants are bluestem, goldenrod, beggarweed, wheatgrass, and grama.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, the available water capacity, and wetness. Examples of these plants are oak, poplar, cherry, sweetgum, apple, hawthorn, dogwood, hickory, blackberry, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are Russian-olive, autumn-olive, and crabapple.

Coniferous plants furnish browse, seeds, and cones. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine, spruce, fir, cedar, and juniper.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, wildrice, saltgrass, cordgrass, rushes, sedges, and reeds.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control

structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs (*1*).

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. The wildlife attracted to these areas include bobwhite quail, pheasant, meadowlark, field sparrow, cottontail, and red fox.

Habitat for woodland wildlife consists of areas of deciduous plants or coniferous plants or both and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include ruffed grouse, woodcock, thrushes, woodpeckers, squirrels, raccoon, and deer.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, shore birds, muskrat, mink, and beaver.

engineering

Whitney T. Ferguson, Jr., State conservation engineer, Soil Conservation Service, assisted in the preparation of this section.

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. The ratings are given in the following tables: Building site development, Sanitary facilities, Construction materials, and Water management. The ratings are based on observed performance of the soils and on the estimated data and test data in the "Soil properties" section.

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil within a depth of 5 or 6 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations need to be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about grain-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 6 feet of the surface, soil wetness, depth to a seasonal high water table, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kind of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to (1) evaluate the potential of areas for residential, commercial, industrial, and recreation uses; (2) make preliminary estimates of construction conditions; (3) evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; (4) evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; (5) plan detailed onsite investigations of soils and geology; (6) locate potential sources of gravel, sand, earthfill, and topsoil; (7) plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and (8) predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

building site development

Table 10 shows the degree and kind of soil limitations that affect shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required. Special feasibility studies may be required where the soil limitations are severe.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for basements, graves, utility lines, open ditches, and other purposes. The ratings are based on soil properties, site features, and observed performance of the soils. The ease of digging, filling, and compacting is affected by the depth to

bedrock or a very firm dense layer; stone content; soil texture; and slope. The time of the year that excavations can be made is affected by the depth to a seasonal high water table and the susceptibility of the soil to flooding. The resistance of the excavation walls or banks to sloughing or caving is affected by soil texture and the depth to the water table.

Dwellings and small commercial buildings are structures built on shallow foundations on undisturbed soil. The load limit is the same as that for single-family dwellings no higher than three stories. Ratings are made for small commercial buildings without basements, for dwellings with basements, and for dwellings without basements. The ratings are based on soil properties, site features, and observed performance of the soils. A high water table, flooding, shrink-swell potential, and organic layers can cause the movement of footings. A high water table, depth to bedrock, large stones, and flooding affect the ease of excavation and construction. Landscaping and grading that require cuts and fills of more than 5 to 6 feet are not considered.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material, a base of gravel, crushed rock, or stabilized soil material, and a flexible or rigid surface. Cuts and fills are generally limited to less than 6 feet. The ratings are based on soil properties, site features, and observed performance of the soils. Depth to bedrock, a high water table, flooding, large stones, and slope affect the ease of excavating and grading. Soil strength (as inferred from the engineering classification of the soil), shrink-swell potential, frost action potential, and depth to a high water table affect the traffic supporting capacity.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. The ratings are based on soil properties, site features, and observed performance of the soils. Soil reaction, a high water table, depth to bedrock, and the available water capacity in the upper 40 inches affect plant growth. Flooding, wetness, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer affect trafficability after vegetation is established.

sanitary facilities

Table 11 shows the degree and the kind of soil limitations that affect septic tank absorption fields, sewage lagoons, and sanitary landfills. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required.

Table 11 also shows the suitability of the soils for use as daily cover for landfills. A rating of *good* indicates that soil properties and site features are favorable for the use and good performance and low maintenance can be expected; *fair* indicates that soil properties and site features are moderately favorable for the use and one or more soil properties or site features make the soil less desirable than the soils rated good; and *poor* indicates that one or more soil properties or site features are unfavorable for the use and overcoming the unfavorable properties requires special design, extra maintenance, or costly alteration.

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 72 inches is evaluated. The ratings are based on soil properties, site features, and observed performance of the soils. Permeability, a high water table, depth to bedrock, and flooding affect absorption of the effluent. Large stones and bedrock interfere with installation.

Unsatisfactory performance of septic tank absorption fields, including excessively slow absorption of effluent, surfacing of effluent, and hillside seepage, can affect public health. Ground water can be polluted if highly permeable sand and gravel or fractured bedrock is less than 4 feet below the base of the absorption field, if slope is excessive, or if the water table is near the surface. There must be unsaturated soil material beneath the absorption field to effectively filter the effluent. Many local ordinances require that this material be of a certain thickness.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Lagoons generally are designed to hold the sewage within a depth of 2 to 5 feet. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water.

Table 11 gives ratings for the natural soil that makes up the lagoon floor. The surface layer and, generally, 1 or 2 feet of soil material below the surface layer are excavated to provide material for the embankments. The ratings are based on soil properties, site features, and observed performance of the soils. Considered in the ratings are slope, permeability, a high water table, depth to bedrock, flooding, large stones, and content of organic matter.

Excessive seepage due to rapid permeability of the soil or a water table that is high enough to raise the level of sewage in the lagoon causes a lagoon to function unsatisfactorily. Pollution results if seepage is excessive or if floodwater overtops the lagoon. A high content of organic matter is detrimental to proper functioning of the

lagoon because it inhibits aerobic activity. Slope and bedrock can cause construction problems, and large stones can hinder compaction of the lagoon floor.

Sanitary landfills are areas where solid waste is disposed of by burying it in soil. There are two types of landfill—trench and area. In a trench landfill, the waste is placed in a trench. It is spread, compacted, and covered daily with a thin layer of soil excavated at the site. In an area landfill, the waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site.

Both types of landfill must be able to bear heavy vehicular traffic. Both types involve a risk of ground water pollution. Ease of excavation and revegetation needs to be considered.

The ratings in table 11 are based on soil properties, site features, and observed performance of the soils. Permeability, depth to bedrock, a high water table, slope, and flooding affect both types of landfill. Texture, stones and boulders, highly organic layers, and soil reaction affect trench type landfills. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, a limitation rated slight or moderate may not be valid. Onsite investigation is needed.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area type sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste.

Soil texture, wetness, coarse fragments, and slope affect the ease of removing and spreading the material during wet and dry periods. Loamy or silty soils that are free of large stones or excess gravel are the best cover for a landfill. Clayey soils are sticky or cloddy and are difficult to spread; sandy soils are subject to soil blowing.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock or the water table to permit revegetation. The soil material used as final cover for a landfill should be suitable for plants. The surface layer generally has the best workability, more organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

c nstruction materials

Table 12 gives information about the soils as a source of roadfill, sand, gravel, and topsoil. The soils are rated *good, fair,* or *poor* as a source of roadfill and topsoil. They are rated as a probable or improbable source of sand and gravel. The ratings are based on soil properties and site features that affect the removal of the soil and its use as construction material. Normal compaction, minor processing, and other standard construction practices are assumed. Each soil is evaluated to a depth of 5 or 6 feet.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the soil material below the surface layer to a depth of 5 or 6 feet. It is assumed that soil layers will be mixed during excavating and spreading. Many soils have layers of contrasting suitability within their profile. The table showing engineering index properties provides detailed information about each soil layer. This information can help determine the suitability of each layer for use as roadfill. The performance of soil after it is stabilized with lime or cement is not considered in the ratings.

The ratings are based on soil properties, site features, and observed performance of the soils. The thickness of suitable material is a major consideration. The ease of excavation is affected by large stones, a high water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the engineering classification of the soil) and shrink-swell potential.

Soils rated *good* contain significant amounts of sand or gravel or both. They have at least 5 feet of suitable material, low shrink-swell potential, few cobbles and stones, and slopes of 15 percent or less. Depth to the water table is more than 3 feet. Soils rated *fair* are more than 35 percent silt- and clay-sized particles and have a plasticity index of less than 10. They have moderate shrink-swell potential, slopes of 15 to 25 percent, or many stones. Depth to the water table is 1 to 3 feet. Soils rated *poor* have a plasticity index of more than 10, a high shrink-swell potential, many stones, or slopes of more than 25 percent. They are wet, and the depth to the water table is less than 1 foot. They may have layers of suitable material, but the material is less than 3 feet thick.

Sand and gravel are natural aggregates suitable for commercial use with a minimum of processing. Sand and gravel are used in many kinds of construction. Specifications for each use vary widely. In table 12, only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material.

The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the engineering classification of the soil), the thickness of suitable material, and the content of rock fragments. Kinds of rock, acidity, and stratification are given in the soil series descriptions. Gradation of grain sizes is given in the table on engineering index properties.

A soil rated as a probable source has a layer of clean sand or gravel or a layer of sand or gravel that is up to 12 percent silty fines. This material must be at least 3 feet thick and less than 50 percent, by weight, large stones. All other soils are rated as an improbable source. Coarse fragments of soft bedrock, such as shale and siltstone, are not considered to be sand and gravel.

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area.

Plant growth is affected by toxic material and by such properties as soil reaction, available water capacity, and fertility. The ease of excavating, loading, and spreading is affected by rock fragments, slope, a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, a water table, rock fragments, bedrock, and toxic material.

Soils rated *good* have friable loamy material to a depth of at least 40 inches. They are free of stones and cobbles, have little or no gravel, and have slopes of less than 8 percent. They are low in content of soluble salts, are naturally fertile or respond well to fertilizer, and are not so wet that excavation is difficult.

Soils rated *fair* are sandy soils, loamy soils that have a relatively high content of clay, soils that have only 20 to 40 inches of suitable material, soils that have an appreciable amount of gravel, stones, or soluble salts, or soils that have slopes of 8 to 15 percent. The soils are not so wet that excavation is difficult.

Soils rated *poor* are very sandy or clayey, have less than 20 inches of suitable material, have a large amount of gravel, stones, or soluble salts, have slopes of more than 15 percent, or have a seasonal water table at or near the surface.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

water management

Table 13 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed ponds. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and are easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increase in construction costs, and possibly increased maintenance are required.

This table also gives for each soil the restrictive features that affect drainage, terraces and diversions, and grassed waterways.

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders or organic matter. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water. Depth to bedrock and the content of large stones affect the ease of excavation.

Drainage is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock or to other layers that affect the rate of water movement; permeability; depth to a high water table or depth of standing water if the soil is subject to ponding; slope; susceptibility to flooding; subsidence of organic layers; and potential frost action. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock, large stones, slope, and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity or by toxic substances in the root zone, such as salts, sodium, or sulfur. Availability of drainage outlets is not considered in the ratings.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to reduce erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of wind or water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Grassed waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large

stones, wetness, slope, and depth to bedrock affect the construction of grassed waterways. A hazard of wind erosion, low available water capacity, restricted rooting depth, toxic substances such as salts or sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

soil properties

Data relating to soil properties are collected during the course of the soil survey. The data and the estimates of soil and water features, listed in tables, are explained on the following pages.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed (*7*). During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine grain-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help characterize key soils.

The estimates of soil properties shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classifications, and the physical and chemical properties of the major layers of each soil. Pertinent soil and water features also are given.

engineering index properties

Table 14 gives estimates of the engineering classification and of the range of index properties for the major layers of each soil in the survey area. Most soils have layers of contrasting properties within the upper 5 or 6 feet.

Depth to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties of each layer are given for each soil series under "Soil series and their morphology."

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If a soil contains particles coarser than sand, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (*3*) and the system adopted by the American Association of State Highway and Transportation Officials (*2*).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as Pt. Soils exhibiting engineering properties of two groups can have a dual classification, for example, SP-SM.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of grain-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 3 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of grain-size distribution, liquid limit, and plasticity index are rounded to the nearest 5 percent.

Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is omitted in the table.

physical and chemical properties

Table 15 shows estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each major soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The amount and kind of clay greatly affect the fertility and physical condition of the soil. They determine the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, and plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earth-moving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3 bar moisture tension. Weight is determined after drying the soil at 105 degrees C. In this table, the estimated moist bulk density of each major soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. A bulk density of more than 1.6 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability refers to the ability of a soil to transmit water or air. The estimates indicate the rate of downward movement of water when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems, septic tank absorption fields, and construction where the rate of water movement under saturated conditions affects behavior.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each major soil layer. The capacity varies, depending on soil properties that affect the retention of water and the depth of the root zone. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Soil reaction is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH of each major horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Shrink-swell potential is the potential for volume change in a soil with a loss or gain in moisture. Volume change occurs mainly because of the interaction of clay minerals with water and varies with the amount and type of clay minerals in the soil. The size of the load on the soil and the magnitude of the change in soil moisture content influence the amount of swelling of soils in place. Laboratory measurements of swelling of undisturbed clods were made for many soils. For others, swelling was estimated on the basis of the kind and amount of clay minerals in the soil and on measurements of similar soils.

If the shrink-swell potential is rated moderate to very high, shrinking and swelling can cause damage to buildings, roads, and other structures. Special design is often needed.

Shrink-swell potential classes are based on the change in length of an unconfined clod as moisture content is increased from air-dry to field capacity. The change is based on the soil fraction less than 2 millimeters in diameter. The classes are *low*, a change of less than 3 percent; *moderate*, 3 to 6 percent; and *high*, more than 6 percent. *Very high*, greater than 9 percent, is sometimes used.

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter (up to 4 percent) and on soil structure and permeability. Values of K range from 0.05 to 0.69. The higher the value the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Organic matter is the plant and animal residue in the soil at various stages of decomposition.

In table 15, the estimated content of organic matter of the plow layer is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter of a soil can be maintained or increased by returning crop residue to the soil. Organic matter affects the available water capacity,

infiltration rate, and tilth. It is a source of nitrogen and other nutrients for crops.

soil and water features

Table 16 gives estimates of various soil and water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are used to estimate runoff from precipitation. Soils not protected by vegetation are assigned to one of four groups. They are grouped according to the intake of water when the soils are thoroughly wet and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a permanent high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Flooding, the temporary inundation of an area, is caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt and water in swamps and marshes are not considered flooding.

Table 16 gives the frequency and duration of flooding and the time of year when flooding is most likely.

Frequency, duration, and probable dates of occurrence are estimated. Frequency is expressed as none, rare, common, occasional, and frequent. *None* means that flooding is not probable; *rare* that it is unlikely but possible under unusual weather conditions; *common* that it is likely under normal conditions; *occasional* that it occurs on an average of once or less in 2 years; and *frequent* that it occurs on an average of more than once in 2 years. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, and *long* if more than 7 days. Probable dates are expressed in months; November-May, for example, means that flooding can occur during the period November through May.

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and absence of distinctive horizons that form in soils that are not subject to flooding.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

High water table (seasonal) is the highest level of a saturated zone in the soil in most years. The depth to a seasonal high water table applies to undrained soils. The estimates are based mainly on the evidence of a saturated zone, namely grayish colors or mottles in the soil. Indicated in table 16 are the depth to the seasonal high water table; the kind of water table—that is, perched, artesian, or apparent; and the months of the year that the water table commonly is high. A water table that is seasonally high for less than 1 month is not indicated in table 16.

An apparent water table is a thick zone of free water in the soil. It is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil. An artesian water table is under hydrostatic head, generally beneath an impermeable layer. When this layer is penetrated, the water level rises in an uncased borehole. A perched water table is water standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

Only saturated zones within a depth of about 6 feet are indicated. A plus sign preceding the range in depth indicates that the water table is above the surface of the soil. The first numeral in the range indicates how high the water rises above the surface. The second numeral indicates the depth below the surface.

Depth to bedrock is given if bedrock is within a depth of 5 feet. The depth is based on many soil borings and on observations during soil mapping. If the rock is soft or fractured, excavations can be made with trenching machines, backhoes, or small rippers. If the rock is hard or massive, blasting or special equipment generally is needed for excavation.

Potential frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured clayey

soils that have a high water table in winter are most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage mainly to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that dissolves or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors creates a severe corrosion environment. The steel in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than steel in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion is also expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

classification of the soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (*9*). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. In table 17, the soils of the survey area are classified according to the system. The categories are defined in the following paragraphs.

ORDER. Ten soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Inceptisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Ochrept (*Ochr*, meaning pale, plus *ept*, from Inceptisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Dystrochrepts (*Dystr*, meaning low base saturation or infertile, plus *ochrept*, the suborder of the Inceptisols that have an ochric epipedon).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other known kind of soil. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Dystrochrepts.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Mostly the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineral content, temperature regime, depth of the root zone, consistence, moisture equivalent, slope, and permanent cracks. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is coarse-loamy, mixed, mesic Typic Dystrochrepts.

SERIES. The series consists of soils that have similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. The texture of the surface layer or of the substratum can differ within a series.

soil series and their morphology

In this section, each soil series recognized in the survey area is described. The descriptions are arranged in alphabetic order.

Characteristics of the soil and the material in which it formed are identified for each series. The soil is compared with similar soils and with nearby soils of other series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the Soil Survey Manual (*7*). Many of the technical terms used in the descriptions are defined in Soil Taxonomy (*9*). Unless otherwise stated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

The map units of each soil series are described in the section "Detailed soil map units."

Adrian series

The Adrian series consists of very poorly drained soils that formed in herbaceous organic deposits 16 to 51 inches thick. Adrian soils are in pockets and depressions of stream terraces, outwash plains, and glacial till uplands. Slope ranges from 0 to 2 percent.

Adrian soils are near excessively drained Hinckley soils; well drained Canton, Charlton, and Agawam soils; moderately well drained Sutton and Ninigret soils; poorly drained Walpole soils; and very poorly drained Carlisle and Scarboro soils. Adrian soils formed in a thinner layer of organic material than Carlisle soils and in a thicker layer of organic material than Scarboro soils.

Typical pedon of Adrian muck, in an area of Adrian and Palms mucks, in the town of Colchester, about 0.2 mile north of the junction of Old Hartford Road and Connecticut Route 85, and 150 feet west:

Oa1—0 to 8 inches; black (10YR 2/1) muck; 10 percent fiber, less than 5 percent rubbed; weak coarse granular structure; very friable; common fine and medium roots; strongly acid; clear smooth boundary.
Oa2—8 to 17 inches; black (10YR 2/1) muck; 15 percent fiber, less than 5 percent rubbed; weak coarse granular structure; very friable; common fine roots; strongly acid; clear smooth boundary.
Oa3—17 to 29 inches; black (10YR 2/1) muck; 25 percent fiber, less than 5 percent rubbed; massive; very friable; few fine roots; medium acid; clear smooth boundary.
Oa4—29 to 42 inches; very dark grayish brown (10YR 3/2) muck; 40 percent fiber, 15 percent rubbed; massive; very friable; few fine roots; medium acid; clear smooth boundary.
IIC1—42 to 48 inches; gray (5Y 6/1) gravelly sand; single grain; loose; 20 percent gravel; medium acid; clear smooth boundary.
IIC2—48 to 54 inches; light yellowish brown (10YR 6/4) gravelly sand; single grain; loose; 20 percent gravel; medium acid; clear smooth boundary.
IIC3—54 to 60 inches; strong brown (7.5YR 5/8) gravelly sand; single grain; loose; 20 percent gravel; medium acid.

The organic layers are 16 to 51 inches thick. Content of coarse fragments ranges from 5 to 35 percent in the IIC horizon. Adrian soils are strongly acid through slightly acid.

The surface tier has hue of 10YR, value of 2, and chroma of 1. It has weak granular or weak subangular blocky structure, or it is massive.

The subsurface and bottom tiers have hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 1 through 3. They have weak subangular blocky structure, or they are massive. These tiers are very friable or friable. The organic layers immediately above the IIC horizon have up to 50 percent mineral content in some pedons.

The IIC horizon has hue of 7.5YR through 5Y, value of 5 or 6, and chroma of 1 through 8. The IIC horizon is loamy fine sand, loamy sand, sand, or their gravelly analogues.

Agawam series

The Agawam series consists of well drained soils that formed in glacial outwash. Agawam soils are on stream terraces and outwash plains. Slope ranges from 0 to 8 percent.

The Agawam soils are in a drainage sequence on the landscape with moderately well drained Ninigret soils. They are near excessively drained Hinckley soils; somewhat excessively drained Merrimac soils; well drained Haven, Canton, and Charlton soils; and poorly drained Raypol and Walpole soils. Agawam soils have more sand in the substratum than Canton and Charlton soils and more sand in the solum than Haven soils.

Typical pedon of Agawam fine sandy loam, 0 to 3 percent slopes, in the town of Preston, 0.9 mile north of Connecticut Route 165, and 1,800 feet west of Krug Road:

Ap—0 to 9 inches; dark brown (10YR 3/3) fine sandy loam; weak medium granular structure; very friable; few fine roots; 5 percent coarse fragments; strongly acid; abrupt wavy boundary.
B21—9 to 19 inches; dark yellowish brown (10YR 4/6) fine sandy loam; weak medium subangular blocky structure; very friable; few fine roots; 5 percent coarse fragments; strongly acid; gradual wavy boundary.
B22—19 to 24 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky structure; very friable; few fine roots; 5 percent coarse fragments; medium acid; abrupt wavy boundary.
IIC1—24 to 32 inches; light olive brown (2.5Y 5/4) sand; massive; very friable; few fine roots; 15 percent coarse fragments; medium acid; abrupt wavy boundary.
IIC2—32 to 60 inches; light olive brown (2.5Y 5/4) very gravelly coarse sand; single grain; loose; 55 percent coarse fragments; medium acid.

The solum is 18 to 35 inches thick. Coarse fragments make up 0 to 10 percent of the surface layer, 0 to 15 percent of the B horizon, and 0 to 60 percent of the C horizon. Unless limed, Agawam soils are strongly acid or medium acid.

The A horizon has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 through 4.

The B horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 3 through 8. The upper part of the B horizon is very fine sandy loam or fine sandy loam, and the lower part is fine sandy loam. Some pedons have up to 5 inches of sandy loam or loamy sand in the lower part of the B horizon. The B horizon has weak granular or weak subangular blocky structure, or it is massive.

The IIC horizon has hue of 10YR or 2.5Y, value of 5 through 7, and chroma of 1 through 4. The IIC horizon is loamy fine sand, loamy sand, fine sand, sand, coarse sand, or their gravelly or very gravelly analogues. In many places, the IIC horizon is stratified.

Broadbrook series

The Broadbrook series consists of well drained soils that formed in compact, loamy glacial till. Broadbrook soils are on drumloidal upland landforms. Slope ranges from 3 to 8 percent.

Broadbrook soils are in a drainage sequence on the landscape with moderately well drained Rainbow soils. They are near well drained Narragansett soils and poorly drained Ridgebury and Leicester soils. Broadbrook soils have a more firm and compact C horizon than Narragansett soils.

Typical pedon of Broadbrook silt loam, 3 to 8 percent slopes, in the town of Ledyard, 2,500 feet east-northeast of the junction of Connecticut Route 117 and Thomas Road, and 1,000 feet north of Thomas Road:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam; moderate medium granular structure; very friable; few fine roots; 5 percent rock fragments; medium acid; abrupt smooth boundary.

B21—8 to 14 inches; dark yellowish brown (10YR 4/6) silt loam; weak medium subangular blocky structure; very friable; few fine roots; 5 percent rock fragments; medium acid; clear wavy boundary.

B22—14 to 24 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure; very friable; 5 percent rock fragments; medium acid; gradual wavy boundary.

B23—24 to 26 inches; olive brown (2.5Y 4/4) fine sandy loam; weak medium subangular blocky structure; very friable; 5 percent rock fragments; medium acid; abrupt wavy boundary.

Cx—26 to 60 inches; olive brown (2.5Y 4/4) fine sandy loam; weak medium platy structure; very firm, brittle; 15 percent rock fragments; medium acid.

The solum is 20 to 40 inches thick. Rock fragments make up 0 to 20 percent of the solum and 5 to 30 percent of the Cx horizon. Unless limed, Broadbrook soils are strongly acid or medium acid.

The A horizon has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 through 4.

The upper part of the B horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 through 6. The lower part of the B horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 3 through 6. The B horizon is silt loam or very fine sandy loam. It has weak granular or weak subangular blocky structure, or the horizon is massive.

The Cx horizon has hue of 10YR through 5Y, value of 2 through 6, and chroma of 2 through 6. The Cx horizon is fine sandy loam, sandy loam, or their gravelly analogues. It has weak platy structure, or the horizon is massive. The Cx horizon is firm or very firm and brittle.

Canton series

The Canton series consists of well drained, nonstony to extremely stony soils that formed in sandy glacial till. Canton soils are on hills, ridges, and plains of glacial till uplands. Slope ranges from 3 to 35 percent.

The Canton soils in this survey area are a taxadjunct of the series because they do not have contrasting textures in the profile. This difference does not significantly affect the use and management of the soils.

Canton soils are near somewhat excessively drained Merrimac and Hollis soils; well drained Charlton and Montauk soils; moderately well drained Sutton soils; and poorly drained Leicester soils. Canton soils have more sand in the C horizon than Charlton soils and have a more friable substratum than Montauk soils.

Typical pedon of Canton fine sandy loam, in an area of Canton and Charlton very stony fine sandy loams, 8 to 15 percent slopes, in the town of North Stonington, 600 feet south of the intersection of Interstate 95 and Boom Bridge Road, in a road cut on the east side of Boom Bridge Road:

A1—0 to 1 inch; black (10YR 2/1) fine sandy loam; weak fine granular structure; very friable; common fine and medium roots; strongly acid; abrupt wavy boundary.

B21—1 inch to 5 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium granular structure; very friable; common fine and medium roots; 10 percent rock fragments; strongly acid; gradual wavy boundary.

B22—5 to 15 inches; dark yellowish brown (10YR 4/6) sandy loam; weak medium granular structure; very friable; common fine and medium roots; 15 percent rock fragments; strongly acid; gradual wavy boundary.

B23—15 to 24 inches; dark yellowish brown (10YR 4/4) sandy loam; weak medium granular structure; very friable; few fine roots; 15 percent rock fragments; strongly acid; gradual wavy boundary.

C—24 to 60 inches; grayish brown (2.5Y 5/2) gravelly sand; massive; friable; 20 percent rock fragments; strongly acid.

The solum is 18 to 36 inches thick. Rock fragments make up 5 to 25 percent of the solum and 10 to 30 percent of the C horizon. Unless limed, Canton soils are strongly acid or medium acid.

The A horizon has hue of 10YR, value of 2 through 4, and chroma of 1 through 3.

The upper part of the B horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 through 8. The lower part of the B horizon has hue of 10YR or 2.5Y, value of 4 through 7, and chroma of 3 through 6. The B horizon is fine sandy loam in the upper part and fine sandy loam, sandy loam, or their gravelly analogues in the lower part. The B horizon has weak granular or weak subangular blocky structure, or it is massive. It is very friable or friable.

The C horizon has hue of 10YR through 5Y, value of 5 through 7, and chroma of 2 through 4. The C horizon is loamy fine sand, loamy sand, sand, or their gravelly analogues. It is single grain, or the horizon is massive. The C horizon is loose, very friable, or friable.

Carlisle series

The Carlisle series consists of very poorly drained soils that formed in organic material, more than 51 inches thick, which was derived from herbaceous and woody plants. Carlisle soils are in pockets and depressions of stream terraces, outwash plains, and glacial till uplands. Slope ranges from 0 to 2 percent.

Carlisle soils are near excessively drained Hinckley soils; well drained Canton, Charlton, and Agawam soils; moderately well drained Sutton and Ninigret soils; and very poorly drained Adrian and Palms soils. Carlisle soils formed in a thicker organic layer than Adrian and Palms soils.

Typical pedon of Carlisle muck, in the town of East Lyme, 750 feet north of the intersection of Holmes Road and Upper Walnut Hill Road:

Oa1—0 to 12 inches; black (10YR 2/1) muck; 15 percent fiber, 5 percent rubbed; massive; very friable; many fine, medium, and coarse roots; strongly acid; clear smooth boundary.
Oa2—12 to 37 inches; black (10YR 2/1) muck; 25 percent fiber, 5 percent rubbed; massive; very friable; few fine roots; 5 percent woody fragments; medium acid; clear smooth boundary.
Oa3—37 to 60 inches; dark reddish brown (5YR 3/3) muck; 25 percent fiber, 10 percent rubbed; massive; very friable; medium acid.

The organic layers are more than 51 inches thick. Coarse fragments of woody material make up 0 to 30 percent of the soil. Carlisle soils are strongly acid through slightly acid.

The surface tier has hue of 10YR, value of 2, and chroma of 1.

The subsurface tier has hue of 5YR through 10YR, value of 2 or 3, and chroma of 1 through 3. It has weak granular or weak subangular blocky structure, or the tier is massive.

The bottom tier has hue of 5YR through 10YR, value of 2 or 3, and chroma of 1 through 3. It has weak subangular blocky or weak platy structure, or the tier is massive.

Charlton series

The Charlton series consists of well drained, nonstony to extremely stony soils that formed in loamy glacial till. Charlton soils are on upland hills, ridges, and glacial till plains. Slope ranges from 3 to 45 percent.

Charlton soils are in a drainage sequence on the landscape with moderately well drained Sutton soils and poorly drained Leicester soils. They are near somewhat excessively drained Hollis soils and well drained Canton, Narragansett, Agawam, and Paxton soils. Charlton soils have finer textures in the C horizon than Canton and Narragansett soils and a more friable C horizon than Paxton soils. Charlton soils have more silt and clay in the C horizon than Agawam soils.

Typical pedon of Charlton fine sandy loam, in an area of Canton and Charlton fine sandy loams, 8 to 15 percent slopes, in the town of Lebanon, 400 feet west of the junction of Madley Road and Browning Road:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) fine sandy loam; weak medium granular structure; friable; common fine and medium roots; 10 percent rock fragments; strongly acid; abrupt wavy boundary.
B21—8 to 15 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky structure; friable; common fine and medium roots; 15 percent rock fragments; medium acid; gradual wavy boundary.
B22—15 to 24 inches; yellowish brown (10YR 5/4) fine sandy loam; weak medium subangular blocky structure; friable; common fine and medium roots; 15 percent rock fragments; medium acid; clear wavy boundary.
B23—24 to 29 inches; light olive brown (2.5Y 5/4) fine sandy loam; weak medium subangular blocky structure; friable; few fine roots; 15 percent rock fragments; medium acid; clear wavy boundary.
C—29 to 60 inches; grayish brown (2.5Y 5/3) fine sandy loam; massive; friable; 15 percent rock fragments; medium acid.

The solum is 20 to 36 inches thick. Rock fragments make up 5 to 35 percent of the soil above a depth of 40 inches and 5 to 45 percent of the soil below that depth. Unless limed, Charlton soils are strongly acid or medium acid.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 2 or 3.

The upper part of the B horizon has hue of 7.5YR or 10YR, value of 4 through 6, and chroma of 4 through 6. The lower part of the B horizon has hue of 10YR or 2.5Y, value of 4 through 6, and chroma of 4 through 6. The B horizon is fine sandy loam, sandy loam, or their gravelly analogues. It has weak granular or weak subangular blocky structure, or the horizon is massive. It is very friable or friable.

The C horizon has hue of 10YR through 5Y, value of 4 through 6, and chroma of 2 through 4. The C horizon is fine sandy loam, sandy loam, or their gravelly analogues. Many pedons have lenses or pockets of loamy sand as much as 6 inches thick. The C horizon is massive and is very friable, friable, or firm.

Haven series

The Haven series consists of well drained soils that formed in glacial outwash. Haven soils are on stream terraces and outwash plains. Slope ranges from 0 to 8 percent.

Haven soils are in a drainage sequence on the landscape with moderately well drained Tisbury soils and

poorly drained Raypol soils. They are near excessively drained Hinckley soils; well drained Canton, Charlton, Narragansett, and Agawam soils; and moderately well drained Ninigret soils. Haven soils have more sand in the C horizon than Canton, Charlton, and Narragansett soils, and they have a finer textured solum than Agawam soils.

Typical pedon of Haven silt loam, 0 to 3 percent slopes, in the town of Groton, 2,000 feet southwest of the junction of the railroad and South Road, and 800 feet northwest of South Road:

Ap—0 to 7 inches; dark brown (7.5YR 3/2) silt loam; weak fine granular structure; very friable; common fine and medium roots; 5 percent coarse fragments; strongly acid; abrupt wavy boundary.

B21—7 to 11 inches; brown (7.5YR 4/4) silt loam; weak medium subangular blocky structure; friable; few fine roots; 5 percent coarse fragments; strongly acid; gradual wavy boundary.

B22—11 to 15 inches; dark yellowish brown (10YR 4/6) silt loam; weak medium subangular blocky structure; friable; few fine roots; 10 percent coarse fragments; strongly acid; gradual wavy boundary.

B23—15 to 23 inches; yellowish brown (10YR 5/6) silt loam; weak medium subangular blocky structure; friable; few fine roots; 15 percent coarse fragments; strongly acid; clear wavy boundary.

IIC—23 to 60 inches; light yellowish brown (2.5Y 6/4) very gravelly sand; single grain; loose; 55 percent coarse fragments; medium acid.

The solum is 20 to 36 inches thick. Coarse fragments make up 2 to 15 percent of the A horizon and upper part of the B horizon, 2 to 35 percent of the lower part of the B horizon, and 25 to 65 percent of the IIC horizon. Unless limed, Haven soils are strongly acid or medium acid.

The A horizon has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 or 3.

The B horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 3 through 8. The B horizon is silt loam or very fine sandy loam. Some pedons have a B3 horizon, up to 5 inches thick, that is fine sandy loam, sandy loam, or their gravelly analogues. The B horizon has weak subangular blocky structure, or it is massive. It is very friable or friable.

The IIC horizon has hue of 10YR or 2.5Y, value of 4 through 6, and chroma of 2 through 6. The IIC horizon is gravelly loamy fine sand, gravelly loamy sand, gravelly sand, or their very gravelly analogues. In many places, the IIC horizon is stratified.

Hinckley series

The Hinckley series consists of excessively drained soils that formed in glacial outwash. Hinckley soils are on outwash plains, stream terraces, kames, and eskers. Slope ranges from 0 to 35 percent.

The Hinckley soils are near excessively drained Windsor soils, somewhat excessively drained Merrimac soils, well drained Agawam and Haven soils, moderately well drained Sudbury soils, poorly drained Walpole soils, and very poorly drained Scarboro soils. Hinckley soils have a greater content of gravel than Merrimac, Agawam, Haven, and Windsor soils.

Typical pedon of Hinckley gravelly sandy loam, 3 to 15 percent slopes, in the town of East Lyme, 600 feet east of Connecticut Route 161, and 300 feet north of Latimer Brook:

Ap—0 to 7 inches; dark brown (10YR 4/3) gravelly sandy loam; weak fine granular structure; very friable; many fine roots; 20 percent coarse fragments; medium acid; abrupt wavy boundary.

B21—7 to 14 inches; yellowish brown (10YR 5/8) gravelly loamy sand; single grain; loose; few fine roots; 25 percent coarse fragments; medium acid; gradual wavy boundary.

B22—14 to 22 inches; yellowish brown (10YR 5/6) gravelly loamy sand; single grain; loose; few fine roots; 40 percent coarse fragments; strongly acid; clear wavy boundary.

C—22 to 60 inches; brownish yellow (10YR 6/6) very gravelly coarse sand; single grain; loose; 60 percent coarse fragments; medium acid.

The solum is 18 to 30 inches thick. Coarse fragments make up 10 to 40 percent of the solum and 35 to 60 percent of the C horizon. Unless limed, Hinckley soils are strongly acid or medium acid.

The A horizon has hue of 10YR, value of 2 through 4, and chroma of 1 through 3.

The upper part of the B horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 through 8. The lower part of the B horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 4 through 8. The B horizon is sandy loam, loamy sand, or their gravelly analogues to a depth of 10 inches; below a depth of 10 inches it is loamy sand, loamy coarse sand, or their gravelly analogues. The B horizon has weak fine granular structure, or it is single grain and is loose or very friable.

The C horizon has hue of 7.5YR through 2.5Y, value of 5 through 7, and chroma of 4 through 8. The C horizon is loamy sand, sand, coarse sand, or their gravelly or very gravelly analogues. Many pedons are stratified.

Hollis series

The Hollis series consists of somewhat excessively drained, nonstony to extremely stony soils that formed in a thin mantle of loamy glacial till. These soils are on hills, ridges, and plains of glacial till uplands. Relief is influenced by the underlying bedrock. Slope ranges from 3 to 45 percent.

Hollis soils are near well drained Canton, Charlton, and Narragansett soils; moderately well drained Sutton soils; poorly drained Leicester soils; and very poorly drained Adrian and Palms soils.

Typical pedon of Hollis fine sandy loam, in an area of Hollis-Charlton-Rock outcrop complex, 3 to 15 percent slopes, in the town of Norwich, in a forested area near the intersection of Connecticut Routes 52 and 2, 100 feet east of the northbound exit ramp:

A1—0 to 2 inches; very dark brown (10YR 2/2) fine sandy loam; weak medium granular structure; very friable; many fine roots; 5 percent rock fragments; strongly acid; clear wavy boundary.
B21—2 to 5 inches; dark brown (7.5YR 4/4) fine sandy loam; weak medium granular structure; very friable; common fine roots; 5 percent rock fragments; strongly acid; gradual wavy boundary.
B22—5 to 12 inches; dark yellowish brown (10YR 4/6) fine sandy loam; weak medium subangular blocky structure; very friable; common fine roots; 5 percent rock fragments; strongly acid; gradual wavy boundary.
B23—12 to 17 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky structure; very friable; common fine roots; 5 percent rock fragments; strongly acid.
R—17 inches; hard, unweathered schist bedrock.

The solum is 10 to 20 inches thick and corresponds to the depth to bedrock. Rock fragments make up 2 to 25 percent of the soil. Hollis soils are strongly acid or medium acid.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 2 or 3.

The B horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 through 8. The B horizon is fine sandy loam, sandy loam, or their gravelly analogues. It has weak granular or weak subangular blocky structure, or the horizon is massive. The B horizon is very friable or friable.

The underlying bedrock is hard unweathered schist, gneiss, or granite.

Ipswich s ries

The Ipswich series consists of very poorly drained soils that formed in organic deposits, more than 51 inches thick, which were derived from salt-tolerant grasses. Ipswich soils are on tidal marshes and are subject to daily inundations of saltwater. Slope ranges from 0 to 1 percent.

The Ipswich soils are near excessively drained Hinckley soils, somewhat excessively drained Hollis soils, well drained Canton and Charlton soils, poorly drained Rippowam soils, and very poorly drained Westbrook and Pawcatuck soils. Ipswich soils formed in a thicker layer of organic deposits than Westbrook and Pawcatuck soils.

Typical pedon of Ipswich mucky peat, in the town of Old Lyme, 1,000 feet west-northwest of the junction of Connecticut Route 156 and Button Ball Road:

Oe1—0 to 16 inches; very dark grayish brown (10YR 3/2) mucky peat; 85 percent fiber, 35 percent rubbed; massive; friable; many fine and medium roots; 5 percent mineral content; slightly acid; clear wavy boundary.
Oe2—16 to 23 inches; very dark brown (10YR 2/2) mucky peat; 75 percent fiber, 30 percent rubbed; massive; friable; few fine and medium roots; 5 percent mineral content; neutral; clear wavy boundary.
Oe3—23 to 64 inches; very dark grayish brown (10YR 3/2) and very dark gray (10YR 3/1) pressed mucky peat; 70 percent fiber, 25 percent rubbed; massive; friable; 10 percent mineral content; neutral; gradual wavy boundary.
Oa1—64 to 80 inches; very dark grayish brown (10YR 3/2) muck; 35 percent fiber, 10 percent rubbed; massive; friable; 15 percent mineral content; neutral.

The organic deposits are more than 51 inches thick. Total salt content ranges from 1,000 to 35,000 parts per million. Thin layers of silt and very fine sand are common in the organic deposits of some pedons. Mineral content ranges from 5 to 80 percent. Ipswich soils are slightly acid or neutral.

The surface tier has hue of 10YR, value of 2 through 4, and chroma of 1 through 3. Fiber content is 35 to 90 percent unrubbed and 20 to 75 percent rubbed.

The subsurface tier has hue of 10YR, value of 2 through 4, chroma of 1 through 3. Fiber content is 20 to 85 percent unrubbed and 20 to 40 percent rubbed.

The bottom tier has hue of 10YR, value of 2 through 4, and chroma of 1 through 3. Fiber content is 10 to 70 percent unrubbed and less than 40 percent rubbed.

Leicester series

The Leicester series consists of poorly drained, extremely stony soils that formed in loamy glacial till. Leicester soils are in drainageways and depressions of upland hills, ridges, and glacial till plains. Slope ranges from 0 to 3 percent.

Leicester soils are in a drainage sequence on the landscape with well drained Charlton soils and moderately well drained Sutton soils. They are near somewhat excessively drained Hollis soils, well drained Canton and Narragansett soils, poorly drained Ridgebury soils, and very poorly drained Whitman soils. Leicester soils have a more friable C horizon than Ridgebury soils.

Typical pedon of Leicester fine sandy loam, in an area of Ridgebury, Leicester, and Whitman extremely stony fine sandy loams, in the town of Stonington, about 1,000 feet west of the junction of Pellegrino Road and Flanders Road, and 540 feet south of Pellegrino Road:

O1—2 inches to 0; decomposed leaves.
A1—0 to 6 inches; very dark gray (10YR 3/1) fine sandy loam; weak fine granular structure; very friable; few fine and medium roots; 5 percent rock fragments; very strongly acid; abrupt smooth boundary.
B21g—6 to 12 inches; dark grayish brown (10YR 4/2) fine sandy loam; few fine faint yellowish brown (10YR 5/4) mottles and many medium distinct light brownish gray (2.5Y 6/2) mottles; weak medium subangular blocky structure; very friable; few medium roots; 5 percent rock fragments; strongly acid; clear wavy boundary.
B22g—12 to 24 inches; grayish brown (2.5Y 5/2) fine sandy loam; few medium distinct yellowish brown (10YR 5/6) and dark grayish brown (10YR 4/2) mottles; weak medium subangular blocky structure; friable; 10 percent rock fragments; strongly acid; gradual wavy boundary.
B23—24 to 32 inches; pale olive (5Y 6/3) fine sandy loam; many coarse distinct yellowish brown (10YR 5/4 and 10YR 5/6) mottles; weak medium subangular blocky structure; friable; 15 percent rock fragments; strongly acid; gradual wavy boundary.
C—32 to 60 inches; light olive gray (5Y 6/2) gravelly fine sandy loam; many medium distinct yellowish brown (10YR 5/4 and 10YR 5/6) mottles; massive; friable; 25 percent rock fragments; strongly acid.

The solum is 20 to 36 inches thick. Rock fragments make up 5 to 30 percent of the A horizon, 5 to 35 percent of the B horizon, and 10 to 35 percent of the C horizon. Leicester soils are very strongly acid through medium acid.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2.

The upper part of the B horizon has hue of 10YR or 2.5Y, value of 4 through 6, and chroma of 1 or 2. The lower part of the B horizon has hue of 10YR through 5Y, value of 4 through 6, and chroma of 1 through 4. The B horizon is fine sandy loam, sandy loam, or their gravelly analogues. It has weak granular or weak subangular blocky structure, or the horizon is massive.

The C horizon has hue of 7.5YR through 5Y, value of 4 through 6, and chroma of 1 through 4. The C horizon is fine sandy loam, sandy loam, or their gravelly analogues. It is very friable, friable, or firm.

Limerick Variant

The Limerick Variant consists of poorly drained soils that formed in loamy alluvial deposits. Limerick Variant soils are on flood plains of major rivers and streams. Slope ranges from 0 to 3 percent.

The Limerick Variant soils are near excessively drained Hinckley soils; well drained Agawam, Haven, Canton, and Charlton soils; moderately well drained Pootatuck Variant soils; and poorly drained Rippowam soils. Limerick Variant soils have more silt in the solum than Rippowam soils.

Typical pedon of Limerick Variant silt loam, in the town of East Lyme, 1 mile south of the junction of Walnut Hill Road and Connecticut Route 161, and 300 feet east:

A1—0 to 8 inches; very dark brown (10YR 2/2) silt loam; weak fine granular structure; very friable; few fine roots; strongly acid; clear smooth boundary.
B21g—8 to 18 inches; grayish brown (10YR 5/2) silt loam; many fine distinct strong brown (7.5YR 4/6) and light gray (10YR 7/2) mottles; weak medium subangular blocky structure; friable; few fine roots; strongly acid; clear smooth boundary.
IIB22g—18 to 21 inches; grayish brown (10YR 5/2) loamy fine sand; few fine distinct strong brown (7.5YR 5/6) mottles and common medium distinct light gray (10YR 7/1) mottles; weak medium subangular blocky structure; very friable; strongly acid; abrupt smooth boundary.
B23g—21 to 33 inches; dark grayish brown (10YR 4/2) silt loam; few fine distinct strong brown (7.5YR 4/6) mottles and common medium faint light gray (10YR 7/1) mottles; weak coarse subangular blocky structure; firm; strongly acid; abrupt smooth boundary.
B3g—33 to 36 inches; dark gray (10YR 4/1) silt loam; few fine distinct strong brown (7.5YR 4/6) mottles; massive; friable; medium acid; abrupt smooth boundary.
IIC—36 to 60 inches; grayish brown (10YR 5/2) coarse sand; single grain; loose; 10 percent coarse fragments; medium acid.

The solum is 20 to 40 inches thick. Unless limed, Limerick Variant soils are strongly acid in the upper part and strongly acid through slightly acid in the lower part. There is a medium acid or slightly acid layer within a depth of 40 inches.

The A horizon has hue of 10YR, value of 2 through 4, and chroma of 2 or 3.

The B horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 1 or 2. The B horizon is silt loam or very fine sandy loam. Some pedons have subhorizons of silt or loamy very fine sand. The B horizon has weak granular or weak subangular blocky structure, or it is massive. It is very friable or friable.

The C and IIC horizons have hue of 10YR through 5Y and value of 4 or 5; chroma is 1 or 2 to a depth of 30 inches and 1 through 4 below a depth of 30 inches. The C horizon, where present, is silt loam, very fine sandy loam, or sandy loam. The IIC horizon is loamy sand, sand, coarse sand, or their gravelly analogues. It is single grain or massive.

Merrimac series

The Merrimac series consists of somewhat excessively drained soils that formed in glacial outwash. Merrimac soils are on stream terraces, outwash plains, kames, and eskers. Slope ranges from 0 to 15 percent.

Merrimac soils are in a drainage sequence on the landscape with moderately well drained Sudbury soils and poorly drained Walpole soils. They are near excessively drained Hinckley soils, well drained Agawam soils, and moderately well drained Ninigret soils.

Typical pedon of Merrimac sandy loam, 0 to 3 percent slopes, in the town of North Stonington, 2,000 feet northwest of Connecticut Route 184, and 200 feet east of Connecticut Route 216:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) sandy loam; weak fine granular structure; very friable; few fine roots; 5 percent coarse fragments; strongly acid; abrupt wavy boundary.
B21—8 to 13 inches; dark yellowish brown (10YR 4/6) sandy loam; weak fine granular structure; very friable; few fine roots; 5 percent coarse fragments; strongly acid; gradual wavy boundary.
B22—13 to 27 inches; yellowish brown (10YR 5/6) sandy loam; weak fine granular structure; very friable; few fine roots; 5 percent coarse fragments; strongly acid; clear wavy boundary.
IIC—27 to 60 inches; light olive brown (2.5Y 5/4) gravelly coarse sand; single grain; loose; 35 percent coarse fragments; medium acid.

The solum is 20 to 30 inches thick. Coarse fragments make up 5 to 20 percent of the upper part of the solum, 5 to 30 percent of the lower part of the solum, and 30 to 55 percent of the IIC horizon. Unless limed, Merrimac soils are strongly acid or medium acid.

The A horizon has hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 2 through 4.

The upper part of the B horizon has hue of 7.5YR or 10YR, value of 3 through 6, and chroma of 3 through 8. The lower part of the B horizon has hue of 10YR or 2.5Y, value of 3 through 6, and chroma of 3 through 8. The B horizon is sandy loam in the upper part and sandy loam, loamy sand, or their gravelly analogues in the lower part. Sandy loam textures do not extend below a depth of 27 inches. The B horizon has weak granular structure, or it is massive.

The IIC horizon has hue of 10YR or 2.5Y, value of 4 through 8, and chroma of 3 through 8. The IIC horizon is gravelly sand. In many places, it is stratified.

Montauk series

The Montauk series consists of well drained, nonstony to extremely stony soils that formed in compact, sandy glacial till. Montauk soils are on drumloidal upland landforms. Slope ranges from 3 to 35 percent.

The Montauk soils are near well drained Canton, Charlton, and Paxton soils; moderately well drained Woodbridge soils; and poorly drained Ridgebury soils. Montauk soils have a more firm and compact C horizon than Canton and Charlton soils. Montauk soils have more sand in the Cx horizon than Paxton soils.

Typical pedon of Montauk fine sandy loam, in an area of Paxton and Montauk fine sandy loams, 3 to 8 percent slopes, in the town of Groton, 700 feet west of the Noank-Ledyard Road overpass of Interstate 95, and 50 feet north:

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) fine sandy loam; weak medium granular structure; friable; common fine roots; 10 percent rock fragments; strongly acid; abrupt wavy boundary.
B21—7 to 15 inches; dark yellowish brown (10YR 4/6) fine sandy loam; weak medium subangular blocky structure; friable; common fine roots; 10 percent rock fragments; strongly acid; gradual wavy boundary.
B22—15 to 23 inches; yellowish brown (10YR 5/4) sandy loam; weak medium subangular blocky structure; friable; few fine roots; 10 percent rock fragments; strongly acid; clear wavy boundary.
C1—23 to 32 inches; brown (10YR 5/3) loamy sand; massive; friable; few fine roots; 10 percent rock fragments; strongly acid; gradual wavy boundary.
C2X—32 to 38 inches; grayish brown (2.5Y 5/2) loamy sand; weak thick platy structure; firm, brittle; few fine roots; 10 percent rock fragments; strongly acid; clear wavy boundary.
C3X—38 to 60 inches; grayish brown (2.5Y 5/2) loamy sand; weak thick platy structure; very firm, brittle; 10 percent rock fragments; strongly acid.

The solum is 20 to 40 inches thick. The content of rock fragments ranges from 3 to 35 percent in the A and B horizons and from 5 to 50 percent in the C1 and Cx horizons. Unless limed, Montauk soils are strongly acid or medium acid.

The A horizon has hue of 10YR, value of 3, and chroma of 2 or 3.

The upper part of the B horizon has hue of 10YR, value of 4 or 5, and chroma of 4 through 8. The lower part of the B horizon has hue of 10YR or 2.5Y, value of 4 through 6, and chroma of 4 through 6. The B horizon is fine sandy loam, sandy loam, or their gravelly analogues. It has weak subangular blocky structure, or the horizon is massive. The B horizon is very friable or friable.

The C1 horizon has hue of 10YR or 2.5Y, value of 4 through 6, and chroma of 2 through 4. It is loamy sand or gravelly loamy sand. The C1 horizon is very friable or friable.

The Cx horizon has hue of 10YR or 2.5Y, value of 4 through 6, and chroma of 2 through 4. The Cx horizon is loamy sand or gravelly loamy sand. It has weak platy structure, or the horizon is massive. The Cx horizon is firm or very firm and brittle.

Narragansett series

The Narragansett series consists of well drained, nonstony to extremely stony soils that formed in silt-

mantled glacial till. Narragansett soils are on upland hills, ridges, and till plains. Slope ranges from 3 to 25 percent.

Narragansett soils are near somewhat excessively drained Hollis soils; well drained Haven, Canton, Charlton, and Broadbrook soils; moderately well drained Sutton soils; and poorly drained Leicester soils. Narragansett soils have finer texture in the C horizon than Haven soils, and they have more silt in the solum than Canton and Charlton soils. Narragansett soils have a more friable C horizon than Broadbrook soils.

Typical pedon of Narragansett silt loam, in an area of Narragansett-Hollis complex, very rocky, 3 to 15 percent slopes, in the town of Montville, 0.6 mile north of the intersection of Cherry Lane and Raymond Hill Road, and 30 feet west of Cherry Lane:

Ap—0 to 6 inches; dark brown (10YR 3/3) silt loam; weak medium granular structure; very friable; common medium roots; very strongly acid; clear wavy boundary.

B21—6 to 15 inches; dark yellowish brown (10YR 4/6) silt loam; weak medium subangular blocky structure; very friable; common medium roots; very strongly acid; gradual wavy boundary.

B22—15 to 24 inches; yellowish brown (10YR 5/6) silt loam; weak medium subangular blocky structure; very friable; common medium roots; strongly acid; clear wavy boundary.

B3—24 to 28 inches; yellowish brown (10YR 5/6) silt loam; weak medium subangular blocky structure; very friable; few fine roots; 15 percent rock fragments; strongly acid; clear wavy boundary.

IIC—28 to 60 inches; light olive brown (2.5Y 5/4) gravelly loamy coarse sand; single grain; loose; 45 percent rock fragments; strongly acid.

The solum is 24 to 36 inches thick. Rock fragments make up 2 to 20 percent of the solum and 20 to 45 percent of the C horizon. Unless limed, Narragansett soils are very strongly acid through medium acid.

The A horizon has hue of 10YR, value of 3 or 4, and chroma of 2 or 3.

The upper part of the B horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma or 4 through 8. The lower part of the B horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 4 through 6. The B horizon is silt loam or very fine sandy loam. It has weak granular or weak subangular blocky structure, or the horizon is massive. The B horizon is very friable or friable.

The IIC horizon has hue of 10YR through 5Y, value of 3 through 6, and chroma of 2 through 6. It is loamy sand, loamy coarse sand, sand, coarse sand, or their gravelly analogues. The IIC horizon is single grain, or it is massive. It is loose, very friable, friable, or firm.

Ninigret series

The Ninigret series consists of moderately well drained soils that formed in water-sorted sand and gravel. Ninigret soils are on outwash plains and stream terraces. Slope ranges from 0 to 5 percent.

Ninigret soils are in a drainage sequence on the landscape with well drained Agawam soils. They are near excessively drained Hinckley soils, somewhat excessively drained Merrimac soils, well drained Haven soils, moderately well drained Tisbury and Sudbury soils, and poorly drained Raypol and Walpole soils. Ninigret soils have more sand in the solum than Tisbury soils and more silt in the solum than Sudbury soils.

Typical pedon of Ninigret fine sandy loam, in the town of Stonington, 0.8 mile south of Pawcatuck High School, and 350 feet west of the Pawcatuck River:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) fine sandy loam; weak medium granular structure; very friable; many fine roots; strongly acid; abrupt wavy boundary.

B21—8 to 16 inches; yellowish brown (10YR 5/6) fine sandy loam; weak coarse granular structure; very friable; few fine roots; strongly acid; clear wavy boundary.

B22—16 to 26 inches; yellowish brown (10YR 5/4) fine sandy loam; common medium distinct light brownish gray (10YR 6/2) and brownish yellow (10YR 6/6) mottles; weak coarse granular structure; very friable; few fine roots; strongly acid; clear wavy boundary.

IIC—26 to 60 inches; pale brown (10YR 6/3) loamy sand that has lenses of loamy fine sand; many medium distinct light olive gray (5Y 6/2) and yellowish brown (10YR 5/8) mottles; single grain; loose; strongly acid.

The solum is 20 to 30 inches thick. Coarse fragments make up 0 to 10 percent of the solum, 0 to 30 percent of the IIC horizon above a depth of 40 inches, and 0 to 60 percent below a depth of 40 inches. Unless limed, Ninigret soils are strongly acid or medium acid.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 to 3. The A horizon is silt loam, very fine sandy loam, or fine sandy loam.

The upper part of the B horizon has hue of 7.5YR or 10YR, value of 4 through 6, and chroma of 4 through 6. The lower part of the B horizon has hue of 10YR or 2.5Y, value of 4 through 6, and chroma of 2 through 6. The B horizon is silt loam, very fine sandy loam, or fine sandy loam. Some pedons have up to 5 inches of sandy loam or loamy fine sand in the lower part of the B horizon. The B horizon has weak granular or weak subangular blocky structure, or it is massive. The B horizon is very friable or friable.

The IIC horizon has hue of 10YR through 5Y, value of 4 through 6, and chroma of 2 through 6. It is loamy fine sand, loamy sand, sand, or their gravelly analogues.

Many pedons are stratified. The C horizon is single grain, or the horizon is massive. It is loose or very friable.

Palms series

The Palms series consists of very poorly drained soils that formed in herbaceous organic deposits 16 to 51 inches thick. Palms soils are in pockets and depressions of stream terraces, outwash plains, and glacial till uplands. Slope is less than 2 percent.

The Palms soils are near excessively drained Hinckley soils; well drained Canton, Charlton, Narragansett, and Agawam soils; moderately well drained Sutton and Ninigret soils; poorly drained Raypol soils; and very poorly drained Carlisle and Scarboro soils. Palms soils formed in a thinner organic layer than Carlisle soils and in a thicker organic layer than Scarboro soils.

Typical pedon of Palms muck, in an area of Adrian and Palms mucks, in the town of Ledyard, 0.5 mile north of the intersection of Connecticut Route 12 and Long Cove Road:

Oa1—0 to 6 inches; black (10YR 2/1) muck; 45 percent fiber, 5 percent rubbed; weak medium granular structure; very friable; many fine roots; 5 percent silt; strongly acid; clear smooth boundary.

Oa2—6 to 17 inches; very dark brown (10YR 2/2) muck; 10 percent fiber, 5 percent rubbed; weak coarse subangular blocky structure; very friable; common fine roots; 5 percent silt; medium acid; clear smooth boundary.

Oa3—17 to 22 inches; black (10YR 2/1) muck; less than 5 percent fiber; massive; friable; 10 percent silt; medium acid; abrupt smooth boundary.

IIC1—22 to 28 inches; dark yellowish brown (10YR 4/4) very fine sandy loam; common medium distinct reddish brown (5YR 5/3) mottles; massive; friable; medium acid; abrupt smooth boundary.

IIC2—28 to 60 inches; olive (5Y 5/3) loamy very fine sand; massive; friable; 10 percent coarse fragments; medium acid.

The organic layers are 16 to 51 inches thick. Coarse fragments make up 0 to 10 percent of the IIC horizon. Palms soils are strongly acid through slightly acid.

The surface tier has hue of 7.5YR or 10YR, value of 2, and chroma of 1 or 2. It has weak granular, weak platy, or weak subangular blocky structure, or the tier is massive.

The subsurface and bottom tiers have hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 1 through 3. The tiers have weak granular, weak platy, or weak subangular blocky structure, or they are massive. They are very friable or friable. In some pedons, the organic layer just above the IIC horizon has up to 50 percent mineral content.

The IIC horizon has hue of 10YR through 5Y, value of 4 through 7, and chroma of 1 through 4. The IIC horizon is silt loam, loam, very fine sandy loam, fine sandy loam, or loamy very fine sand.

Pawcatuck series

The Pawcatuck series consists of very poorly drained soils that formed in organic deposits derived from salt-tolerant grasses. The organic material is 16 to 51 inches thick over sandy mineral deposits. Pawcatuck soils are on tidal marshes and are subject to daily inundations of saltwater. Slope ranges up to 1 percent.

Pawcatuck soils are near excessively drained Hinckley soils; somewhat excessively drained Hollis soils; well drained Canton, Charlton, and Narragansett soils; poorly drained Rippowam soils; and very poorly drained Ipswich and Westbrook soils. Pawcatuck soils formed in a thinner layer of organic deposits than Ipswich soils, and they have more sand in the IIC horizon than Westbrook soils.

Typical pedon of Pawcatuck mucky peat, in the town of Stonington, Barn Island Area, about 0.5 mile northeast of the elevation bench mark on Barn Island, and 0.75 mile north of the elevation bench mark on Pawcatuck Point:

Oe1—0 to 12 inches; very dark gray (10YR 3/1) mucky peat, dark grayish brown (10YR 4/2) dry; 65 percent fiber, 30 percent rubbed; 57 percent organic matter; massive; slightly sticky; many fine-to-coarse roots; fibers are herbaceous; total content of salts is 19,500 parts per million; slightly acid; clear wavy boundary.

Oe2—12 to 40 inches; black (10YR 2/1) mucky peat, very dark gray (10YR 3/1) dry; 50 percent fiber, 25 percent rubbed; 54 percent organic matter; massive; slightly sticky; few roots; fibers are herbaceous; total content of salts is 22,900 parts per million; slightly acid; gradual wavy boundary.

0e3—40 to 46 inches; black (10YR 2/1) mucky peat; 40 percent fiber, 25 percent rubbed; 27 percent organic matter; massive; slightly sticky; fibers are herbaceous; total content of salts is 18,850 parts per million; slightly acid; clear wavy boundary.

IIC1—46 to 50 inches; gray (N 5/0) very fine sandy loam, gray (10YR 5/1) dry; 10 percent organic matter; massive; slightly sticky; total content of salts is 20,000 parts per million; slightly acid; clear wavy boundary.

IIC2—50 to 60 inches; black (10YR 2/1) loamy sand, dark gray (10YR 4/1) dry; single grain; loose; 10 percent coarse fragments; total content of salts is 20,000 parts per million; slightly acid.

The organic deposits are 16 to 51 inches thick. Total salt content ranges from 1,000 to 35,000 parts per million. The organic deposits consist mostly of hemic material, but some pedons have subhorizons of fibric or sapric material up to 10 inches thick. Content of coarse

fragments in the IIC horizon ranges from 0 to 15 percent. Pawcatuck soils are strongly acid through neutral. If drained, they become extremely acid.

The surface tier has hue of 10YR, value of 2 or 3, and chroma of 1 or 2.

The subsurface and bottom tiers are neutral or have hue of 10YR through 5Y, value of 2 through 5, and chroma of 0 through 3.

The IIC horizon is neutral or has hue of 10YR through 5Y, value of 2 through 7, and chroma of 0 through 3. The IIC horizon averages loamy sand or sand. The upper 6 inches of the IIC horizon ranges from silt loam to sand.

Paxton series

The Paxton series consists of well drained, nonstony to extremely stony soils that formed in compact, loamy glacial till. Paxton soils are on drumloidal upland landforms. Slope ranges from 3 to 35 percent.

Paxton soils are in a drainage sequence on the landscape with moderately well drained Woodbridge soils, poorly drained Ridgebury soils, and very poorly drained Whitman soils. They are near somewhat excessively drained Hollis soils and well drained Montauk, Charlton, and Canton soils. Paxton soils have a more firm and compact C horizon than Canton and Charlton soils, are deeper to bedrock than Hollis soils, and have more silt in the Cx horizon than Montauk soils.

Typical pedon of Paxton fine sandy loam, in an area of Paxton and Montauk fine sandy loams, 3 to 8 percent slopes, in the town of Colchester, 300 feet southeast of the northwest corner of New London County where it joins Middlesex and Hartford Counties:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) fine sandy loam; weak medium granular structure; friable; fine and medium roots; 10 percent rock fragments; medium acid; clear wavy boundary.

B21—8 to 16 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak coarse subangular blocky structure; friable; few fine roots; 10 percent rock fragments; medium acid; gradual wavy boundary.

B22—16 to 23 inches; yellowish brown (10YR 5/4) fine sandy loam; weak medium subangular blocky structure; friable; few fine roots; 10 percent rock fragments; medium acid; gradual wavy boundary.

B23—23 to 27 inches; light olive brown (2.5Y 5/4) fine sandy loam; weak medium subangular blocky structure; friable; few fine roots; 10 percent rock fragments; medium acid; clear wavy boundary.

C1x—27 to 45 inches; olive brown (2.5Y 4/3) fine sandy loam; weak thick platy structure; very firm, brittle; 15 percent rock fragments; strongly acid; gradual wavy boundary.

C2x—45 to 60 inches; olive brown (2.5Y 4/4) fine sandy loam; weak thick platy structure; firm, brittle; 15 percent rock fragments; strongly acid.

The solum is 20 to 38 inches thick. Rock fragments make up 5 to 35 percent of the solum and 10 to 40 percent of the Cx horizon. Unless limed, Paxton soils are strongly acid or medium acid.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 through 3.

The upper part of the B horizon has hue of 7.5YR or 10YR, value of 4 through 6, and chroma of 4 through 8. The lower part of the B horizon has hue of 10YR or 2.5Y, value of 4 through 6, and chroma of 4 through 6. The B horizon is fine sandy loam, sandy loam, or their gravelly analogues. It has weak granular or weak subangular blocky structure, or the horizon is massive. The B horizon is very friable or friable.

The Cx horizon has hue of 2.5Y or 5Y, value of 4 through 6, and chroma of 2 through 4. The Cx horizon is fine sandy loam, sandy loam, or their gravelly analogues. It has weak or moderate platy structure, or the horizon is massive. It is firm or very firm, and the horizon is brittle.

Pootatuck Variant

The Pootatuck Variant consists of moderately well drained soils that formed in recent alluvial deposits. Pootatuck Variant soils are on flood plains of major streams and rivers. Slope ranges from 0 to 3 percent.

The Pootatuck Variant soils are in a drainage sequence on the landscape with poorly drained Rippowam soils. They are near excessively drained Hinckley soils; well drained Agawam, Canton, and Charlton soils; and poorly drained Limerick Variant soils.

Typical pedon of Pootatuck Variant fine sandy loam, in the town of Colchester, 200 feet southeast of Hartford Road, near the edge of the Jeremy River:

A1—0 to 9 inches; very dark brown (10YR 2/2) fine sandy loam; weak fine granular structure; friable; common fine and medium roots; strongly acid; clear wavy boundary.

B21—9 to 15 inches; dark brown (10YR 4/3) loamy fine sand; weak fine subangular blocky structure; friable; few fine and medium roots; medium acid; gradual wavy boundary.

B22—15 to 28 inches; dark brown (10YR 3/3) fine sand; few fine distinct strong brown (7.5YR 5/6) mottles and few fine faint grayish brown (10YR 5/2) mottles; weak fine subangular blocky structure; friable; medium acid; clear wavy boundary.

C1—28 to 42 inches; dark grayish brown (2.5Y 4/2) fine sand; common medium prominent yellowish red (5YR 4/6) mottles in root channels; massive; friable; few fine roots; medium acid; abrupt wavy boundary.

C2—42 to 60 inches; dark yellowish brown (10YR 4/4) gravelly sand; single grain; loose; 35 percent coarse fragments; strongly acid.

The solum is 20 to 40 inches thick. Coarse fragments make up 0 to 5 percent of the solum and 0 to 40 percent

of the C horizon. Unless limed, Pootatuck Variant soils are strongly acid or medium acid.

The A horizon has hue of 10YR or 2.5Y, value of 2 through 5, and chroma of 2 through 4.

The B horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 3 or 4. The B horizon is fine sandy loam, sandy loam, loamy fine sand, or fine sand. It has weak granular or weak subangular blocky structure, or the horizon is massive.

The C horizon has hue of 10YR through 5Y, value of 4 through 6, and chroma of 1 through 6. The C horizon is loamy fine sand, loamy sand, fine sand, sand, or their gravelly analogues. It includes layers of sandy loam, gravel, or silt less than 5 inches thick.

Rainbow series

The Rainbow series consists of moderately well drained, nonstony to extremely stony soils that formed in compact, loamy glacial till. Rainbow soils are on drumloidal upland landforms. Slope ranges from 0 to 15 percent.

The Rainbow soils are in a drainage sequence on the landscape with well drained Broadbrook soils. They are near somewhat excessively drained Hollis soils, well drained Narragansett soils, and poorly drained Ridgebury soils.

Typical pedon of Rainbow silt loam, in an area of Rainbow very stony silt loam, 0 to 8 percent slopes, in the town of Montville, along the Montville-Waterford town line, about 0.65 mile west of Connecticut Route 32:

Ap—0 to 6 inches; dark brown (10YR 3/3) silt loam; weak fine granular structure; very friable; many fine roots; strongly acid; abrupt smooth boundary.

B21—6 to 18 inches; yellowish brown (10YR 5/6) silt loam; weak medium subangular blocky structure; very friable; few fine roots; strongly acid; clear wavy boundary.

B22—18 to 26 inches; light yellowish brown (10YR 6/4) silt loam; common medium distinct light gray (5Y 7/I) and strong brown (7.5YR 5/6) mottles; weak fine and medium subangular blocky structure; very friable; few fine roots; strongly acid; clear wavy boundary.

IICx—26 to 60 inches; pale brown (10YR 6/3) fine sandy loam; common distinct light olive brown (2.5Y 5/4) and brownish yellow (10YR 6/6) mottles; weak thick platy structure; very firm, brittle; 15 percent rock fragments; strongly acid.

The solum is 18 to 38 inches thick. Content of rock fragments ranges from 0 to 20 percent in the solum and from 5 to 30 percent in the Cx horizon. Unless limed, Rainbow soils are strongly acid or medium acid.

The A horizon has hue of 7.5YR or 10YR, value of 2 through 4, and chroma of 1 through 3.

The upper part of the B horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 through 6. The lower part of the B horizon has hue of 10YR or 2.5Y, value of 4 through 6, and chroma of 3 through 6. The B horizon is silt loam or very fine sandy loam. It has weak granular or weak subangular blocky structure, or the horizon is massive. The B horizon is very friable or friable.

The IICx horizon has hue of 10YR through 5Y, value of 4 through 6, and chroma of 2 through 6. The IICx horizon is fine sandy loam, sandy loam, or their gravelly analogues. It has weak platy structure, or the horizon is massive. The IICx horizon is firm or very firm and brittle.

Raypol series

The Raypol series consists of poorly drained soils that formed in water-sorted sand and gravel. Raypol soils are on outwash plains and stream terraces. Slope ranges from 0 to 3 percent.

The Raypol soils are in a drainage sequence on the landscape with well drained Haven soils and moderately well drained Tisbury soils. They are near excessively drained Hinckley soils, well drained Agawam soils, moderately well drained Ninigret soils, and very poorly drained Scarboro soils.

Typical pedon of Raypol silt loam, in the town of Stonington, 400 feet north of the junction of Interstate 95 and North Anguilla Road, and 200 feet east of Interstate 95:

Ap—0 to 5 inches; very dark brown (10YR 2/2) silt loam; weak medium subangular blocky structure; friable; common fine and medium roots; very strongly acid; abrupt smooth boundary.

B21—5 to 10 inches; yellowish brown (10YR 5/4) silt loam; common medium faint light yellowish brown (2.5Y 6/4) mottles and few fine distinct yellowish brown (10YR 5/6) mottles; weak coarse subangular blocky structure; friable; few fine roots; very strongly acid; gradual wavy boundary.

B22g—10 to 27 inches; light brownish gray (2.5Y 6/2) silt loam; common medium faint light yellowish brown (2.5Y 6/4) mottles and few medium distinct yellowish brown (10YR 5/8) mottles; weak medium subangular blocky structure; friable; few fine roots; 5 percent coarse fragments; strongly acid; abrupt wavy boundary.

IIC—27 to 60 inches; light brownish gray (2.5Y 6/2) gravelly fine sand; common medium distinct yellowish brown (10YR 5/8) mottles; massive; friable; 20 percent coarse fragments; strongly acid.

The solum is 18 to 30 inches thick. Content of coarse fragments ranges from 0 to 10 percent in the solum and 10 and 50 percent in the C horizon. The soils are very strongly acid or strongly acid above a depth of 40 inches and strongly acid through slightly acid below a depth of 40 inches.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2.

The B horizon has hue of 7.5YR through 2.5Y, value of 4 through 6, and chroma of 1 through 4; chroma of 3 or 4 is limited to subhorizons. The B horizon is silt loam or very fine sandy loam. Some pedons have subhorizons of fine sand or fine sandy loam. The B horizon has weak subangular blocky structure, or it is massive.

The IIC horizon has hue of 10YR or 2.5Y, value of 4 through 6, and chroma of 2 through 4. The IIC horizon is fine sand, sand, coarse sand, or their gravelly analogues. The horizon is stratified in many places.

Ridgebury series

The Ridgebury series consists of poorly drained, nonstony to extremely stony soils that formed in compact, loamy glacial till. Ridgebury soils are on drumloidal upland landforms. Slope ranges from 0 to 3 percent.

Ridgebury soils are in a drainage sequence on the landscape with well drained Paxton soils, moderately well drained Woodbridge soils, and very poorly drained Whitman soils. They are near somewhat excessively drained Hollis soils, well drained Montauk and Broadbrook soils, moderately well drained Rainbow soils, and poorly drained Leicester soils. Ridgebury soils have a more firm and compact C horizon than Leicester soils.

Typical pedon of Ridgebury fine sandy loam, in an area of Ridgebury, Leicester, and Whitman extremely stony fine sandy loams, in the town of Colchester, 2,000 feet south of the intersection of Connecticut Routes 149 and 16, and 100 feet west of Connecticut Route 149:

O1—1 inch to 0; partly decomposed leaves.

A1—0 to 4 inches; black (10YR 2/1) fine sandy loam; weak medium granular structure; friable; common fine roots; 5 percent rock fragments; strongly acid; clear wavy boundary.

B21g—4 to 13 inches; gray (10YR 5/1) fine sandy loam; common medium distinct strong brown (7.5YR 5/8) mottles and common medium faint yellowish brown (10YR 5/8) mottles; massive; friable; 5 percent rock fragments; strongly acid; gradual wavy boundary.

B22—13 to 20 inches; brown (10YR 5/3) fine sandy loam; many medium distinct yellowish brown (10YR 5/8) mottles and few fine faint grayish brown (10YR 5/2) mottles; massive; friable, firm in place; 10 percent rock fragments; slightly acid; clear wavy boundary.

Cx—20 to 60 inches; grayish brown (10YR 5/2) sandy loam; few fine faint yellowish brown (10YR 5/8) mottles; massive; very firm, brittle; 5 percent rock fragments; slightly acid.

The solum is 18 to 30 inches thick. Rock fragments make up 5 to 35 percent of the soil. Unless limed, these soils are strongly acid through slightly acid.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2.

The B horizon has hue of 10YR through 5Y, value of 4 through 6, and chroma of 1 through 3; chroma of 3 is restricted to subhorizons. The B horizon is fine sandy loam, sandy loam, or their gravelly analogues. It has weak subangular blocky structure, or the horizon is massive. The B horizon is very friable, friable, or firm.

The Cx horizon has hue of 10YR through 5Y, value of 3 through 6, and chroma of 1 through 4. The Cx horizon is fine sandy loam, sandy loam, or their gravelly analogues. It has weak platy structure, or the horizon is massive. It is firm or very firm and brittle.

Rippowam series

The Rippowam series consists of poorly drained soils that formed in recent alluvial deposits. Rippowam soils are on flood plains of major streams, rivers, and their tributaries. Slope ranges from 0 to 3 percent.

The Rippowam soils are in a drainage sequence on the landscape with moderately well drained Pootatuck Variant soils. They are near excessively drained Hinckley soils; well drained Canton, Charlton, and Agawam soils; moderately well drained Sudbury and Ninigret soils; poorly drained Limerick Variant soils; and very poorly drained Ipswich, Westbrook, and Pawcatuck soils. Rippowam soils have more sand in the solum than Limerick Variant soils.

Typical pedon of Rippowam fine sandy loam, in the town of East Lyme, 400 feet east of Connecticut Route 161, and 1,300 feet south of the entrance to a campground:

A1—0 to 8 inches; black (10YR 2/1) fine sandy loam; common medium distinct reddish brown (5YR 4/4) mottles; weak medium subangular blocky structure; friable; few medium roots; medium acid; clear wavy boundary.

B21—8 to 22 inches; dark grayish brown (10YR 4/2) fine sandy loam; common medium distinct strong brown (7.5YR 5/6) and light brownish gray (10YR 6/2) mottles; massive; friable; 5 percent coarse fragments; medium acid; clear wavy boundary.

B22—22 to 35 inches; dark gray (10YR 4/1) fine sandy loam; common medium distinct light brownish gray (10YR 6/2) mottles; massive; friable; 5 percent coarse fragments; medium acid; abrupt wavy boundary.

IIC—35 to 60 inches; dark grayish brown (10YR 4/2) gravelly coarse sand; common medium distinct yellowish red (5YR 5/6) mottles; single grain; loose; 40 percent coarse fragments; medium acid.

The solum is 20 to 40 inches thick. Coarse fragments make up 0 to 15 percent of the solum and 0 to 40 percent of the C horizon. Rippowam soils are strongly acid or medium acid; a subhorizon that is medium acid is within a depth of 40 inches.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2.

The B horizon has hue of 10YR or 2.5Y, value of 3 through 6, and chroma of 1 through 3; chroma of 3 is restricted to subhorizons. The B horizon is fine sandy loam or sandy loam. It has weak granular or weak subangular blocky structure, or the horizon is massive. The B horizon is very friable or friable.

The IIC horizon has hue of 10YR through 5Y, value of 3 through 6, and chroma of 1 through 3. The IIC horizon is loamy fine sand, loamy sand, sand, coarse sand, or their gravelly analogues. Some pedons have layers of sandy loam, gravel, silt loam, or organic material less than 5 inches thick. The IIC horizon is single grain, or it is massive. The IIC horizon is loose or very friable.

Scarboro series

The Scarboro series consists of very poorly drained soils that formed in water-sorted sand and gravel. Scarboro soils are on outwash plains and stream terraces. Slope ranges from 0 to 3 percent.

The Scarboro soils are near excessively drained Hinckley and Windsor soils, somewhat excessively drained Merrimac soils, well drained Haven and Agawam soils, moderately well drained Sudbury soils, poorly drained Walpole and Raypol soils, and very poorly drained Adrian and Palms soils. Scarboro soils formed in a thinner layer of organic material than Adrian and Palms soils.

Typical pedon of Scarboro mucky fine sandy loam, in the town of Lebanon, 1,000 feet west of the intersection of Connecticut Route 207 and Mack Road, and 700 feet south of Connecticut Route 207:

O2—5 inches to 0; black (10YR 2/1) muck; less than 5 percent fiber unrubbed and rubbed; massive; very friable; many fine roots; medium acid; clear wavy boundary.

A1—0 to 4 inches; black (10YR 2/1) mucky fine sandy loam; massive; friable; common fine and medium roots; medium acid; clear wavy boundary.

C1—4 to 36 inches; gray (10YR 5/1) loamy sand; common medium prominent yellowish red (5YR 5/8) mottles and common medium distinct strong brown (7.5YR 5/8) mottles; massive; friable; medium acid; clear wavy boundary.

C2—36 to 60 inches; grayish brown (2.5Y 5/2) sand; common medium prominent strong brown (7.5YR 5/8) mottles; massive; friable; medium acid.

Coarse fragments make up 0 to 10 percent of the A horizon, 0 to 20 percent of the C horizon to a depth of 30 inches, and 0 to 50 percent of the C horizon below a depth of 30 inches. Scarboro soils are very strongly acid through medium acid.

The A horizon has hue of 10YR or 2.5Y, value of 2 or 3, and chroma of 1 or 2. The A horizon is fine sandy loam, sandy loam, loamy sand, or their mucky analogues.

The C horizon has hue of 10YR through 5Y, value of 4 through 6, and chroma of 1 or 2. The C horizon is loamy sand, fine sand, sand, or their gravelly analogues; many pedons are stratified.

Sudbury series

The Sudbury series consists of moderately well drained soils that formed in water-sorted sand and gravel. Sudbury soils are on outwash plains and stream terraces. Slope ranges from 0 to 5 percent.

The Sudbury soils are in a drainage sequence on the landscape with somewhat excessively drained Merrimac soils and poorly drained Walpole soils. They are near excessively drained Hinckley and Windsor soils, well drained Agawam soils, moderately well drained Ninigret soils, and very poorly drained Scarboro soils. Sudbury soils have more sand in the solum than Ninigret soils.

Typical pedon of Sudbury sandy loam, in the town of East Lyme, about 0.4 mile south-southwest of the intersection of Plants Dam Road and Old Post Road:

O2—1 inch to 0; decomposed and partially decomposed hardwood leaf litter.

A1—0 to 4 inches; very dark brown (10YR 2/2) sandy loam; weak medium granular structure; friable; many roots, 5 percent coarse fragments; strongly acid; clear wavy boundary.

B21—4 to 16 inches; dark yellowish brown (10YR 4/4) sandy loam; weak medium subangular blocky structure; friable; common fine and medium roots; 15 percent coarse fragments; strongly acid; gradual wavy boundary.

B22—16 to 24 inches; yellowish brown (10YR 5/6) sandy loam; common medium distinct strong brown (7.5YR 5/8) and light brownish gray (10YR 6/2) mottles; weak medium subangular blocky structure; friable; few fine and medium roots; 5 percent coarse fragments; strongly acid; clear wavy boundary.

IIC—24 to 60 inches; dark yellowish brown (10YR 4/6) sand; common medium distinct strong brown (7.5YR 5/8) mottles; single grain; loose; 15 percent coarse fragments; strongly acid.

The solum is 18 to 30 inches thick. Coarse fragments make up 0 to 15 percent of the solum and 15 to 50 percent of the C horizon. Unless limed, Sudbury soils are strongly acid or medium acid.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 through 3.

The B horizon has hue of 7.5YR or 10YR, value of 3 through 5, and chroma of 2 through 8. The B horizon is fine sandy loam or sandy loam in the upper part and sandy loam or loamy sand in the lower part. It has weak or moderate subangular blocky structure, or the horizon is massive. The B horizon is very friable or friable.

The IIC horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2 through 6. The IIC horizon is sand or gravelly sand; it is stratified in many places.

Sutt n series

The Sutton series consists of moderately well drained, nonstony to extremely stony soils that formed in loamy glacial till. Sutton soils are on upland hills, ridges, and till plains. Slope ranges from 0 to 8 percent.

Sutton soils are in a drainage sequence on the landscape with well drained Charlton soils and poorly drained Leicester soils. They are near somewhat excessively drained Hollis soils, well drained Canton and Narragansett soils, and very poorly drained Adrian and Palms soils.

Typical pedon of Sutton fine sandy loam, in an area of Sutton very stony fine sandy loam, 0 to 8 percent slopes, in the town of Colchester, 0.5 mile north of the intersection of Connecticut Route 149 and Cemetery Road, 1,400 feet west of Connecticut Route 149, and 800 feet east of Peck Lane:

O2—1 inch to 0; litter and partially decomposed organic matter.
Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) fine sandy loam; weak medium granular structure; friable; few fine and common medium roots; 5 percent rock fragments; strongly acid; clear wavy boundary
B21—9 to 22 inches; yellowish brown (10YR 5/4) fine sandy loam; few fine faint yellowish brown (10YR 5/8) mottles; weak medium subangular blocky structure; friable; few medium roots; 5 percent rock fragments; strongly acid; gradual wavy boundary.
B22—22 to 28 inches; dark yellowish brown (10YR 4/4) fine sandy loam; common fine faint grayish brown (10YR 5/2) and yellowish brown (10YR 5/8) mottles and common fine distinct strong brown (7.5YR 5/8) mottles; weak medium subangular blocky structure; friable; few medium roots; 5 percent rock fragments; strongly acid; gradual wavy boundary.
B23—28 to 33 inches; dark brown (10YR 4/3) sandy loam; common fine faint grayish brown (10YR 5/2) and yellowish brown (10YR 5/8) mottles and common fine distinct strong brown (7.5YR 5/8) mottles; massive; friable; 5 percent rock fragments; strongly acid; gradual wavy boundary.
C—33 to 60 inches; olive brown (2.5Y 4/4) sandy loam; common fine distinct grayish brown (10YR 5/2) and yellowish brown (10YR 5/8) mottles and common fine distinct strong brown (7.5YR 5/8) mottles; massive; firm; 5 percent rock fragments; strongly acid.

The solum is 20 to 36 inches thick. Rock fragments make up 5 to 35 percent of the soil. Unless limed, Sutton soils are strongly acid or medium acid in the solum and strongly acid through slightly acid in the C horizon.

The A horizon has hue of 10YR, value of 2 through 4, and chroma of 1 through 3.

The upper part of the B horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 through 6. The lower part of the B horizon has hue of 10YR or 2.5Y, value of 4 through 6, and chroma of 2 through 6. The B horizon is fine sandy loam or sandy loam. It has weak granular or weak subangular blocky structure, or the horizon is massive. The B horizon is very friable or friable.

The C horizon has hue of 10YR through 5Y, value of 4 through 6, and chroma of 2 through 4. The C horizon is dominantly fine sandy loam, sandy loam, or their gravelly analogues. Many pedons have lenses of loamy sand or sand. The C horizon is very friable, friable, or firm.

Tisbury series

The Tisbury series consists of moderately well drained soils that formed in water-sorted sand and gravel. Tisbury soils are on outwash plains and stream terraces. Slope ranges from 0 to 5 percent.

The Tisbury soils are near well drained Haven and Agawam soils, moderately well drained Ninigret soils, and poorly drained Raypol soils. Tisbury soils have finer texture in the solum than Ninigret soils.

Typical pedon of Tisbury silt loam, in the town of Ledyard, 50 feet south of Iron Street, and 80 feet west of Lee Brook:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) silt loam; weak coarse granular structure; friable; many fine roots; 5 percent coarse fragments; strongly acid; abrupt wavy boundary.
B21—8 to 18 inches; yellowish brown (10YR 5/6) silt loam; weak medium and coarse subangular blocky structure; very friable; common fine roots; 5 percent coarse fragments; strongly acid; clear wavy boundary.
B22—18 to 26 inches; brownish yellow (10YR 6/6) silt loam; common medium distinct grayish brown (2.5Y 5/2) and strong brown (7.5YR 5/6) mottles; massive; very friable; few roots; 5 percent coarse fragments; strongly acid; clear wavy boundary.
IIC—26 to 60 inches; grayish brown (10YR 5/2) very gravelly sand; common medium distinct strong brown (7.5YR 5/6) mottles and common medium faint light brownish gray (10YR 6/2) mottles; single grain; loose; 60 percent coarse fragments; strongly acid.

The solum is 24 to 36 inches thick. Coarse fragments make up 0 to 5 percent of the solum and 25 to 70 percent of the C horizon. Unless limed, Tisbury soils are strongly acid or medium acid.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 through 3.

The upper part of the B horizon has hue of 7.5YR or 10YR, value of 4 through 6, and chroma of 3 through 6. The lower part of the B horizon has hue of 10YR or

2.5Y, value of 4 through 6, and chroma of 3 through 6. The B horizon is silt loam or very fine sandy loam. It has weak subangular blocky structure, or the horizon is massive.

The IIC horizon has hue of 10YR or 2.5Y, value of 4 through 6, and chroma of 2 through 6. The IIC horizon is gravelly or very gravelly sand, and it is stratified in many places.

Udorthents

Udorthents in this survey area consist of excessively drained to moderately well drained soils on glacial till upland hills, ridges, till plains, drumlins, and outwash plains, and on stream terraces. They are in areas where more than 2 feet of the upper part of the original soil has been removed, or in areas that have been covered by more than 2 feet of fill material. Udorthents are in loamy or sandy glacial till and gravelly or very gravelly outwash. Slope ranges from 0 to 15 percent.

Udorthents are on the landscape with excessively drained Hinckley soils; somewhat excessively drained Hollis and Merrimac soils; well drained Canton, Charlton, Narragansett, Agawam, Paxton, and Montauk soils; and moderately well drained Sutton, Woodbridge, Rainbow, Sudbury, and Ninigret soils. Udorthents are in a complex pattern on the landscape with Urban land and Pits, gravel.

Coarse fragments range from 0 to 65 percent in the soil. Udorthents are very strongly acid to slightly acid.

The A horizon, where present, has hue of 7.5YR or 10YR, value of 2 to 4, and chroma of 1 to 3. The A horizon is silt loam, very fine sandy loam, fine sandy loam, sandy loam, or loamy sand.

The C horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 to 8. The C horizon is loam, fine sandy loam, sandy loam, and gravelly or very gravelly sand or coarse sand.

Walpole s ries

The Walpole series consists of poorly drained soils that formed in water-sorted sand and gravel. Walpole soils are on outwash plains and stream terraces. Slope ranges from 0 to 3 percent.

The Walpole soils are in a drainage sequence on the landscape with somewhat excessively drained Merrimac soils and moderately well drained Sudbury soils. They are near excessively drained Hinckley and Windsor soils, well drained Agawam soils, and very poorly drained Scarboro soils.

Typical pedon of Walpole fine sandy loam, in the town of Ledyard, 1,000 feet south of the intersection of Connecticut Route 2 and Wattson Road, and 200 feet south of an abandoned gravel pit:

O2—2 inches to 0; partially decomposed forest litter.
A1—0 to 6 inches; very dark brown (10YR 2/2) fine sandy loam; few fine prominent yellowish red (5YR 4/6) mottles; weak fine granular structure; very friable; common medium and coarse roots; very strongly acid; clear wavy boundary.
B21—6 to 14 inches; dark brown (10YR 4/3) sandy loam; few fine faint yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; very friable; few fine and medium roots; very strongly acid; gradual wavy boundary.
B22—14 to 21 inches; dark grayish brown (2.5Y 4/2) sandy loam; few fine distinct yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; very friable; few fine roots; strongly acid; gradual wavy boundary.
C1—21 to 28 inches; grayish brown (2.5Y 5/2) loamy sand; few medium distinct yellowish brown (10YR 5/6) mottles; single grain; loose; strongly acid; gradual wavy boundary.
C2—28 to 38 inches; grayish brown (2.5Y 5/2) sand; few medium distinct yellowish brown (10YR 5/6) mottles; single grain; loose; strongly acid; clear wavy boundary.
C3—38 to 60 inches; olive brown (2.5Y 4/3) coarse sand; few medium distinct yellowish brown (10YR 5/6) mottles; single grain; loose; strongly acid.

The solum is 18 to 28 inches thick. Coarse fragments make up 0 to 15 percent of the solum and 0 to 50 percent of the C horizon. Walpole soils are very strongly acid through medium acid.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2.

The B horizon has hue of 10YR through 5Y, value of 4 through 6, and chroma of 1 through 3; chroma of 3 is restricted to subhorizons. The B horizon is fine sandy loam or sandy loam. It has weak granular or weak subangular blocky structure, or the horizon is massive.

The C horizon has hue of 10YR through 5Y, value of 4 through 6, and chroma of 2 through 4. The C horizon is loamy sand, coarse sand, sand, or their gravelly analogues; it is stratified in places. The C horizon is single grain, or it is massive. It is loose or very friable.

Westbrook series

The Westbrook series consists of very poorly drained soils that formed in organic deposits derived from salt-tolerant grasses. The organic deposits are 16 to 51 inches thick over loamy mineral deposits. Westbrook soils are on tidal marshes and are subject to daily inundations of saltwater. Slope ranges from 0 to 1 percent.

Westbrook soils are near excessively drained Hinckley soils, somewhat excessively drained Hollis soils, well drained Canton and Charlton soils, moderately well drained Pootatuck Variant soils, poorly drained Rippowam soils, and very poorly drained Ipswich and Pawcatuck soils. Westbrook soils formed in a thinner organic layer than Ipswich soils and have more silt in the IIC horizon than Pawcatuck soils.

Typical pedon of Westbrook mucky peat, in the town of Old Lyme, 300 feet north of Hawks Nest Beach, and 200 feet east of Mile Creek:

Oi1—0 to 6 inches; very dark brown (10YR 2/2) mucky peat; 80 percent fiber, 35 percent rubbed; massive; friable; many fine roots; 15 percent mineral content; slightly acid; gradual wavy boundary.
Oi2—6 to 15 inches; dark brown (10YR 3/3) mucky peat; 80 percent fiber, 35 percent rubbed; massive; friable; common fine and medium roots; 10 percent mineral content; neutral; gradual wavy boundary.
Oe1—15 to 27 inches; dark brown (10YR 3/3) mucky peat; 70 percent fiber, 30 percent rubbed; massive; friable; few fine and medium roots; 10 percent mineral content; 10 percent woody fragments; neutral; clear wavy boundary.
IIC1—27 to 43 inches; very dark gray (10YR 3/1) mucky silt loam; massive; friable; neutral; clear wavy boundary.
IIC2—43 to 50 inches; very dark grayish brown (10YR 3/2) silt loam; massive; friable; neutral; clear wavy boundary.
IIC3—50 to 60 inches; very dark gray (10YR 3/1) very fine sandy loam; massive; friable; neutral.

The organic layer is 16 to 51 inches thick. Total salt content ranges from 1,000 to 35,000 parts per million. Organic matter content ranges from 20 to 70 percent in the organic layers. Some pedons have subhorizons of sapric material up to 10 inches thick. Thin layers of silt are common in the organic layers. Westbrook soils are slightly acid or neutral.

The surface tier has hue of 10YR, value of 2 or 3, and chroma of 1 to 3.

The subsurface and bottom tiers have hue of 10YR or 2.5Y, value of 2 through 5, and chroma of 1 through 3.

The IIC horizon has hue of 10YR through 5Y, value of 2 through 5, and chroma of 1 or 2. The IIC horizon is silt, silt loam, very fine sandy loam, or their mucky analogues. Organic matter content ranges from 5 to 20 percent. Shell fragments and herbaceous fibers are common.

Whitman series

The Whitman series consists of very poorly drained, extremely stony soils that formed in compact, loamy glacial till. Whitman soils are on drumloidal upland landforms. Slope ranges from 0 to 3 percent.

The Whitman soils are in a drainage sequence on the landscape with well drained Paxton soils, moderately well drained Woodbridge soils, and poorly drained Ridgebury soils. They are near somewhat excessively drained Hollis soils; well drained Montauk, Canton, Charlton, Narragansett, and Broadbrook soils; moderately well drained Rainbow soils; and poorly drained Leicester soils.

Typical pedon of Whitman fine sandy loam, in an area of Ridgebury, Leicester, and Whitman extremely stony fine sandy loams, in the town of Lebanon, 300 feet west-southwest of the junction of Madley Road and Browning Road:

O1—1 inch to 0; decomposed leaf litter.
A1—0 to 9 inches; black (10YR 2/1) fine sandy loam; weak medium granular structure; friable; common fine and medium roots; strongly acid; abrupt wavy boundary.
B2g—9 to 16 inches; dark grayish brown (10YR 4/2) fine sandy loam; few fine faint yellowish brown (10YR 5/8) mottles; weak medium subangular blocky structure; friable; few fine roots; 5 percent rock fragments; medium acid; clear wavy boundary.
C1xg—16 to 22 inches; grayish brown (2.5Y 5/2) fine sandy loam; common medium distinct strong brown (7.5YR 5/8) mottles and few medium faint light brownish gray (2.5Y 6/2) mottles; moderate medium platy structure; very firm, brittle; 5 percent rock fragments; slightly acid; gradual wavy boundary.
C2x—22 to 60 inches; grayish brown (2.5Y 5/2) fine sandy loam; common medium distinct strong brown (7.5YR 5/8) mottles and few medium faint light brownish gray (2.5Y 6/2) mottles; massive; firm, brittle; 5 percent rock fragments; slightly acid.

The solum is 10 to 30 inches thick. Rock fragments make up 5 to 35 percent of the soil. These soils are very strongly acid through slightly acid.

The A horizon is neutral or has hue of 10YR, value of 2 or 3, and chroma of 0 through 2. The A horizon is fine sandy loam or silt loam.

The B2g horizon is neutral or has hue of 10YR through 5Y, value of 4 through 6, and chroma of 0 through 2. The B2g horizon is fine sandy loam, sandy loam, or their gravelly analogues.

The C1g horizon, where present, is neutral or has hue of 2.5Y or 5Y, value of 4 through 6, and chroma of 0 or 1. The C1g horizon is fine sandy loam, sandy loam, or their gravelly analogues. The horizon is massive.

The Cx horizon is neutral or has hue of 2.5Y or 5Y, value of 4 through 6, and chroma of 0 through 3; chroma of 3 is restricted to depths greater than 30 inches. The Cx horizon is fine sandy loam, sandy loam, loamy sand, or their gravelly analogues. It has weak or moderate platy structure, or the horizon is massive. The Cx horizon is firm or very firm and brittle.

Windsor series

The Windsor series consists of excessively drained soils that formed in glacial outwash. Windsor soils are on outwash plains and stream terraces. Slope ranges from 0 to 8 percent.

The Windsor soils are near excessively drained Hinckley soils, somewhat excessively drained Merrimac

soils, moderately well drained Sudbury soils, poorly drained Walpole soils, and very poorly drained Scarboro soils. Windsor soils have fewer coarse fragments in the solum and C horizon than do Hinckley and Merrimac soils.

Typical pedon of Windsor loamy sand, 3 to 8 percent slopes, in the town of Old Lyme, 1,200 feet east of the junction of Connecticut Route 156 and Mile Creek Road, and 1,500 feet south-southwest of the junction of Connecticut Route 156 and Four Mile River Road:

Ap—0 to 7 inches; dark brown (10YR 3/3) loamy sand; weak fine granular structure; very friable; common fine roots; strongly acid; abrupt wavy boundary.
B21—7 to 24 inches; yellowish brown (10YR 5/6) loamy sand; weak fine granular structure; very friable; few fine roots; medium acid; clear wavy boundary.
B22—24 to 28 inches; brownish yellow (10YR 6/6) loamy sand; weak fine granular structure; very friable; few fine roots; medium acid; clear wavy boundary.
C1—28 to 60 inches; light yellowish brown (2.5Y 6/4) sand; single grain; loose; medium acid.

The solum is 20 to 32 inches thick. Coarse fragments make up 0 to 10 percent of the solum and 0 to 15 percent of the C horizon. Unless limed, Windsor soils are strongly acid or medium acid in the solum and strongly acid through slightly acid in the C horizon.

The A horizon has hue of 10YR, value of 3 or 4, and chroma of 2 through 4. The A horizon is loamy sand or loamy fine sand.

The upper part of the B horizon has hue of 7.5YR or 10YR, value of 4 through 6, and chroma of 4 through 8. The lower part of the B horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 through 6. The B horizon is loamy fine sand and loamy sand in the upper part and loamy fine sand, loamy sand, and sand in the lower part. The B horizon has weak granular structure, is single grain, or is massive. It is loose or very friable.

The C horizon has hue of 10YR or 2.5Y, value of 4 through 7, and chroma of 2 through 6. The C horizon is fine sand or sand, and it is stratified in places.

Woodbridge series

The Woodbridge series consists of moderately well drained, nonstony to extremely stony soils that formed in compact, loamy glacial till. Woodbridge soils are on drumloidal upland landforms. Slope ranges from 0 to 15 percent.

The Woodbridge soils are in a drainage sequence on the landscape with well drained Paxton soils, poorly drained Ridgebury soils, and very poorly drained Whitman soils. They are near well drained Canton, Charlton, and Montauk soils.

Typical pedon of Woodbridge fine sandy loam, in an area of Woodbridge very stony fine sandy loam, 0 to 8 percent slopes, in the town of Colchester, 0.4 mile south of the eastbound on-ramp to Connecticut Route 2, and 150 feet west of Chestnut Hill Road:

A1—0 to 6 inches; very dark brown (10YR 2/2) fine sandy loam; weak fine granular structure; friable; common fine and medium roots; 5 percent rock fragments; strongly acid; abrupt wavy boundary.
B21—6 to 14 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine subangular blocky structure; friable; few fine and medium roots; 15 percent rock fragments; strongly acid; gradual wavy boundary.
B22—14 to 18 inches; dark yellowish brown (10YR 4/4) fine sandy loam; few fine distinct strong brown (7.5YR 5/8) mottles; weak medium subangular blocky structure; friable; few fine roots; 15 percent rock fragments; strongly acid; gradual wavy boundary.
B23—18 to 24 inches; light olive brown (2.5Y 5/4) fine sandy loam; common fine distinct strong brown (7.5YR 5/8) mottles and common fine faint light brownish gray (2.5Y 6/2) mottles; weak medium subangular blocky structure; friable; few fine roots; 15 percent rock fragments; strongly acid; clear wavy boundary.
B3—24 to 28 inches; grayish brown (2.5Y 5/2) sandy loam; common medium distinct strong brown (5YR 5/8) mottles; weak medium subangular blocky structure; friable; 5 percent rock fragments; strongly acid; clear wavy boundary.
Cx—28 to 60 inches; olive (5Y 4/3) sandy loam; weak medium platy structure; very firm, brittle; 10 percent rock fragments; strongly acid.

The solum is 22 to 38 inches thick. Rock fragments make up 5 to 35 percent of the solum and 10 to 40 percent of the Cx horizon. Unless limed, Woodbridge soils are strongly acid or medium acid in the solum and strongly acid through slightly acid in the Cx horizon.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 through 3.

The upper part of the B horizon has hue of 7.5YR or 10YR, value of 3 through 6, and chroma of 3 through 8. The lower part of the B horizon has hue of 10YR or 2.5Y, value of 4 through 6, and chroma of 3 through 6. The B horizon is fine sandy loam, sandy loam, or their gravelly analogues. It has weak granular or weak subangular blocky structure, or the horizon is massive.

The Cx horizon has hue of 2.5Y or 5Y, value of 4 through 6, and chroma of 2 through 4. The Cx horizon is fine sandy loam, sandy loam, or their gravelly analogues. It has weak platy structure, or the horizon is massive. The Cx horizon is firm or very firm and brittle.

formation of the soils

David E. Hill, associate soil scientist, Connecticut Agricultural Experiment Station, helped to prepare this section.

Soil is produced by various physical and chemical processes acting on geologic material. Collectively, these processes are called weathering. Some processes occur seasonally. Others develop slowly over hundreds or thousands of years. The changes that occur as soils develop are influenced by five factors of soil formation: parent material, climate, living organisms, topography, and time (*5*).

Climate and living organisms are the dominant active agents that modify the parent material deposited by geologic events. In New London County, these active agents have influenced soil formation for at least 10,000 years, or since the last glacier covered Connecticut.

The physical processes of soil formation are pulverization of bedrock by glacial ice, transportation of particles by water and wind, and deposition of particles on the newly scoured land surfaces. Since glacial times, the rock fragments have been reduced in size by frost action and differential expansion of the various minerals within the rocks. As the climate warmed and vegetation covered the landscape, chemical processes began to exert an increasing influence on soil formation.

The differences observed among soils in New London County are primarily attributed to parent material, topography, and time. The characteristics of the parent materials deposited by ice, water, and wind are partially inherited from the bedrock. Topography has influenced soil formation through differences in slope and drainage. Soils formed in recently deposited sediment on the flood plains of rivers and streams are very young in comparison to the soils of the uplands which have been developing for thousands of years. The influence of climate and living organisms has been relatively uniform throughout the county and does not account for important local differences.

Each of the soil forming factors as it applies to the soils in New London County is discussed in the paragraphs that follow.

parent material

Soils inherit some of their characteristics from the parent material; others are acquired as the parent material is modified by chemical and physical weathering. Parent material from the grayish granites, gneisses, and schists of the Eastern Highlands regions produce acid, yellowish brown soils.

The sand and silt fractions of most soils in the county are dominated by the quartz, feldspar, and mica minerals which are also common in the local bedrock formations. The dominant clay mineral in all parent material in the county is a mica-like mineral called illite, which is often found interstratified with vermiculite. As chemical weathering proceeds, illite loses potassium from its structure and becomes hydrolized to form vermiculite. Vermiculite, therefore, is the most abundant clay mineral in the solum. Small amounts of chlorite, kaolinite, and hydrated iron oxides are also in the clay fraction of most soils.

The texture of individual soils is largely determined by geologic events. It has since been modified by physical and chemical weathering to produce finer texture at the surface of most soils. Material deposited directly by the glacier usually consists of a mixture of particle sizes ranging from large boulders to clay. Particles carried by water from the melting glacier were sorted to form stratified deposits of gravel, sand, and silt.

The youngest soils in the county formed in alluvial sediment on flood plains. In most places, these soils receive annual deposits of sediment.

Some parent materials are organic. They are deposits of partially decomposed aquatic plants growing in former lakes and ponds. These deposits of muck or peat are scattered extensively throughout the county and include the tidal marshes near Long Island Sound.

climate

The elements of climate that affect soil formation are temperature and precipitation. These elements are relatively uniform throughout the county. They act directly on the parent material and also the vegetation, which in turn modify soil forming processes. The county has a cool, humid climate. Its winters are long and moderately cool; summers are short and mild. The average annual precipitation of 48 inches is evenly distributed throughout the year. Detailed information on climate is given in the section "General nature of the county."

Water moving through the soil alters its chemical composition over a long period of time. Soluble chemical constituents produced by weathering are mobilized by water. Some are translocated only short distances and are reprecipitated; others leach away. Rainfall also causes soils to erode if they are unprotected by vegetation.

The effects of temperature are also important. The temperature is high enough for biological activity to decompose organic matter at a fairly rapid rate. Frost action in winter causes increased aggregation of fine soil particles. Increased aggregation increases the rate of water movement through the soil and increases leaching of soluble chemicals.

living organisms

One of the most distinctive features that distinguishes a soil from its parent material is its organic matter content, or the plants and animals and their decaying or decayed remains in the soil. Such organisms as bacteria and fungi had an early influence on the formation of soils. Later these simple life forms were supplemented with more complex plants and animals. In New London County, the dominant plant life is forest vegetation, mainly oak, hickory, maple, hemlock, white pine, and mountain-laurel.

Soil formation is also strongly influenced by animals. These are mainly micro-organisms, earthworms, larvae, burrowing animals, and man. Animals are important in the cycle of decaying and regenerating vegetation which produces organic matter and nutrients. Nutrients absorbed by plants are returned to the soil by leaf fall and by decay of the plant itself. Organic matter is mixed into the soil by earthworms, burrowing animals, and decaying roots. Tree windthrow and activities of man hasten soil mixing.

Man's activities have had an effect on soil formation during the past few centuries. Clearing of the land, cultivation, use of lime and fertilizers, artificial drainage, grading, and the introduction of new plants are several ways man has affected soil formation and soil characteristics.

topography

The effects of topography on soil formation are primarily expressed in terms of slope gradient, aspect, and elevation. In places where parent materials are similar, soils that formed on steep slopes are thinner and have less well expressed development than soils on gentle slopes. Level areas, especially those underlain by compact, slowly permeable glacial till, have soils with poor drainage and a perched water table. Soils saturated with water for an appreciable length of time display mottling of soil colors in the subsoil layers and greater thickness and content of organic matter in the topsoil.

The effects of aspect and elevation are minimal. In New London County, general bedrock structures and drumlins are oriented roughly north to south so that east- and west-facing slopes are dominant. Thus, the typical effects of north-facing slopes being cooler and moister and south-facing slopes being warmer and dryer are not well expressed. Elevation ranges from sea level to about 600 feet in the northern part of New London County. Within 5 miles of Long Island Sound, hilltops seldom exceed 200 feet.

time

The degree of profile expression is dependent not only on the intensity of soil forming processes, but also on the duration of these processes. In terms of pedological time, the soils of New London County are relatively young. The horizons of these young soils are weakly developed except for their color. In the New England Uplands, where parent materials are mostly granite, gneiss, and schist, color is well developed in the subsoil.

The soils of recent alluvial origin are younger than the surrounding upland soils. They do not have the color development that characterizes the older upland soils. Many of the alluvial soils continue to receive fresh sediment during floods. This is especially true of the very young soils of the tidal marshes along the coast of New London County that receive fresh sediment of silt and clay eroded from surrounding uplands, or from the bottom of Long Island Sound and deposited on the marsh surface by incoming tides. Even the oldest sediment from the extensive marshes at Barn Island is only about 1,100 years old.

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glossary

ABC soil. A soil having an A, a B, and a C horizon.

Ablation till. Loose, permeable till deposited during the final downwasting of glacial ice. Lenses of crudely sorted sand and gravel are common.

AC soil. A soil having only an A and a C horizon. Commonly such soil formed in recent alluvium or on steep rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Area reclaim (in tables). An area difficult to reclaim after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 40-inch profile or to a limiting layer is expressed as—

	Inches
Very low	0 to 2.4
Low	2.4 to 3.2
Moderate	3.2 to 5.2
High	More than 5.2

Basal till. Compact glacial till deposited beneath the ice.

Bas saturation. The degree to which material having cation exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, K), expressed as a percentage of the total cation exchange capacity.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Calcar ous s il. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material but have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity, but is more precise in meaning.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Coarse fragments. If round, mineral or rock particles 2 millimeters to 25 centimeters (10 inches) in diameter; if flat, mineral or rock particles (flagstone) 15.2 to 38.1 centimeters (6 to 15 inches) long.

Coarse textured soil. Sand or loamy sand.

Cobblestone (or cobble). A rounded or partly rounded fragment of rock 3 to 10 inches (7.5 to 25 centimeters) in diameter.

Colluvium. Soil material, rock fragments, or both moved by creep, slide, or local wash and deposited at the base of steep slopes.

Complex slope. Irregular or variable slope. Planning or constructing terraces, diversions, and other water-control measures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils are somewhat similar in all areas.

Concr tions. Grains, pellets, or nodules of various sizes, shapes, and colors consisting of concentrated

compounds or cemented soil grains. The composition of most concretions is unlike that of the surrounding soil. Calcium carbonate and iron oxide are common compounds in concretions.

C nsistence, soil. The feel of the soil and the ease with which a lump can be crushed by the fingers. Terms commonly used to describe consistence are—
Loose.—Noncoherent when dry or moist; does not hold together in a mass.
Friable.—When moist, crushes easily under gentle pressure between thumb and forefinger and can be pressed together into a lump.
Firm.—When moist, crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.
Plastic.—When wet, readily deformed by moderate pressure but can be pressed into a lump; will form a "wire" when rolled between thumb and forefinger.
Sticky.—When wet, adheres to other material and tends to stretch somewhat and pull apart rather than to pull free from other material.
Hard.—When dry, moderately resistant to pressure; can be broken with difficulty between thumb and forefinger.
Soft.—When dry, breaks into powder or individual grains under very slight pressure.
Cemented.—Hard; little affected by moistening.

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

C ntr l section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Corrosive. High risk of corrosion to uncoated steel or deterioration of concrete.

C ver crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Depth to r ck (in tables). Bedrock is too near the surface for the specified use.

Diversion (r diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of periods of saturation or partial saturation during soil formation, as opposed to altered drainage, which is commonly the result of artificial drainage or irrigation but may be caused by the sudden deepening of channels or the blocking of drainage outlets. Seven classes of natural soil drainage are recognized:
Excessively drained.—Water is removed from the soil very rapidly. Excessively drained soils are commonly very coarse textured, rocky, or shallow. Some are steep. All are free of the mottling related to wetness.
Somewhat excessively drained.—Water is removed from the soil rapidly. Many somewhat excessively drained soils are sandy and rapidly pervious. Some are shallow. Some are so steep that much of the water they receive is lost as runoff. All are free of the mottling related to wetness.
Weil drained.—Water is removed from the soil readily, but not rapidly. It is available to plants throughout most of the growing season, and wetness does not inhibit growth of roots for significant periods during most growing seasons. Well drained soils are commonly medium textured. They are mainly free of mottling.
Moderately well drained.—Water is removed from the soil somewhat slowly during some periods. Moderately well drained soils are wet for only a short time during the growing season, but periodically they are wet long enough that most mesophytic crops are affected. They commonly have a slowly pervious layer within or directly below the solum, or periodically receive high rainfall, or both.
Somewhat poorly drained.—Water is removed slowly enough that the soil is wet for significant periods during the growing season. Wetness markedly restricts the growth of mesophytic crops unless artificial drainage is provided. Somewhat poorly drained soils commonly have a slowly pervious layer, a high water table, additional water from seepage, nearly continuous rainfall, or a combination of these.
Poorly drained.—Water is removed so slowly that the soil is saturated periodically during the growing season or remains wet for long periods. Free water is commonly at or near the surface for long enough during the growing season that most mesophytic crops cannot be grown unless the soil is artificially drained. The soil is not continuously saturated in layers directly below plow depth. Poor drainage results from a high water table, a slowly pervious layer within the profile, seepage, nearly continuous rainfall, or a combination of these.
Very poorly drained.—Water is removed from the soil so slowly that free water remains at or on the surface during most of the growing season. Unless the soil is artificially drained, most mesophytic crops cannot be grown. Very poorly drained soils are commonly level or depressed and are frequently ponded. Yet, where rainfall is high and nearly continuous, they can have moderate or high slope gradients.

Drainage, surface. Runoff, or surface flow of water, from an area.

Drumlin. A low, smooth, elongated oval hill, mound, or ridge of compact glacial till. The longer axis is

parallel to the path of the glacier and commonly has a blunt nose pointing in the direction from which the ice approached.

E lian soil material. Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.
Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.
Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of the activities of man or other animals or of a catastrophe in nature, for example, fire, that exposes the surface.

Esker (geology). A narrow, winding ridge of stratified gravelly and sandy drift deposited by a stream flowing in a tunnel beneath a glacier.

Excess fines (in tables). Excess silt and clay in the soil. The soil does not provide a source of gravel or sand for construction purposes.

Excess salts (in tables). Excess water-soluble salts in the soil that restrict the growth of most plants.

Fast intake (in tables). The rapid movement of water into the soil.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity.*

Fine textured soil. Sandy clay, silty clay, and clay.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Foot slope. The inclined surface at the base of a hill.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Frost action (in tables). Freezing and thawing of soil moisture. Frost action can damage roads, buildings and other structures, and plant roots.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Glacial drift (geology). Pulverized and other rock material transported by glacial ice and then deposited. Also the sorted and unsorted material deposited by streams flowing from glaciers.

Glacial outwash (geology). Gravel, sand, and silt, commonly stratified, deposited by glacial melt water.

Glacial till (geology). Unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice.

Glaciofluvial deposits (geology). Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur as kames, eskers, deltas, and outwash plains.

Glaciolacustrine deposits. Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial melt water. Many deposits are interbedded or laminated.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors and mottles.

Grass waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock up to 3 inches (2 millimeters to 7.5 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that is 15 to 50 percent, by volume, rounded or angular rock fragments, not prominently flattened, up to 3 inches (7.5 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water (geology). Water filling all the unblocked pores of underlying material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Hemic s il material (mucky peat). Organic soil material intermediate in degree of decomposition between

the less decomposed fibric and the more decomposed sapric material.

Horizon, s il. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an upper case letter represents the major horizons. Numbers or lower case letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the *Soil Survey Manual*. The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue at the surface of a mineral soil.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these. The combined A and B horizons are generally called the solum, or true soil. If a soil does not have a B horizon, the A horizon alone is the solum.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the A or B horizon. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, the Roman numeral II precedes the letter C.

R layer.—Consolidated rock beneath the soil. The rock commonly underlies a C horizon, but can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydr logic soil groups. Refers to soils grouped according to their runoff-producing characteristics. The chief consideration is the inherent capacity of soil bare of vegetation to permit infiltration. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff. Soils are assigned to four groups. In group A are soils having a high infiltration rate when thoroughly wet and having a low runoff potential. They are mainly deep, well drained, and sandy or gravelly. In group D, at the other extreme, are soils having a very slow infiltration rate and thus a high runoff potential. They have a claypan or clay layer at or near the surface, have a permanent high water table, or are shallow over nearly impervious bedrock or other material. A soil is assigned to two hydrologic groups if part of the acreage is artificially drained and part is undrained.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Kame (geology). An irregular, short ridge or hill of stratified glacial drift.

Lacustrine deposit (geology). Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Large stones (in tables). Rock fragments 3 inches (7.5 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Fine grained material, dominantly of silt-sized particles, deposited by wind.

Low strength. The soil is not strong enough to support loads.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Sandy loam and fine sandy loam.

Moraine (geology). An accumulation of earth, stones, and other debris deposited by a glacier. Some types are terminal, lateral, medial, and ground.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the

thickness and arrangement of those horizons in the soil profile.

M ttling, soil. Irregular spots of different colors that vary in number and size. Mottling generally indicates poor aeration and impeded drainage. Descriptive terms are as follows: abundance—*few, common,* and *many*; size—*fine, medium,* and *coarse*; and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).

Muck. Dark colored, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Munsell notation. A designation of color by degrees of the three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color of 10YR hue, value of 6, and chroma of 4.

Neutral soil. A soil having a pH value between 6.6 and 7.3. (See Reaction, soil.)

Organic matter. Plant and animal residue in the soil in various stages of decomposition.

Outwash, glacial. Stratified sand and gravel produced by glaciers and carried, sorted, and deposited by glacial melt water.

Outwash plain. A landform of mainly sandy or coarse textured material of glaciofluvial origin. An outwash plain is commonly smooth; where pitted, it is generally low in relief.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Ped n. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Perc lation. The downward movement of water through the soil.

Percs slowly (in tables). The slow movement of water through the soil adversely affecting the specified use.

Permeability. The quality of the soil that enables water to move downward through the profile. Permeability is measured as the number of inches per hour that water moves downward through the saturated soil. Terms describing permeability are:

Very slow	less than 0.06 inch
Slow	0.06 to 0.20 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management. For example, slope, stoniness, and thickness.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. The water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Poor outlets (in tables). Refers to areas where surface or subsurface drainage outlets are difficult or expensive to install.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degree of acidity or alkalinity is expressed as—

	pH
Extremely acid	Below 4.5
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Medium acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Mildly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

R lief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered, or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A steep sided channel resulting from accelerated erosion. A rill is generally a few inches deep and not wide enough to be an obstacle to farm machinery.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

R oting depth (in tables). Shallow root zone. The soil is shallow over a layer that greatly restricts roots.

Root zone. The part of the soil that can be penetrated by plant roots.

Run ff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-size particles.

Sapric s il material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

S dimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer or of the underlying material. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock formed by the hardening of a clay deposit.

She t er sion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and runoff water.

Shrink-swell. The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75 feet.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slope (in tables). Slope is great enough that special practices are required to insure satisfactory performance of the soil for a specific use.

Slow intake (in tables). The slow movement of water into the soil.

Small stones (in tables). Rock fragments less than 3 inches (7.5 centimeters) in diameter. Small stones adversely affect the specified use of the soil.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 mm in equivalent diameter and ranging between specified size limits. The names and sizes of separates recognized in the United States are as follows:

	Millimeters
Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0 5
Medium sand	0.5 to 0.25
Fine sand	0 25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the underlying material. The living roots and plant and animal activities are largely confined to the solum.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stripcropping. Growing crops in a systematic arrangement of strips or bands which provide vegetative barriers to wind and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates

longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular. Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any reguiar cleavage, as in many hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Substratum. The part of the soil below the solum.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior.

Terminal moraine. A belt of thick glacial drift that generally marks the termination of important glacial advances.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field is generally built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material too thin for the specified use.

Till plain. An extensive flat to undulating area underlain by glacial till.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toe slope. The outermost inclined surface at the base of a hill; part of a foot slope.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Unstable fill (in tables). Risk of caving or sloughing on banks of fill material.

Upland (geology). Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Variant, soil. A soil having properties sufficiently different from those of other known soils to justify a new series name, but occurring in such a limited geographic area that creation of a new series is not justified.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an overdry basis, at which a plant (specifically sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

tables

TABLE 1.--TEMPERATURE AND PRECIPITATION
[Recorded in the period 1958-74 at Groton, Connecticut]

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average daily	2 years in 10 will have-- Maximum temperature higher than--	2 years in 10 will have-- Minimum temperature lower than--	Average number of growing degree days*	Average	2 years in 10 will have-- Less than--	2 years in 10 will have-- More than--	Average number of days with 0.10 inch or more.	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January----	37.1	18.4	27.8	58	-4	9	3.72	2.06	5.07	7	7.5
February---	37.5	19.4	28.5	56	-6	0	4.26	3.04	5.38	7	7.0
March------	45.1	27.8	36.5	63	9	33	4.62	3.16	5.95	7	5.1
April------	56.2	36.1	46.2	79	22	194	4.37	2.57	5.97	7	.1
May--------	65.1	45.5	55.3	85	31	474	3.95	2.36	5.36	7	.0
June-------	74.4	55.0	64.7	91	41	741	3.17	1.51	4.53	6	.0
July-------	80.0	61.3	70.7	93	50	952	3.47	1.72	4.89	5	.0
August-----	79.7	60.6	70.2	90	46	936	2.86	1.85	3.78	6	.0
September--	73.2	53.5	63.4	89	35	702	4.00	2.02	5.60	6	.0
October----	63.5	42.5	53.0	80	24	403	3.57	1.82	4.99	5	.0
November---	52.1	34.4	43.3	69	16	124	4.64	2.96	6.15	7	.1
December---	40.6	23.2	31.9	62	2	31	5.18	3.19	6.95	8	6.3
Year-----	58.7	39.8	49.3	93	-7	4,599	47.81	40.99	54.36	78	26.1

*A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (40° F).

TABLE 2.--FREEZE DATES IN SPRING AND FALL
[Recorded in the period 1958-74 at Groton, Connecticut]

Probability	Temperature		
	24° F or lower	28° F or lower	32° F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	April 7	April 21	May 7
2 years in 10 later than--	April 4	April 18	May 3
5 years in 10 later than--	March 29	April 12	April 26
First freezing temperature in fall:			
1 year in 10 earlier than--	October 22	October 13	October 4
2 years in 10 earlier than--	October 28	October 18	October 9
5 years in 10 earlier than--	November 9	October 29	October 18

TABLE 3.--GROWING SEASON
[Recorded in the period 1958-74 at Groton, Connecticut]

Probability	Daily minimum temperature during growing season		
	Higher than 24° F	Higher than 28° F	Higher than 32° F
	Days	Days	Days
9 years in 10	201	181	157
8 years in 10	209	187	163
5 years in 10	224	199	174
2 years in 10	239	211	186
1 year in 10	247	217	192

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

Map symbol	Soil name	Acres	Percent
Aa	Adrian and Palms mucks	11,260	2.6
AfA	Agawam fine sandy loam, 0 to 3 percent slopes	1,840	0.4
AfB	Agawam fine sandy loam, 3 to 8 percent slopes	5,240	1.2
Ba	Beaches	310	0.1
BrB	Broadbrook silt loam, 3 to 8 percent slopes	370	0.1
CbB	Canton and Charlton fine sandy loams, 3 to 8 percent slopes	10,420	2.4
CbC	Canton and Charlton fine sandy loams, 8 to 15 percent slopes	2,970	0.7
CbD	Canton and Charlton fine sandy loams, 15 to 25 percent slopes	2,630	0.6
CcB	Canton and Charlton very stony fine sandy loams, 3 to 8 percent slopes	21,820	5.1
CcC	Canton and Charlton very stony fine sandy loams, 8 to 15 percent slopes	9,530	2.2
CdC	Canton and Charlton extremely stony fine sandy loams, 3 to 15 percent slopes	13,320	3.1
CdD	Canton and Charlton extremely stony fine sandy loams, 15 to 35 percent slopes	10,900	2.5
Ce	Carlisle muck	7,040	1.6
CrC	Charlton-Hollis fine sandy loams, very rocky, 3 to 15 percent slopes	53,040	12.3
CrD	Charlton-Hollis fine sandy loams, very rocky, 15 to 45 percent slopes	26,280	6.1
Du	Dumps	370	0.1
HcA	Haven silt loam, 0 to 3 percent slopes	3,290	0.8
HcB	Haven silt loam, 3 to 8 percent slopes	5,520	1.3
HkA	Hinckley gravelly sandy loam, 0 to 3 percent slopes	940	0.2
HkC	Hinckley gravelly sandy loam, 3 to 15 percent slopes	14,240	3.3
HkD	Hinckley gravelly sandy loam, 15 to 35 percent slopes	8,380	1.9
HrC	Hollis-Charlton-Rock outcrop complex, 3 to 15 percent slopes	15,380	3.6
HrD	Hollis-Charlton-Rock outcrop complex, 15 to 45 percent slopes	17,300	4.0
Ip	Ipswich mucky peat	430	0.1
Ln	Limerick Variant silt loam	740	0.2
MyA	Merrimac sandy loam, 0 to 3 percent slopes	2,000	0.5
MyB	Merrimac sandy loam, 3 to 8 percent slopes	5,280	1.2
MyC	Merrimac sandy loam, 8 to 15 percent slopes	1,320	0.3
NaB	Narragansett silt loam, 3 to 8 percent slopes	560	0.1
NgB	Narragansett very stony silt loam, 3 to 8 percent slopes	680	0.2
NhC	Narragansett extremely stony silt loam, 3 to 15 percent slopes	1,290	0.3
NhD	Narragansett extremely stony silt loam, 15 to 25 percent slopes	560	0.1
NlC	Narragansett-Hollis complex, very rocky, 3 to 15 percent slopes	3,320	0.8
Nn	Ninigret fine sandy loam	3,360	0.8
Pa	Pawcatuck mucky peat	1,170	0.3
PbB	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes	9,330	2.2
PbC	Paxton and Montauk fine sandy loams, 8 to 15 percent slopes	1,930	0.4
PbD	Paxton and Montauk fine sandy loams, 15 to 25 percent slopes	670	0.2
PdB	Paxton and Montauk very stony fine sandy loams, 3 to 8 percent slopes	8,500	2.0
PdC	Paxton and Montauk very stony fine sandy loams, 8 to 15 percent slopes	6,100	1.4
PeC	Paxton and Montauk extremely stony fine sandy loams, 3 to 15 percent slopes	1,540	0.4
PeD	Paxton and Montauk extremely stony fine sandy loams, 15 to 35 percent slopes	1,180	0.3
Ps	Pootatuck Variant fine sandy loam	1,530	0.4
RaA	Rainbow silt loam, 0 to 3 percent slopes	420	0.1
RaB	Rainbow silt loam, 3 to 8 percent slopes	360	0.1
RbB	Rainbow very stony silt loam, 0 to 8 percent slopes	1,020	0.2
Rc	Raypol silt loam	1,730	0.4
Rd	Ridgebury fine sandy loam	1,430	0.3
Rn	Ridgebury, Leicester, and Whitman extremely stony fine sandy loams	28,490	6.6
Ro	Rippowam fine sandy loam	4,550	1.1
Rp	Rock outcrop-Hollis complex	1,240	0.3
Sf	Scarboro mucky fine sandy loam	4,870	1.1
Sg	Sudbury sandy loam	2,720	0.6
SvA	Sutton fine sandy loam, 0 to 3 percent slopes	1,040	0.2
SvB	Sutton fine sandy loam, 3 to 8 percent slopes	2,450	0.6
SwB	Sutton very stony fine sandy loam, 0 to 8 percent slopes	7,600	1.8
SxB	Sutton extremely stony fine sandy loam, 0 to 8 percent slopes	6,450	1.5
Ts	Tisbury silt loam	1,960	0.5
Ub	Udorthents-Pits complex, gravelly	1,480	0.3
Ud	Udorthents-Urban land complex	11,900	2.8
Ur	Urban land	2,180	0.5
Wd	Walpole fine sandy loam	3,160	0.7
We	Westbrook mucky peat	580	0.1
Wh	Westbrook mucky peat, low salt	1,500	0.4
WvA	Windsor loamy sand, 0 to 3 percent slopes	440	0.1
WvB	Windsor loamy sand, 3 to 8 percent slopes	1,960	0.5
WxA	Woodbridge fine sandy loam, 0 to 3 percent slopes	4,000	0.9
WxB	Woodbridge fine sandy loam, 3 to 8 percent slopes	11,630	2.7
WxC	Woodbridge fine sandy loam, 8 to 15 percent slopes	1,400	0.3
WyB	Woodbridge very stony fine sandy loam, 0 to 8 percent slopes	16,250	3.8
WyC	Woodbridge very stony fine sandy loam, 8 to 15 percent slopes	1,420	0.3
WzA	Woodbridge and Rainbow extremely stony soils, 0 to 3 percent slopes	700	0.2
WzC	Woodbridge and Rainbow extremely stony soils, 3 to 15 percent slopes	5,710	1.3
	Water	5,560	1.3
	Total	430,080	100.0

TABLE 5.--YIELDS PER ACRE OF CROPS AND PASTURE

[Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil]

Soil name and map symbol	Corn silage	Irish potatoes	Alfalfa hay	Grass-legume hay	Grass hay	Grass-clover	Kentucky bluegrass
	Ton	Cwt	Ton	Ton	Ton	AUM*	AUM*
Aa---------- Adrian and Palms	---	---	---	---	---	---	---
AfA---------- Agawam	24	330	5.0	4.5	4.0	8.5	---
AfB---------- Agawam	24	330	5.0	4.5	4.0	8.5	---
Ba**. Beaches							
BrB---------- Broadbrook	26	360	4.5	4.0	4.0	8.5	---
CbB---------- Canton and Charlton	24	300	5.0	4.5	4.0	8.5	---
CbC---------- Canton and Charlton	22	270	5.0	4.0	3.5	8.0	---
CbD---------- Canton and Charlton	18	---	4.5	3.5	3.0	7.5	---
CcB, CcC---------- Canton and Charlton	---	---	---	---	---	---	3.2
CdC, CdD---------- Canton and Charlton	---	---	---	---	---	---	3.2
Ce---------- Carlisle	---	---	---	---	---	---	---
CrC, CrD---------- Charlton-Hollis	---	---	---	---	---	---	3.2
Du**. Dumps							
HcA---------- Haven	24	400	5.0	4.5	4.0	8.5	---
HcB---------- Haven	24	400	5.0	4.5	4.0	8.5	---
HkA---------- Hinckley	12	---	2.5	2.0	2.0	3.5	---
HkC---------- Hinckley	10	---	2.5	2.0	2.0	2.5	---
HkD---------- Hinckley	---	---	---	---	---	2.0	1.5
HrC---------- Hollis-Charlton-Rock outcrop	---	---	---	---	---	---	1.5
HrD---------- Hollis-Charlton-Rock outcrop	---	---	---	---	---	---	1.5
Ip---------- Ipswich	---	---	---	---	---	---	---

See footnotes at end of table.

TABLE 5.--YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Corn silage	Irish potatoes	Alfalfa hay	Grass-legume hay	Grass hay	Grass-clover	Kentucky bluegrass
	Ton	Cwt	Ton	Ton	Ton	AUM*	AUM*
Ln---------- Limerick Variant	20	---	---	3.5	4.0	7.0	---
MyA, MyB---------- Merrimac	18	270	4.0	3.0	3.5	5.5	---
MyC---------- Merrimac	16	240	4.0	3.0	3.5	5.5	---
NaB---------- Narragansett	26	390	4.5	4.0	4.0	7.5	---
NgB---------- Narragansett	---	---	---	---	---	---	3.2
NhC, NhD---------- Narragansett	---	---	---	---	---	---	3.2
NlC---------- Narragansett-Hollis	---	---	---	---	---	---	3.2
Nn---------- Ninigret	22	330	4.0	3.5	4.0	6.0	---
Pa---------- Pawcatuck	---	---	---	---	---	---	---
PbB---------- Paxton and Montauk	23	316	4.5	4.0	4.0	7.0	---
PbC---------- Paxton and Montauk	21	286	4.5	4.0	4.0	7.0	---
PbD---------- Paxton and Montauk	19	---	4.0	3.5	3.5	6.0	---
PdB, PdC---------- Paxton and Montauk	---	---	---	---	---	---	3.2
PeC, PeD---------- Paxton and Montauk	---	---	---	---	---	---	3.2
Ps---------- Pootatuck Variant	24	---	---	4.5	4.5	7.5	---
RaA, RaB---------- Rainbow	24	330	4.0	4.0	4.0	7.5	---
RbB---------- Rainbow	---	---	---	---	---	---	3.2
Rc---------- Raypol	20	---	---	3.5	3.5	6.5	---
Rd---------- Ridgebury	16	---	---	3.5	4.0	6.5	---
Rn---------- Ridgebury, Leicester and Whitman	---	---	---	---	---	---	2.2
Ro---------- Rippowam	20	---	---	4.0	4.0	7.0	---
Rp---------- Rock outcrop-Hollis	---	---	---	---	---	---	---

See footnotes at end of table.

TABLE 5.--YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Corn silage	Irish potatoes	Alfalfa hay	Grass-legume hay	Grass hay	Grass-clover	Kentucky bluegrass
	Ton	Cwt	Ton	Ton	Ton	AUM*	AUM*
Sf---------- Scarboro	---	---	---	---	---	---	---
Sg---------- Sudbury	18	270	3.5	4.0	4.0	7.0	---
SvA, SvB---------- Sutton	22	270	4.0	4.0	4.0	7.5	---
SwB---------- Sutton	---	---	---	---	---	---	3.2
SxB---------- Sutton	---	---	---	---	---	---	3.2
Ts---------- Tisbury	22	240	3.5	4.0	4.0	7.0	---
Ub---------- Udorthents-Pits	---	---	---	---	---	---	---
Ud---------- Udorthents-Urban land	---	---	---	---	---	---	---
Ur**. Urban land							
Wd---------- Walpole	18	---	---	3.0	3.0	6.0	---
We, Wh---------- Westbrook	---	---	---	---	---	---	---
WvA, WvB---------- Windsor	14	---	3.0	2.5	2.0	5.5	---
WxA---------- Woodbridge	24	270	4.0	4.0	4.0	8.0	---
WxB---------- Woodbridge	24	270	4.0	4.0	4.0	8.0	---
WxC---------- Woodbridge	22	240	4.0	4.0	4.0	7.5	---
WyB, WyC---------- Woodbridge	---	---	---	---	---	---	3.2
WzA, WzC---------- Woodbridge and Rainbow	---	---	---	---	---	---	3.2

* Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

** See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 6.--CAPABILITY CLASSES AND SUBCLASSES

[Miscellaneous areas are excluded. Absence of an entry indicates no acreage]

Class	Total acreage	Major management concerns (Subclass)		
		Erosion (e)	Wetness (w)	Soil problem (s)
		Acres	Acres	Acres
I	5,130	---	---	---
II	68,190	31,440	29,470	7,280
III	22,570	7,620	11,610	3,340
IV	17,540	3,300	---	14,240
V	4,870	---	4,870	---
VI	147,580	---	18,300	129,280
VII	138,720	---	---	138,720
VIII	3,680	---	3,680	---

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY

[Only the soils suitable for production of commercial trees are listed. Absence of an entry indicates that information was not available]

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity		Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Common trees	Site index	
AfA, AfB Agawam	4o	Slight	Slight	Slight	Slight	Eastern white pine Northern red oak Sugar maple	70 65 ---	Eastern white pine, European larch.
BrB Broadbrook	3o	Slight	Slight	Slight	Slight	Northern red oak Eastern white pine White ash Yellow-poplar	70 75 76 93	Eastern white pine, European larch.
CbB*, CbC*: Canton	5o	Slight	Slight	Slight	Slight	Eastern white pine Northern red oak	58 52	Eastern white pine, European larch.
Charlton	4o	Slight	Slight	Slight	Slight	Northern red oak Eastern white pine Shagbark hickory Sugar maple	65 65 --- 55	Eastern white pine, eastern hemlock, European larch.
CbD*: Canton	5r	Slight	Moderate	Slight	Slight	Eastern white pine Northern red oak	58 52	Eastern white pine, European larch.
Charlton	4r	Slight	Moderate	Slight	Slight	Northern red oak Eastern white pine Shagbark hickory Sugar maple	65 65 --- 55	Eastern white pine, eastern hemlock, European larch.
CcB*, CcC*: Canton	5o	Slight	Slight	Slight	Slight	Eastern white pine Northern red oak	58 52	Eastern white pine, European larch.
Charlton	4o	Slight	Slight	Slight	Slight	Northern red oak Eastern white pine Shagbark hickory Sugar maple	65 65 --- 55	Eastern white pine, eastern hemlock, European larch.
CdC*, CdD*: Canton	5x	Slight	Moderate	Slight	Slight	Eastern white pine Northern red oak	58 52	Eastern white pine, European larch.
Charlton	4x	Slight	Moderate	Slight	Slight	Northern red oak Eastern white pine Shagbark hickory Sugar maple	65 65 --- 55	Eastern white pine, eastern hemlock, European larch.
CrC*: Charlton	4o	Slight	Slight	Slight	Slight	Northern red oak Eastern white pine Shagbark hickory Sugar maple	65 65 --- 55	Eastern white pine, eastern hemlock, European larch.
Hollis	5d	Slight	Slight	Severe	Moderate	Northern red oak Eastern white pine Sugar maple	47 55 56	Eastern white pine.

See footnote at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity		Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Common trees	Site index	
CrD*:								
Charlton	4r	Slight	Moderate	Slight	Slight	Northern red oak	65	Eastern white pine, eastern hemlock, European larch.
						Eastern white pine	65	
						Shagbark hickory	---	
						Sugar maple	55	
Hollis	5d	Slight	Moderate	Severe	Moderate	Northern red oak	47	Eastern white pine.
						Eastern white pine	55	
						Sugar maple	56	
HcA, HcB	3o	Slight	Slight	Slight	Slight	Eastern white pine	75	Eastern white pine, European larch.
Haven						Northern red oak	55	
						Sugar maple	65	
HkA, HkC	5s	Slight	Slight	Severe	Slight	Northern red oak	49	Eastern white pine, European larch.
Hinckley						Eastern white pine	60	
						Sugar maple	57	
HkD	5s	Slight	Moderate	Severe	Slight	Northern red oak	49	Eastern white pine, European larch.
Hinckley						Eastern white pine	60	
						Sugar maple	57	
HrC*:								
Hollis	5d	Slight	Slight	Severe	Moderate	Northern red oak	47	Eastern white pine.
						Eastern white pine	55	
						Sugar maple	56	
Charlton	4o	Slight	Slight	Slight	Slight	Northern red oak	65	Eastern white pine, eastern hemlock, European larch.
						Eastern white pine	65	
						Shagbark hickory	---	
						Sugar maple	55	
Rock outcrop.								
HrD*:								
Hollis	5d	Slight	Moderate	Severe	Moderate	Northern red oak	47	Eastern white pine.
						Eastern white pine	55	
						Sugar maple	56	
Charlton	4r	Slight	Moderate	Slight	Slight	Northern red oak	65	Eastern white pine, eastern hemlock, European larch.
						Eastern white pine	65	
						Shagbark hickory	---	
						Sugar maple	55	
Rock outcrop.								
Ln	4w	Slight	Severe	Severe	Severe	Eastern white pine	65	Eastern white pine.
Limerick Variant						Red maple	---	
MyA, MyB, MyC	4s	Slight	Slight	Moderate	Slight	Northern red oak	51	Eastern white pine.
Merrimac						Eastern white pine	64	
						Sugar maple	58	
NaB, NgB	4o	Slight	Slight	Slight	Slight	Northern red oak	60	Eastern white pine, eastern hemlock, European larch.
Narragansett						Eastern white pine	68	
						Sugar maple	55	
NhC	4x	Moderate	Moderate	Slight	Slight	Northern red oak	60	Eastern white pine, eastern hemlock, European larch.
Narragansett						Eastern white pine	68	
						Sugar maple	55	
NhD	4x	Severe	Moderate	Slight	Slight	Northern red oak	60	Eastern white pine, eastern hemlock, European larch.
Narragansett						Eastern white pine	68	
						Sugar maple	55	

See footnote at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity		Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Common trees	Site index	
NlC*:								
Narragansett	4r	Moderate	Slight	Slight	Slight	Northern red oak	60	Eastern white pine, eastern hemlock, European larch.
						Eastern white pine	68	
						Sugar maple	55	
Hollis	5d	Slight	Slight	Severe	Moderate	Northern red oak	47	Eastern white pine.
						Eastern white pine	55	
						Sugar maple	56	
Nn	3o	Slight	Slight	Slight	Slight	Eastern white pine	75	Eastern white pine.
Ninigret						Red maple	60	
						Northern red oak	65	
						Sugar maple	55	
PbB*, PbC*:								
Paxton	3o	Slight	Slight	Slight	Slight	Northern red oak	65	Eastern white pine, European larch.
						Eastern white pine	66	
						Sugar maple	75	
Montauk	3o	Slight	Slight	Slight	Slight	Sugar maple	65	Eastern white pine, European larch.
						Northern red oak	70	
						Eastern white pine	75	
PbD*:								
Paxton	3r	Slight	Moderate	Slight	Slight	Northern red oak	65	Eastern white pine, European larch.
						Eastern white pine	66	
						Sugar maple	75	
Montauk	3r	Slight	Moderate	Slight	Slight	Sugar maple	65	Eastern white pine, European larch.
						Northern red oak	70	
						Eastern white pine	75	
PdB*, PdC*:								
Paxton	3o	Slight	Slight	Slight	Slight	Northern red oak	65	Eastern white pine, European larch.
						Eastern white pine	66	
						Sugar maple	75	
Montauk	3o	Slight	Slight	Slight	Slight	Sugar maple	65	Eastern white pine, European larch.
						Northern red oak	70	
						Eastern white pine	75	
PeC*:								
Paxton	3x	Slight	Moderate	Slight	Slight	Northern red oak	65	Eastern white pine, European larch.
						Eastern white pine	66	
						Sugar maple	75	
Montauk	3x	Slight	Moderate	Slight	Slight	Eastern white pine	75	Eastern white pine, European larch.
						Northern red oak	70	
						Sugar maple	65	
PeD*:								
Paxton	3x	Slight	Moderate	Slight	Slight	Northern red oak	65	Eastern white pine, European larch.
						Eastern white pine	66	
						Sugar maple	75	
Montauk	3x	Slight	Moderate	Slight	Slight	Eastern white pine	75	Eastern white pine, European larch.
						Northern red oak	70	
						Sugar maple	65	
Ps	3o	Slight	Slight	Slight	Slight	Eastern white pine	75	Eastern white pine.
Pootatuck Variant						Red maple	60	
						Yellow birch	60	
RaA, RaB, RbB	3o	Slight	Slight	Slight	Slight	Northern red oak	70	Eastern white pine, European larch.
Rainbow						Eastern white pine	75	
						Sugar maple	54	

See footnote at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity		Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Common trees	Site index	
Rc Raypol	4w	Slight	Severe	Severe	Severe	Eastern white pine Red maple	68 75	Eastern white pine, eastern hemlock.
Rd Ridgebury	4w	Slight	Severe	Severe	Severe	Northern red oak Eastern white pine Sugar maple Red maple	57 63 52 ---	Eastern white pine.
Rn*: Ridgebury	4x	Slight	Severe	Severe	Severe	Northern red oak Eastern white pine Sugar maple Red maple	57 63 52 ---	Eastern white pine.
Leicester	4x	Slight	Severe	Severe	Severe	Northern red oak Eastern white pine Red maple	56 69 70	Eastern white pine, eastern hemlock.
Whitman	5x	Slight	Severe	Severe	Severe	Eastern white pine Red maple	56 55	
Ro Rippowam	4w	Slight	Severe	Severe	Severe	Red maple Eastern white pine	75 65	Eastern white pine.
Rp*: Rock outcrop.								
Hollis	5d	Slight	Moderate	Severe	Moderate	Northern red oak Eastern white pine Sugar maple	47 55 56	Eastern white pine.
Sf Scarboro	5w	Slight	Severe	Severe	Severe	Eastern white pine Red maple	55 55	
Sg Sudbury	4o	Slight	Slight	Slight	Slight	Eastern white pine Northern red oak	60 45	Eastern white pine, European larch.
SvA, SvB, SwB Sutton	4o	Slight	Slight	Slight	Slight	Sugar maple Northern red oak Eastern white pine	54 62 62	Eastern white pine, European larch.
SxB Sutton	4x	Slight	Moderate	Slight	Slight	Sugar maple Northern red oak Eastern white pine	54 62 62	Eastern white pine, European larch.
Ts Tisbury	3o	Slight	Slight	Slight	Slight	Eastern white pine Northern red oak	75 70	Eastern white pine.
Wd Walpole	4w	Slight	Severe	Severe	Severe	Eastern white pine Red maple White ash Eastern hemlock	68 75 61 54	Eastern white pine.
WvA, WvB Windsor	5s	Slight	Slight	Severe	Slight	Eastern white pine Northern red oak Sugar maple	57 52 55	Eastern white pine.
WxA, WxB, WxC Woodbridge	3o	Slight	Slight	Slight	Slight	Eastern white pine Northern red oak Sugar maple	67 72 65	Eastern white pine, European larch.

See footnote at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity		Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Common trees	Site index	
WyB, WyC---------- Woodbridge	3o	Slight	Slight	Slight	Slight	Eastern white pine--	67	Eastern white pine, European larch.
						Northern red oak----	72	
						Sugar maple---------	65	
WzA*:								
Woodbridge--------	3x	Moderate	Moderate	Slight	Slight	Eastern white pine--	67	Eastern white pine, European larch.
						Northern red oak----	72	
						Sugar maple---------	65	
Rainbow----------	3x	Slight	Moderate	Slight	Slight	Northern red oak----	70	Eastern white pine, European larch.
						Eastern white pine--	75	
						Sugar maple---------	54	
WzC*:								
Woodbridge--------	3x	Moderate	Moderate	Slight	Slight	Eastern white pine--	67	Eastern white pine, European larch.
						Northern red oak----	72	
						Sugar maple---------	65	
Rainbow----------	3x	Moderate	Moderate	Slight	Slight	Northern red oak----	70	Eastern white pine, European larch.
						Eastern white pine--	75	
						Sugar maple---------	54	

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 8.--RECREATIONAL DEVELOPMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated]

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
Aa*:					
Adrian	Severe: ponding, excess humus.	Severe: ponding, excess humus.	Severe: ponding, excess humus.	Severe: ponding, excess humus.	Severe: excess humus, ponding.
Palms	Severe: ponding, excess humus.	Severe: ponding, excess humus.	Severe: ponding, excess humus.	Severe: ponding, excess humus.	Severe: ponding, excess humus.
AfA Agawam	Slight	Slight	Slight	Slight	Slight.
AfB Agawam	Slight	Slight	Moderate: slope.	Slight	Slight.
Ba*. Beaches					
BrB Broadbrook	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, percs slowly.	Slight	Slight.
CbB*:					
Canton	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
Charlton	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
CbC*:					
Canton	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
Charlton	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
CbD*:					
Canton	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
Charlton	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
CcB*:					
Canton	Moderate: large stones.	Moderate: large stones.	Severe: large stones.	Slight	Moderate: large stones.
Charlton	Moderate: large stones.	Moderate: large stones.	Severe: large stones.	Slight	Moderate: large stones.
CcC*:					
Canton	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope, large stones.	Slight	Moderate: large stones, slope.
Charlton	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope, large stones.	Slight	Moderate: slope, large stones.

See footnote at end of table.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
CdC*:					
Canton	Severe: large stones.	Severe: large stones.	Severe: slope, large stones.	Slight	Moderate: slope, large stones.
Charlton	Severe: large stones.	Severe: large stones.	Severe: slope, large stones.	Slight	Moderate: slope, large stones.
CdD*:					
Canton	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope, large stones.	Moderate: slope.	Severe: slope.
Charlton	Severe: large stones, slope.	Severe: slope, large stones.	Severe: slope, large stones.	Moderate: slope.	Severe: slope.
Ce Carlisle	Severe: ponding, excess humus.	Severe: ponding, excess humus.	Severe: excess humus, ponding.	Severe: ponding, excess humus.	Severe: ponding, excess humus.
CrC*:					
Charlton	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope, large stones.	Slight	Moderate: slope, large stones.
Hollis	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock, large stones.	Slight	Severe: thin layer.
CrD*:					
Charlton	Severe: slope.	Severe: slope.	Severe: slope, large stones.	Moderate: slope.	Severe: slope.
Hollis	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock, large stones.	Moderate: slope.	Severe: slope, thin layer.
Du*. Dumps					
HcA Haven	Slight	Slight	Moderate: small stones.	Slight	Slight.
HcB Haven	Slight	Slight	Moderate: slope, small stones.	Moderate: erodes easily.	Slight.
HkA Hinckley	Severe: small stones.	Severe: small stones.	Severe: small stones.	Slight	Severe: small stones.
HkC Hinckley	Severe: small stones.	Severe: small stones.	Severe: slope, small stones.	Slight	Severe: small stones.
HkD Hinckley	Severe: slope, small stones.	Severe: slope, small stones.	Severe: slope, small stones.	Moderate: slope.	Severe: small stones, slope.
HrC*:					
Hollis	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock, large stones.	Slight	Severe: thin layer.

See footnote at end of table.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
HrC*:					
Charlton	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope, large stones.	Slight	Moderate: slope, large stones.
Rock outcrop.					
HrD*:					
Hollis	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock, large stones.	Moderate: slope.	Severe: slope, thin layer.
Charlton	Severe: slope.	Severe: slope.	Severe: slope, large stones.	Moderate: slope.	Severe: slope.
Rock outcrop.					
Ip Ipswich	Severe: ponding, flooding, excess humus.	Severe: ponding, excess humus, excess salt.	Severe: ponding, flooding, excess humus.	Severe: ponding, excess humus.	Severe: ponding, excess salt.
Ln Limerick Variant	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: flooding, wetness.
MyA Merrimac	Slight	Slight	Moderate: small stones.	Slight	Slight.
MyB Merrimac	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
MyC Merrimac	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
NaB Narragansett	Slight	Slight	Moderate: slope.	Slight	Slight.
NgB Narragansett	Moderate: large stones.	Moderate: large stones.	Severe: large stones.	Slight	Moderate: large stones.
NhC Narragansett	Severe: large stones.	Severe: large stones.	Severe: slope, large stones.	Slight	Moderate: large stones, slope.
NhD Narragansett	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope, large stones.	Moderate: slope.	Severe: slope.
NlC*:					
Narragansett	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope, large stones.	Slight	Moderate: slope, large stones.
Hollis	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock, large stones.	Slight	Severe: thin layer.
Nn Ninigret	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.

See footnote at end of table.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
Pa---------- Pawcatuck	Severe: ponding, flooding, excess humus.	Severe: ponding, excess humus. excess salt.	Severe: ponding, flooding, excess humus.	Severe: ponding, excess humus.	Severe: ponding, flooding, excess salt.
PbB*:					
Paxton----------	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, percs slowly, small stones.	Slight----------	Slight.
Montauk----------	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, percs slowly, small stones.	Slight----------	Slight.
PbC*:					
Paxton----------	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Slight----------	Moderate: slope.
Montauk----------	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Slight----------	Moderate: slope.
PbD*:					
Paxton----------	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
Montauk----------	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
PdB*:					
Paxton----------	Moderate: percs slowly, large stones.	Moderate: large stones.	Severe: large stones.	Slight----------	Moderate: large stones.
Montauk----------	Moderate: large stones, percs slowly.	Moderate: large stones.	Severe: large stones.	Slight----------	Moderate: large stones.
PdC*:					
Paxton----------	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope, large stones.	Slight----------	Moderate: slope, large stones.
Montauk----------	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: large stones, slope.	Slight----------	Moderate: large stones, slope.
PeC*:					
Paxton----------	Severe: large stones.	Severe: large stones.	Severe: slope, large stones.	Slight----------	Moderate: slope, large stones.
Montauk----------	Severe: large stones.	Severe: large stones.	Severe: large stones, slope.	Slight----------	Moderate: large stones, slope.
PeD*:					
Paxton----------	Severe: slope, large stones.	Severe: large stones, slope.	Severe: slope, large stones.	Moderate: slope.	Severe: slope.
Montauk----------	Severe: slope, large stones.	Severe: slope, large stones.	Severe: large stones, slope.	Moderate: slope.	Severe: slope.

See footnote at end of table.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
Ps Pootatuck Variant	Severe: flooding.	Moderate: flooding, wetness.	Severe: flooding.	Moderate: wetness, flooding.	Severe: flooding.
RaA Rainbow	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: wetness.	Moderate: wetness.
RaB Rainbow	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Moderate: wetness.	Moderate: wetness.
RbB Rainbow	Moderate: large stones, wetness, percs slowly.	Moderate: large stones, wetness, percs slowly.	Severe: large stones.	Moderate: wetness.	Moderate: large stones, wetness.
Rc Raypol	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Rd Ridgebury	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Rn*: Ridgebury	Severe: large stones, wetness.	Severe: large stones, wetness.	Severe: wetness, large stones.	Severe: wetness.	Severe: wetness.
Leicester	Severe: large stones, wetness.	Severe: large stones, wetness.	Severe: wetness, large stones.	Severe: wetness.	Severe: wetness.
Whitman	Severe: large stones, ponding.	Severe: large stones, ponding.	Severe: ponding, large stones.	Severe: ponding.	Severe: ponding.
Ro Rippowam	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
Rp*: Rock outcrop.					
Hollis	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock, large stones.	Moderate: slope.	Severe: slope, thin layer.
Sf Scarboro	Severe: ponding, excess humus.	Severe: ponding, excess humus.	Severe: ponding, excess humus.	Severe: ponding, excess humus.	Severe: ponding, excess humus.
Sg Sudbury	Moderate: wetness.	Moderate: wetness.	Moderate: wetness, small stones.	Moderate: wetness.	Moderate: wetness.
SvA Sutton	Moderate: wetness.	Moderate: wetness.	Moderate: wetness, small stones.	Moderate: wetness.	Moderate: wetness.
SvB Sutton	Moderate: wetness.	Moderate: wetness.	Moderate: slope, wetness, small stones.	Moderate: wetness.	Moderate: wetness.

See footnote at end of table.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
SwB---------- Sutton	Moderate: large stones, wetness.	Moderate: large stones, wetness.	Moderate: slope, large stones, wetness.	Moderate: wetness.	Moderate: large stones, wetness.
SxB---------- Sutton	Severe: large stones.	Severe: large stones.	Severe: large stones.	Moderate: wetness.	Moderate: large stones, wetness.
Ts---------- Tisbury	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.
Ub*: Udorthents.					
Pits.					
Ud*: Udorthents.					
Urban land.					
Ur*. Urban land					
Wd---------- Walpole	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
We, Wh---------- Westbrook	Severe: ponding, flooding, excess humus.	Severe: ponding, excess humus, excess salt.	Severe: ponding, flooding, excess humus.	Severe: ponding, excess humus.	Severe: ponding, flooding, excess salt.
WvA---------- Windsor	Slight----------	Slight----------	Slight----------	Slight----------	Moderate: droughty.
WvB---------- Windsor	Slight----------	Slight----------	Moderate: slope.	Slight----------	Moderate: droughty.
WxA---------- Woodbridge	Moderate: percs slowly, wetness.	Moderate: percs slowly, wetness.	Moderate: percs slowly, wetness.	Moderate: wetness.	Moderate: wetness.
WxB---------- Woodbridge	Moderate: percs slowly, wetness.	Moderate: percs slowly, wetness.	Moderate: slope, percs slowly, wetness.	Moderate: wetness.	Moderate: wetness.
WxC---------- Woodbridge	Moderate: slope, percs slowly, wetness.	Moderate: slope, percs slowly, wetness.	Severe: slope.	Moderate: wetness.	Moderate: slope, wetness.
WyB---------- Woodbridge	Moderate: wetness, large stones, percs slowly.	Moderate: wetness, large stones, percs slowly.	Severe: large stones.	Moderate: wetness.	Moderate: large stones, wetness.
WyC---------- Woodbridge	Moderate: slope, wetness, large stones.	Moderate: slope, wetness, large stones.	Severe: slope, large stones.	Moderate: wetness.	Moderate: slope, large stones, wetness.

See footnote at end of table.

TABLE 8.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
WzA*:					
Woodbridge	Severe: large stones.	Severe: large stones.	Severe: large stones.	Moderate: wetness.	Moderate: large stones, wetness.
Rainbow	Severe: large stones.	Moderate: large stones.	Severe: large stones.	Moderate: wetness.	Moderate: large stones, wetness.
WzC*:					
Woodbridge	Severe: large stones.	Severe: large stones.	Severe: slope, large stones.	Moderate: wetness.	Moderate: slope, large stones, wetness.
Rainbow	Severe: large stones.	Moderate: slope, large stones.	Severe: slope, large stones.	Moderate: wetness.	Moderate: slope, large stones, wetness.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 9.--WILDLIFE HABITAT

[See text for definitions of "good," "fair," "poor," and "very poor." Absence of an entry indicates that the soil was not rated]

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
Aa*:										
Adrian	Very poor.	Very poor.	Very poor.	Poor	Poor	Good	Good	Very poor.	Poor	Good.
Palms	Very poor.	Very poor.	Very poor.	Poor	Poor	Good	Good	Very poor.	Poor	Good.
AfA Agawam	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
AfB Agawam	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Ba*. Beaches										
BrB Broadbrook	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
CbB*:										
Canton	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Charlton	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
CbC*:										
Canton	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Charlton	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
CbD*:										
Canton	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Charlton	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
CcB*:										
Canton	Very poor.	Poor	Good	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
Charlton	Very poor.	Poor	Good	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
CcC*:										
Canton	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Charlton	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
CdC*, CdD*:										
Canton	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
Charlton	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
Ce Carlisle	Very poor.	Very poor.	Very poor.	Poor	Poor	Good	Good	Very poor.	Poor	Good.

See footnote at end of table.

TABLE 9.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
CrC*, CrD*:										
Charlton	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Hollis	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Du*. Dumps										
HcA Haven	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
HcB Haven	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
HkA, HkC, HkD Hinckley	Poor	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
HrC*, HrD*:										
Hollis	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Charlton	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Rock outcrop.										
Ip Ipswich	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Good	Good	Very poor.	Very poor.	Good.
Ln Limerick Variant	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
MyA, MyB, MyC Merrimac	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
NaB Narragansett	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
NgB Narragansett	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
NhC, NhD Narragansett	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
NlC*:										
Narragansett	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Hollis	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Nn Ninigret	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Pa Pawcatuck	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Good	Good	Very poor.	Very poor.	Good.
PbB*:										
Paxton	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Montauk	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

See footnote at end of table.

TABLE 9.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
PbC*:										
Paxton	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Montauk	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
PbD*:										
Paxton	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Montauk	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
PdB*:										
Paxton	Very poor.	Poor	Good	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
Montauk	Very poor.	Poor	Good	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
PdC*:										
Paxton	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Montauk	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
PeC*, PeD*:										
Paxton	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
Montauk	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
Ps---- Pootatuck Variant	Poor	Fair	Fair	Good	Good	Poor	Poor	Fair	Good	Poor.
RaA---- Rainbow	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
RaB---- Rainbow	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
RbB---- Rainbow	Very poor.	Poor	Good	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
Rc---- Raypol	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
Rd---- Ridgebury	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
Rn*:										
Ridgebury	Very poor.	Very poor.	Fair	Fair	Fair	Good	Fair	Poor	Fair	Fair.
Leicester	Very poor.	Very poor.	Fair	Fair	Fair	Good	Fair	Poor	Fair	Fair.
Whitman	Very poor.	Very poor.	Poor	Poor	Poor	Good	Fair	Very poor.	Poor	Fair.
Ro---- Rippowam	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.

See footnote at end of table.

TABLE 9.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
Rp*: Rock outcrop.										
Hollis	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Sf---------- Scarboro	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
Sg---------- Sudbury	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
SvA---------- Sutton	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
SvB---------- Sutton	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
SwB---------- Sutton	Very poor.	Poor	Good	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
SxB---------- Sutton	Very poor.	Very poor.	Good	Good	Good	Poor	Very poor.	Poor	Fair	Very poor.
Ts---------- Tisbury	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Ub*: Udorthents.										
Pits.										
Ud*: Udorthents.										
Urban land.										
Ur*. Urban land										
Wd---------- Walpole	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
We, Wh---------- Westbrook	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Good	Good	Very poor.	Very poor.	Good.
WvA, WvB---------- Windsor	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
WxA---------- Woodbridge	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
WxB---------- Woodbridge	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
WxC---------- Woodbridge	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
WyB---------- Woodbridge	Very poor.	Poor	Good	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
WyC---------- Woodbridge	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.

See footnote at end of table.

TABLE 9.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
WzA*:										
Woodbridge	Very poor.	Very poor.	Good	Good	Good	Poor	Poor	Poor	Good	Poor.
Rainbow	Very poor.	Very poor.	Good	Good	Good	Poor	Poor	Poor	Good	Poor.
WzC*:										
Woodbridge	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Rainbow	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 10.--BUILDING SITE DEVELOPMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe.". Absence of an entry indicates that the soil was not rated]

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
Aa*:						
Adrian	Severe: ponding, cutbanks cave, excess humus.	Severe: ponding, low strength.	Severe: ponding.	Severe: ponding, low strength.	Severe: ponding, low strength, frost action.	Severe: excess humus, ponding.
Palms	Severe: excess humus, ponding.	Severe: ponding, low strength.	Severe: ponding.	Severe: ponding, low strength.	Severe: ponding, frost action, low strength.	Severe: ponding, excess humus.
AfA Agawam	Severe: cutbanks cave.	Slight	Slight	Slight	Slight	Slight.
AfB Agawam	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Slight.
Ba*. Beaches						
BrB Broadbrook	Moderate: dense layer, wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness, slope.	Moderate: wetness, frost action.	Slight.
CbB*:						
Canton	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Slight.
Charlton	Slight	Slight	Slight	Moderate: slope.	Slight	Slight.
CbC*:						
Canton	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.
Charlton	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.
CbD*:						
Canton	Severe: slope, cutbanks cave.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Charlton	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
CcB*:						
Canton	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Moderate: large stones.
Charlton	Slight	Slight	Slight	Moderate: slope.	Slight	Moderate: large stones.
CcC*:						
Canton	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope, large stones.
Charlton	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope, large stones.

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
CdC*:						
Canton	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope, large stones.
Charlton	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope, large stones.
CdD*:						
Canton	Severe: slope, cutbanks cave.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Charlton	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Ce Carlisle	Severe: excess humus, ponding.	Severe: ponding, low strength.	Severe: ponding, low strength.	Severe: ponding, low strength.	Severe: ponding, low strength, frost action.	Severe: ponding, excess humus.
CrC*:						
Charlton	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope, large stones.
Hollis	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock.	Severe: thin layer.
CrD*:						
Charlton	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Hollis	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, thin layer.
Du*. Dumps						
HcA Haven	Severe: cutbanks cave.	Slight	Slight	Slight	Moderate: frost action.	Slight.
HcB Haven	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Moderate: frost action.	Slight.
HkA Hinckley	Severe: cutbanks cave.	Moderate: large stones.	Moderate: large stones.	Moderate: large stones.	Moderate: large stones.	Severe: small stones.
HkC Hinckley	Severe: cutbanks cave.	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope.	Moderate: slope, large stones.	Severe: small stones.
HkD Hinckley	Severe: slope, cutbanks cave.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: small stones, slope.
HrC*:						
Hollis	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock.	Severe: thin layer.
Charlton	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope, large stones.
Rock outcrop.						

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
HrD*:						
Hollis	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, thin layer.
Charlton	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Rock outcrop.						
Ip	Severe: ponding, excess humus.	Severe: ponding, flooding, low strength.	Severe: ponding, flooding, low strength.	Severe: ponding, flooding, low strength.	Severe: ponding, low strength, flooding.	Severe: ponding, excess salt, excess humus.
Ipswich						
Ln	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness, frost action.	Severe: flooding, wetness.
Limerick Variant						
MyA	Severe: cutbanks cave.	Slight	Slight	Slight	Slight	Slight.
Merrimac						
MyB	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Slight.
Merrimac						
MyC	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.
Merrimac						
NaB	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Moderate: frost action.	Slight.
Narragansett						
NgB	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Moderate: frost action.	Moderate: large stones.
Narragansett						
NhC	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: large stones, slope.
Narragansett						
NhD	Severe: slope, cutbanks cave.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Narragansett						
NlC*:						
Narragansett	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: slope, large stones.
Hollis	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock.	Severe: thin layer.
Nn	Severe: wetness, cutbanks cave.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: frost action, wetness.	Moderate: wetness.
Ninigret						
Pa	Severe: ponding, excess humus.	Severe: ponding, flooding, low strength.	Severe: ponding, flooding, low strength.	Severe: flooding, ponding, low strength.	Severe: ponding, low strength, flooding.	Severe: ponding, flooding, excess salt.
Pawcatuck						
PbB*:						
Paxton	Moderate: dense layer, wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: slope, wetness.	Moderate: frost action, wetness.	Slight.

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
PbB*:						
Montauk	Moderate: dense layer, wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness, slope.	Moderate: wetness, frost action.	Slight.
PbC*:						
Paxton	Moderate: slope, dense layer, wetness.	Moderate: slope, wetness.	Moderate: slope, wetness.	Severe: slope.	Moderate: slope, frost action, wetness.	Moderate: slope.
Montauk	Moderate: dense layer, wetness, slope.	Moderate: wetness, slope.	Moderate: wetness, slope.	Severe: slope.	Moderate: wetness, slope, frost action.	Moderate: slope.
PbD*:						
Paxton	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Montauk	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
PdB*:						
Paxton	Moderate: dense layer, wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: slope, wetness.	Moderate: frost action, wetness.	Moderate: large stones.
Montauk	Moderate: dense layer, wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness, slope.	Moderate: wetness, frost action.	Moderate: large stones.
PdC*, PeC*:						
Paxton	Moderate: slope, dense layer, wetness.	Moderate: slope, wetness.	Moderate: slope, wetness.	Severe: slope.	Moderate: slope, frost action, wetness.	Moderate: slope, large stones.
Montauk	Moderate: dense layer, wetness, slope.	Moderate: wetness, slope.	Moderate: wetness, slope.	Severe: slope.	Moderate: wetness, slope, frost action.	Moderate: large stones, slope.
PeD*:						
Paxton	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Montauk	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Ps Pootatuck Variant	Severe: cutbanks cave, wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.	Severe: flooding.
RaA, RaB Rainbow	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Severe: frost action.	Slight.
RbB Rainbow	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Severe: frost action.	Moderate: large stones.
Rc Raypol	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.
Rd Ridgebury	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
Rn*:						
Ridgebury	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.
Leicester	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.
Whitman	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: frost action, ponding.	Severe: ponding.
Ro	Severe: wetness, cutbanks cave.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness, frost action.	Severe: wetness, flooding.
Rp*:						
Rock outcrop.						
Hollis	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, thin layer.
Sf	Severe: cutbanks cave, excess humus, ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding, frost action.	Severe: ponding, excess humus.
Sg	Severe: wetness, cutbanks cave.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness, frost action.	Moderate: wetness.
SvA	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: frost action, wetness.	Moderate: wetness.
SvB	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: slope, wetness.	Moderate: frost action, wetness.	Moderate: wetness.
SwB	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: slope, wetness.	Moderate: frost action, wetness.	Moderate: large stones, wetness.
SxB	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: slope, wetness.	Moderate: frost action, wetness.	Moderate: wetness, large stones.
Ts	Severe: wetness, cutbanks cave.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Severe: frost action.	Moderate: wetness.
Ub*:						
Udorthents.						
Pits.						
Ud*:						
Udorthents.						
Urban land.						
Ur*.						
Urban land						

See footnote at end of table.

TABLE 10.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
Wd---------- Walpole	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.
We, Wh---------- Westbrook	Severe: ponding, excess humus.	Severe: ponding, flooding, low strength.	Severe: ponding, flooding, low strength.	Severe: flooding, ponding, low strength.	Severe: ponding, low strength, flooding.	Severe: ponding, flooding, excess salt.
WvA---------- Windsor	Severe: cutbanks cave.	Slight---------	Slight---------	Slight---------	Slight---------	Moderate: droughty.
WvB---------- Windsor	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Moderate: droughty.
WxA---------- Woodbridge	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Severe: frost action.	Moderate: wetness.
WxB---------- Woodbridge	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: slope, wetness.	Severe: frost action.	Moderate: wetness.
WxC---------- Woodbridge	Severe: wetness.	Moderate: slope, wetness.	Severe: wetness.	Severe: slope.	Severe: frost action.	Moderate: slope, wetness.
WyB---------- Woodbridge	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: slope, wetness.	Severe: frost action.	Moderate: large stones, wetness.
WyC---------- Woodbridge	Severe: wetness.	Moderate: slope, wetness.	Severe: wetness.	Severe: slope.	Severe: frost action.	Moderate: slope, large stones, wetness.
WzA*: Woodbridge-------	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Severe: frost action.	Moderate: large stones, wetness.
Rainbow----------	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Severe: frost action.	Moderate: wetness, large stones.
WzC*: Woodbridge-------	Severe: wetness.	Moderate: slope, wetness.	Severe: wetness.	Severe: slope.	Severe: frost action.	Moderate: slope, large stones, wetness.
Rainbow----------	Severe: wetness.	Moderate: slope, wetness.	Severe: wetness.	Severe: slope.	Severe: frost action.	Moderate: slope, large stones, wetness.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 11.--SANITARY FACILITIES

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," "good," "fair," and other terms. Absence of an entry indicates that the soil was not rated]

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Aa*:					
Adrian	Severe: ponding, poor filter.	Severe: seepage, ponding, excess humus.	Severe: ponding, seepage.	Severe: ponding, seepage.	Poor: ponding, excess humus.
Palms	Severe: ponding.	Severe: seepage, excess humus, ponding.	Severe: ponding, excess humus.	Severe: ponding, seepage.	Poor: ponding, excess humus.
AfA, AfB Agawam	Severe: poor filter.	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
Ba*. Beaches					
BrB Broadbrook	Severe: percs slowly.	Moderate: slope.	Moderate: wetness.	Moderate: wetness.	Fair: small stones, wetness.
CbB*:					
Canton	Slight	Severe: seepage.	Severe: seepage.	Severe: seepage.	Fair: small stones.
Charlton	Slight	Severe: seepage.	Severe: seepage.	Severe: seepage.	Fair: small stones.
CbC*:					
Canton	Moderate: slope.	Severe: slope, seepage.	Severe: seepage.	Severe: seepage.	Fair: slope, small stones.
Charlton	Moderate: slope.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage.	Fair: slope, small stones.
CbD*:					
Canton	Severe: slope.	Severe: slope, seepage.	Severe: seepage, slope.	Severe: slope, seepage.	Poor: slope.
Charlton	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Poor: slope.
CcB*:					
Canton	Slight	Severe: seepage.	Severe: seepage.	Severe: seepage.	Fair: small stones.
Charlton	Slight	Severe: seepage.	Severe: seepage.	Severe: seepage.	Fair: small stones.
CcC*:					
Canton	Moderate: slope.	Severe: slope, seepage.	Severe: seepage.	Severe: seepage.	Fair: slope, small stones.

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
CcC*:					
Charlton	Moderate: slope.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage.	Fair: slope, small stones.
CdC*:					
Canton	Moderate: slope.	Severe: slope, seepage.	Severe: seepage.	Severe: seepage.	Fair: small stones, slope.
Charlton	Moderate: slope.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage.	Fair: slope, small stones.
CdD*:					
Canton	Severe: slope.	Severe: slope, seepage.	Severe: seepage, slope.	Severe: slope, seepage.	Poor: slope.
Charlton	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Poor: slope.
Ce	Severe: ponding.	Severe: seepage, excess humus, ponding.	Severe: ponding, excess humus, seepage.	Severe: seepage, ponding.	Poor: ponding, excess humus.
Carlisle					
CrC*:					
Charlton	Moderate: slope.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage.	Fair: slope, small stones.
Hollis	Severe: depth to rock.	Severe: slope, depth to rock, seepage.	Severe: depth to rock, seepage.	Severe: seepage, depth to rock.	Poor: thin layer, area reclaim.
CrD*:					
Charlton	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Poor: slope.
Hollis	Severe: slope, depth to rock.	Severe: slope, depth to rock, seepage.	Severe: slope, depth to rock, seepage.	Severe: slope, seepage, depth to rock.	Poor: slope, thin layer, area reclaim.
Du*.					
Dumps					
HcA, HcB	Severe: poor filter.	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, small stones, too sandy.
Haven					
HkA	Severe: poor filter.	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: too sandy, seepage, small stones.
Hinckley					
HkC	Severe: poor filter.	Severe: slope, seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: too sandy, seepage, small stones.
Hinckley					

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
HkD---------- Hinckley	Severe: slope, poor filter.	Severe: slope, seepage.	Severe: slope, seepage, too sandy.	Severe: slope, seepage.	Poor: slope, too sandy, seepage.
HrC*:					
Hollis----------	Severe: depth to rock.	Severe: slope, depth to rock, seepage.	Severe: depth to rock, seepage.	Severe: seepage, depth to rock.	Poor: thin layer, area reclaim.
Charlton----------	Moderate: slope.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage.	Fair: slope, small stones.
Rock outcrop.					
HrD*:					
Hollis----------	Severe: slope, depth to rock.	Severe: slope, depth to rock, seepage.	Severe: slope, depth to rock, seepage.	Severe: slope, seepage, depth to rock.	Poor: slope, thin layer, area reclaim.
Charlton----------	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Poor: slope.
Rock outcrop.					
Ip---------- Ipswich	Severe: ponding, flooding.	Severe: seepage, flooding, excess humus.	Severe: ponding, flooding, seepage.	Severe: ponding, flooding, seepage.	Poor: excess humus, ponding, excess salt.
Ln---------- Limerick Variant	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness.
MyA, MyB---------- Merrimac	Severe: poor filter.	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy, small stones.
MyC---------- Merrimac	Severe: poor filter.	Severe: slope, seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy, small stones.
NaB---------- Narragansett	Slight----------	Severe: seepage.	Severe: seepage.	Severe: seepage.	Fair: small stones.
NgB---------- Narragansett	Slight----------	Severe: seepage.	Severe: seepage.	Severe: seepage.	Fair: small stones.
NhC---------- Narragansett	Moderate: slope.	Severe: slope, seepage.	Severe: seepage.	Severe: seepage.	Fair: small stones, slope.
NhD---------- Narragansett	Severe: slope.	Severe: slope, seepage.	Severe: seepage, slope.	Severe: slope, seepage.	Poor: slope.
NlC*:					
Narragansett-------	Moderate: slope.	Severe: slope, seepage.	Severe: seepage.	Severe: seepage.	Fair: slope, small stones.

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
NlC*: Hollis	Severe: depth to rock.	Severe: slope, depth to rock, seepage.	Severe: depth to rock, seepage.	Severe: seepage, depth to rock.	Poor: thin layer, area reclaim.
Nn Ninigret	Severe: wetness, poor filter.	Severe: wetness, seepage.	Severe: wetness, seepage, too sandy.	Severe: wetness, seepage.	Poor: seepage, too sandy, small stones.
Pa Pawcatuck	Severe: flooding, ponding, poor filter.	Severe: seepage, flooding, excess humus.	Severe: seepage, flooding, ponding.	Severe: seepage, flooding, ponding.	Poor: excess humus, ponding, excess salt.
PbB*: Paxton	Severe: percs slowly.	Moderate: slope.	Moderate: wetness.	Moderate: wetness.	Fair: small stones, wetness.
Montauk	Severe: percs slowly.	Moderate: slope.	Moderate: wetness.	Moderate: wetness.	Fair: small stones, wetness.
PbC*: Paxton	Severe: percs slowly.	Severe: slope.	Moderate: wetness, slope.	Moderate: wetness, slope.	Fair: slope, small stones, wetness.
Montauk	Severe: percs slowly.	Severe: slope.	Moderate: slope, wetness.	Moderate: wetness, slope.	Fair: slope, small stones, wetness.
PbD*: Paxton	Severe: slope, percs slowly.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.
Montauk	Severe: slope, percs slowly.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.
PdB*: Paxton	Severe: percs slowly.	Moderate: slope.	Moderate: wetness.	Moderate: wetness.	Fair: small stones, wetness.
Montauk	Severe: percs slowly.	Moderate: slope.	Moderate: wetness.	Moderate: wetness.	Fair: small stones, wetness.
PdC*, PeC*: Paxton	Severe: percs slowly.	Severe: slope.	Moderate: wetness, slope.	Moderate: wetness, slope.	Fair: slope, small stones, wetness.
Montauk	Severe: percs slowly.	Severe: slope.	Moderate: slope, wetness.	Moderate: wetness, slope.	Fair: slope, small stones, wetness.
PeD*: Paxton	Severe: slope, percs slowly.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.
Montauk	Severe: percs slowly, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Ps Pootatuck Variant	Severe: wetness, poor filter, flooding.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy.
RaA Rainbow	Severe: percs slowly, wetness.	Slight	Severe: wetness.	Moderate: wetness.	Fair: area reclaim, wetness.
RaB Rainbow	Severe: percs slowly, wetness.	Moderate: slope.	Severe: wetness.	Moderate: wetness.	Fair: area reclaim, wetness.
RbB Rainbow	Severe: percs slowly, wetness.	Moderate: slope.	Severe: wetness.	Moderate: wetness.	Fair: area reclaim, wetness.
Rc Raypol	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
Rd Ridgebury	Severe: percs slowly, wetness.	Slight	Severe: wetness.	Severe: wetness.	Poor: wetness.
Rn*: Ridgebury	Severe: percs slowly, wetness.	Slight	Severe: wetness.	Severe: wetness.	Poor: wetness.
Leicester	Severe: wetness.	Severe: seepage, wetness.	Severe: seepage, wetness.	Severe: seepage, wetness.	Poor: wetness.
Whitman	Severe: percs slowly, ponding.	Slight	Severe: ponding.	Severe: ponding.	Poor: ponding.
Ro Rippowam	Severe: flooding, wetness, poor filter.	Severe: wetness, flooding, seepage.	Severe: wetness, flooding, seepage.	Severe: wetness, flooding, seepage.	Poor: wetness, too sandy, seepage.
Rp*: Rock outcrop.					
Hollis	Severe: slope, depth to rock.	Severe: slope, depth to rock, seepage.	Severe: slope, depth to rock, seepage.	Severe: slope, seepage, depth to rock.	Poor: slope, thin layer, area reclaim.
Sf Scarboro	Severe: ponding, poor filter.	Severe: seepage, excess humus, ponding.	Severe: seepage, ponding, too sandy.	Severe: seepage, ponding.	Poor: seepage, too sandy, ponding.
Sg Sudbury	Severe: wetness, poor filter.	Severe: wetness, seepage.	Severe: wetness, seepage, too sandy.	Severe: wetness, seepage.	Poor: seepage, too sandy, small stones.
SvA, SvB Sutton	Severe: wetness.	Severe: wetness, seepage.	Severe: wetness, seepage.	Severe: wetness, seepage.	Fair: wetness, small stones.

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
SwB---------- Sutton	Severe: wetness.	Severe: wetness, seepage.	Severe: wetness, seepage.	Severe: wetness, seepage.	Fair: small stones, wetness.
SxB---------- Sutton	Severe: wetness.	Severe: wetness, seepage.	Severe: wetness, seepage.	Severe: wetness, seepage.	Fair: small stones, wetness.
Ts---------- Tisbury	Severe: wetness, poor filter.	Severe: wetness, seepage.	Severe: wetness, seepage, too sandy.	Severe: wetness, seepage.	Fair: seepage, small stones, wetness.
Ub*: Udorthents.					
Pits.					
Ud*: Udorthents.					
Urban land.					
Ur*. Urban land					
Wd---------- Walpole	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
We, Wh---------- Westbrook	Severe: ponding, flooding.	Severe: ponding, flooding, excess humus.	Severe: ponding, flooding, excess humus.	Severe: ponding, flooding.	Poor: excess humus, ponding.
WvA, WvB---------- Windsor	Severe: poor filter.	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: too sandy, seepage.
WxA---------- Woodbridge	Severe: percs slowly, wetness.	Slight----------	Severe: wetness.	Moderate: wetness.	Fair: small stones, wetness.
WxB---------- Woodbridge	Severe: percs slowly, wetness.	Moderate: slope.	Severe: wetness.	Moderate: wetness.	Fair: small stones, wetness.
WxC---------- Woodbridge	Severe: percs slowly, wetness.	Severe: slope.	Severe: wetness.	Moderate: slope, wetness.	Fair: slope, small stones, wetness.
WyB---------- Woodbridge	Severe: percs slowly, wetness.	Moderate: slope.	Severe: wetness.	Moderate: wetness.	Fair: small stones, wetness.
WyC---------- Woodbridge	Severe: percs slowly, wetness.	Severe: slope.	Severe: wetness.	Moderate: slope, wetness.	Fair: slope, small stones, wetness.
WzA*: Woodbridge---------	Severe: percs slowly, wetness.	Slight----------	Severe: wetness.	Moderate: wetness.	Fair: small stones, wetness.

See footnote at end of table.

TABLE 11.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
WzA*:					
Rainbow	Severe: percs slowly, wetness.	Slight	Severe: wetness.	Moderate: wetness.	Fair: small stones.
WzC*:					
Woodbridge	Severe: percs slowly, wetness.	Severe: slope.	Severe: wetness.	Moderate: slope, wetness.	Fair: slope, small stones, wetness.
Rainbow	Severe: percs slowly, wetness.	Severe: slope.	Severe: wetness.	Moderate: wetness, slope,	Fair: slope, small stones, wetness.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 12.--CONSTRUCTION MATERIALS

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "good," "fair," "poor," "probable," and "improbable." Absence of an entry indicates that the soil was not rated]

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
Aa*:				
Adrian	Poor: wetness, low strength.	Probable	Improbable: too sandy.	Poor: wetness, excess humus.
Palms	Poor: wetness, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness, excess humus.
AfA, AfB Agawam	Good	Probable	Probable	Poor: too sandy, area reclaim.
Ba*. Beaches				
BrB Broadbrook	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: area reclaim, small stones.
CbB*:				
Canton	Good	Probable	Improbable: too sandy.	Poor: small stones.
Charlton	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
CbC*:				
Canton	Good	Probable	Improbable: too sandy.	Poor: small stones.
Charlton	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: slope, small stones.
CbD*:				
Canton	Fair: slope.	Probable	Improbable: too sandy.	Poor: slope, small stones.
Charlton	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope.
CcB*, CcC*:				
Canton	Good	Probable	Improbable: too sandy.	Poor: large stones.
Charlton	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones.
CdC*:				
Canton	Good	Probable	Improbable: too sandy.	Poor: large stones.
Charlton	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones.
CdD*:				
Canton	Fair: slope.	Probable	Improbable: too sandy.	Poor: slope, large stones.

See footnote at end of table.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
CdD*: Charlton	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope, large stones.
Ce Carlisle	Poor: wetness, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: excess humus, wetness.
CrC*: Charlton	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones.
Hollis	Poor: thin layer, area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones, area reclaim.
CrD*: Charlton	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope, large stones.
Hollis	Poor: thin layer, area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope, large stones, area reclaim.
Du*. Dumps				
HcA, HcB Haven	Good	Probable	Probable	Poor: too sandy, area reclaim.
HkA, HkC Hinckley	Good	Probable	Probable	Poor: too sandy, area reclaim, small stones.
HkD Hinckley	Fair: slope.	Probable	Probable	Poor: slope, too sandy, small stones.
HrC*: Hollis	Poor: thin layer, area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones, area reclaim.
Charlton	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones.
Rock outcrop.				
HrD*: Hollis	Poor: thin layer, area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope, large stones, area reclaim.
Charlton	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope, large stones.
Rock outcrop.				

See footnote at end of table.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
Ip Ipswich	Poor: wetness, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness, excess salt, excess humus.
Ln Limerick Variant	Poor: wetness.	Probable	Probable	Poor: wetness.
MyA, MyB, MyC Merrimac	Good	Probable	Probable	Poor: small stones, area reclaim.
NaB Narragansett	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones, area reclaim.
NgB Narragansett	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: large stones.
NhC Narragansett	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: large stones.
NhD Narragansett	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope.
NlC*: Narragansett	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones, slope.
Hollis	Poor: thin layer, area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones, area reclaim.
Nn Ninigret	Fair: wetness.	Probable	Probable	Poor: area reclaim.
Pa Pawcatuck	Poor: wetness.	Probable	Improbable: excess fines.	Poor: wetness, excess salt, excess humus.
PbB*: Paxton	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones, area reclaim.
Montauk	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones, area reclaim.
PbC*: Paxton	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: slope, small stones, area reclaim.
Montauk	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: slope, small stones, area reclaim.
PbD*: Paxton	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope.
Montauk	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope.

See footnote at end of table.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
PdB*, PdC*, PeC*:				
Paxton	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Montauk	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
PeD*:				
Paxton	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope, small stones.
Montauk	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope, small stones.
Ps Pootatuck Variant	Fair: wetness.	Probable	Improbable: too sandy.	Fair: thin layer.
RaA, RaB Rainbow	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones, area reclaim.
RbB Rainbow	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Rc Raypol	Poor: wetness.	Probable	Probable	Poor: wetness.
Rd Ridgebury	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness, small stones, area reclaim.
Rn*:				
Ridgebury	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness, small stones, area reclaim.
Leicester	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness, small stones.
Whitman	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness, large stones, area reclaim.
Ro Rippowam	Poor: wetness.	Probable	Improbable: too sandy.	Poor: wetness.
Rp*: Rock outcrop.				
Hollis	Poor: thin layer, area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope, large stones, area reclaim.
Sf Scarboro	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, ponding.
Sg Sudbury	Fair: wetness.	Probable	Probable	Poor: small stones, too sandy, area reclaim.

See footnote at end of table.

TABLE 12.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
SvA, SvB---------- Sutton	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
SwB---------- Sutton	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
SxB---------- Sutton	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones.
Ts---------- Tisbury	Fair: wetness.	Probable----------	Probable----------	Poor: area reclaim.
Ub*: Udorthents.				
Pits.				
Ud*: Udorthents.				
Urban land.				
Ur*. Urban land				
Wd---------- Walpole	Poor: wetness.	Probable----------	Probable----------	Poor: wetness, small stones.
We, Wh---------- Westbrook	Poor: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness, excess salt, excess humus.
WvA, WvB---------- Windsor	Good----------	Probable----------	Improbable: excess fines.	Poor: too sandy.
WxA, WxB---------- Woodbridge	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones, area reclaim.
WxC---------- Woodbridge	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: slope, small stones, area reclaim.
WyB, WyC---------- Woodbridge	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones.
WzA*, WzC*: Woodbridge----------	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones.
Rainbow----------	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: large stones.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 13.--WATER MANAGEMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not evaluated]

Soil name and map symbol	Limitations for--			Features affecting--		
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Terraces and diversions	Grassed waterways
Aa*:						
Adrian	Severe: seepage.	Severe: ponding, excess humus.	Severe: cutbanks cave.	Ponding, subsides, frost action.	Ponding, soil blowing, too sandy.	Wetness.
Palms	Severe: seepage.	Severe: excess humus, ponding.	Slight	Frost action, ponding, subsides.	Ponding, soil blowing.	Wetness.
AfA, AfB Agawam	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Too sandy	Favorable.
Ba*. Beaches						
BrB Broadbrook	Moderate: slope.	Severe: piping.	Severe: no water.	Deep to water	Rooting depth, percs slowly.	Rooting depth, erodes easily.
CbB*:						
Canton	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Too sandy	Favorable.
Charlton	Severe: seepage.	Moderate: piping, seepage.	Severe: no water.	Deep to water	Favorable	Favorable.
CbC*, CbD*:						
Canton	Severe: seepage, slope.	Severe: seepage, piping.	Severe: no water.	Deep to water	Slope, too sandy.	Slope.
Charlton	Severe: slope, seepage.	Moderate: piping, seepage.	Severe: no water.	Deep to water	Slope	Slope.
CcB*:						
Canton	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Large stones, too sandy.	Large stones.
Charlton	Severe: seepage.	Moderate: seepage, piping.	Severe: no water.	Deep to water	Large stones	Large stones.
CcC*, CdC*, CdD*:						
Canton	Severe: seepage, slope.	Severe: seepage, piping.	Severe: no water.	Deep to water	Slope, large stones, too sandy.	Slope, large stones.
Charlton	Severe: slope, seepage.	Moderate: seepage, piping.	Severe: no water.	Deep to water	Slope, large stones.	Slope, large stones.
Ce Carlisle	Severe: seepage.	Severe: excess humus, ponding.	Slight	Ponding, subsides, frost action.	Ponding, soil blowing.	Wetness.
CrC*:						
Charlton	Severe: slope, seepage.	Moderate: seepage, piping.	Severe: no water.	Deep to water	Slope, large stones.	Slope, large stones.

See footnote at end of table.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for--			Features affecting--		
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Terraces and diversions	Grassed waterways
CrC*: Hollis	Severe: slope, depth to rock.	Severe: thin layer, piping.	Severe: no water.	Deep to water	Slope, depth to rock.	Slope, depth to rock.
CrD*: Charlton	Severe: slope, seepage.	Moderate: seepage, piping.	Severe: no water.	Deep to water	Slope, large stones.	Slope, large stones.
Hollis	Severe: slope, depth to rock.	Severe: thin layer, piping.	Severe: no water.	Deep to water	Slope, depth to rock.	Slope, depth to rock.
Du*. Dumps						
HcA, HcB Haven	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Erodes easily, too sandy.	Erodes easily.
HkA Hinckley	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Large stones, too sandy.	Large stones, droughty.
HkC, HkD Hinckley	Severe: slope, seepage.	Severe: seepage.	Severe: no water.	Deep to water	Slope, large stones, too sandy.	Large stones, droughty, slope.
HrC*: Hollis	Severe: slope, depth to rock.	Severe: thin layer, piping.	Severe: no water.	Deep to water	Slope, depth to rock.	Slope, depth to rock.
Charlton	Severe: slope, seepage.	Moderate: seepage, piping.	Severe: no water.	Deep to water	Slope, large stones.	Slope, large stones.
Rock outcrop.						
HrD*: Hollis	Severe: slope, depth to rock.	Severe: thin layer, piping.	Severe: no water.	Deep to water	Slope, depth to rock.	Slope, depth to rock.
Charlton	Severe: slope, seepage.	Moderate: seepage, piping.	Severe: no water.	Deep to water	Slope, large stones.	Slope, large stones.
Rock outcrop.						
Ip Ipswich	Severe: seepage.	Severe: excess humus, ponding, excess salt.	Severe: salty water.	Flooding, excess salt, ponding.	Ponding	Excess salt, wetness.
Ln Limerick Variant	Severe: seepage.	Severe: piping, wetness.	Slight	Flooding, frost action.	Wetness	Wetness.
MyA, MyB Merrimac	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Too sandy	Favorable.
MyC Merrimac	Severe: slope, seepage.	Severe: seepage.	Severe: no water.	Deep to water	Slope, too sandy.	Slope.
NaB Narragansett	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Too sandy, erodes easily.	Favorable.

See footnote at end of table.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for--			Features affecting--		
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Terraces and diversions	Grassed waterways
NgB---------- Narragansett	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Too sandy------	Favorable.
NhC, NhD---------- Narragansett	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Deep to water	Slope, too sandy.	Slope.
NlC*:						
Narragansett-----	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Deep to water	Slope, too sandy.	Slope.
Hollis----------	Severe: slope, depth to rock.	Severe: thin layer, piping.	Severe: no water.	Deep to water	Slope, depth to rock.	Slope, depth to rock.
Nn---------- Ninigret	Severe: seepage.	Severe: seepage, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, too sandy.	Favorable.
Pa---------- Pawcatuck	Severe: seepage.	Severe: excess humus, ponding, excess salt.	Severe: salty water, cutbanks cave.	Flooding, ponding, excess salt.	Ponding--------	Wetness, excess salt.
PbB*:						
Paxton----------	Moderate: slope.	Severe: piping.	Severe: no water.	Deep to water	Percs slowly, rooting depth.	Percs slowly, rooting depth.
Montauk----------	Moderate: slope.	Severe: seepage, piping.	Severe: no water.	Deep to water	Rooting depth, percs slowly.	Rooting depth, percs slowly.
PbC*, PbD*:						
Paxton----------	Severe: slope.	Severe: piping.	Severe: no water.	Deep to water	Slope, percs slowly, rooting depth.	Slope, percs slowly, rooting depth.
Montauk----------	Severe: slope.	Severe: seepage, piping.	Severe: no water.	Deep to water	Slope, rooting depth, percs slowly.	Slope, rooting depth, percs slowly.
PdB*:						
Paxton----------	Moderate: slope.	Severe: piping.	Severe: no water.	Deep to water	Rooting depth, percs slowly.	Rooting depth, percs slowly.
Montauk----------	Moderate: slope.	Severe: seepage, piping.	Severe: no water.	Deep to water	Rooting depth, percs slowly.	Rooting depth, percs slowly.
PdC*, PeC*, PeD*:						
Paxton----------	Severe: slope.	Severe: piping.	Severe: no water.	Deep to water	Slope, rooting depth, percs slowly.	Slope, rooting depth, percs slowly.
Montauk----------	Severe: slope.	Severe: seepage, piping.	Severe: no water.	Deep to water	Slope, rooting depth, percs slowly.	Slope, rooting depth, percs slowly.
Ps---------- Pootatuck Variant	Severe: seepage.	Severe: seepage.	Severe: cutbanks cave.	Flooding, cutbanks cave.	Wetness, too sandy.	Favorable.
RaA---------- Rainbow	Slight---------	Severe: piping.	Severe: no water.	Percs slowly	Percs slowly, wetness.	Percs slowly, rooting depth, erodes easily.
RaB---------- Rainbow	Moderate: slope.	Severe: piping.	Severe: no water.	Percs slowly	Percs slowly, wetness.	Percs slowly, rooting depth, erodes easily.

See footnote at end of table.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for--			Features affecting--		
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Terraces and diversions	Grassed waterways
RbB---- Rainbow	Moderate: slope.	Severe: piping.	Severe: no water.	Percs slowly	Percs slowly, wetness.	Percs slowly, rooting depth, erodes easily.
Rc---- Raypol	Severe: seepage.	Severe: seepage, wetness.	Severe: cutbanks cave.	Frost action, cutbanks cave.	Erodes easily, wetness.	Wetness, erodes easily.
Rd---- Ridgebury	Slight----	Severe: wetness, piping.	Severe: no water.	Percs slowly, frost action.	Wetness, percs slowly, rooting depth.	Wetness, percs slowly, rooting depth.
Rn*: Ridgebury----	Slight----	Severe: piping, wetness.	Severe: no water.	Percs slowly, frost action.	Wetness, percs slowly, rooting depth.	Wetness, percs slowly, rooting depth.
Leicester----	Severe: seepage.	Severe: wetness, piping.	Moderate: slow refill.	Frost action---	Wetness----	Wetness.
Whitman----	Slight----	Severe: piping, ponding.	Severe: no water.	Percs slowly, frost action.	Wetness, percs slowly, rooting depth.	Rooting depth, wetness, percs slowly.
Ro---- Rippowam	Severe: seepage.	Severe: seepage, wetness.	Severe: cutbanks cave.	Flooding, cutbanks cave, frost action.	Wetness, too sandy.	Wetness.
Rp*: Rock outcrop.						
Hollis----	Severe: slope, depth to rock.	Severe: thin layer, piping.	Severe: no water.	Deep to water	Slope, depth to rock.	Slope, depth to rock.
Sf---- Scarboro	Severe: seepage.	Severe: seepage, ponding.	Severe: cutbanks cave.	Cutbanks cave, frost action.	Ponding, too sandy.	Wetness, droughty.
Sg---- Sudbury	Severe: seepage.	Severe: seepage, wetness.	Severe: cutbanks cave.	Cutbanks cave	Too sandy, wetness.	Favorable.
SvA---- Sutton	Severe: seepage.	Severe: wetness.	Moderate: slow refill.	Favorable----	Wetness----	Wetness.
SvB---- Sutton	Severe: seepage.	Severe: wetness.	Moderate: slow refill.	Slope----	Wetness----	Wetness.
SwB, SxB---- Sutton	Severe: seepage.	Severe: wetness.	Moderate: slow refill.	Slope----	Wetness----	Wetness.
Ts---- Tisbury	Severe: seepage.	Severe: seepage, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, erodes easily.	Erodes easily.
Ub*: Udorthents.						
Pits.						
Ud*: Udorthents.						
Urban land.						
Ur*. Urban land						

See footnote at end of table.

TABLE 13.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for--			Features affecting--		
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Terraces and diversions	Grassed waterways
Wd---------- Walpole	Severe: seepage.	Severe: seepage, wetness.	Severe: cutbanks cave.	Frost action, cutbanks cave.	Wetness, too sandy.	Wetness.
We, Wh---------- Westbrook	Severe: seepage.	Severe: excess humus, ponding, excess salt.	Severe: salty water.	Flooding, wetness, excess salt.	Ponding--------	Wetness, excess salt.
WvA---------- Windsor	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Cutbanks cave	Too sandy------	Droughty.
WvB---------- Windsor	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Slope, cutbanks cave.	Too sandy------	Droughty.
WxA---------- Woodbridge	Slight---------	Moderate: piping, wetness.	Severe: no water.	Percs slowly, frost action.	Percs slowly, wetness.	Percs slowly, rooting depth.
WxB---------- Woodbridge	Moderate: slope.	Moderate: piping, wetness.	Severe: no water.	Slope, percs slowly, frost action.	Percs slowly, wetness.	Percs slowly, rooting depth.
WxC---------- Woodbridge	Severe: slope.	Moderate: piping, wetness.	Severe: no water.	Slope, percs slowly, frost action.	Slope, percs slowly, wetness.	Slope, percs slowly, rooting depth.
WyB---------- Woodbridge	Moderate: slope.	Moderate: piping, wetness.	Severe: no water.	Percs slowly, slope, frost action.	Wetness, percs slowly.	Percs slowly, rooting depth.
WyC---------- Woodbridge	Severe: slope.	Moderate: piping, wetness.	Severe: no water.	Percs slowly, slope, frost action.	Slope, wetness, percs slowly.	Slope, percs slowly, rooting depth.
WzA*: Woodbridge-------	Slight---------	Moderate: piping, wetness.	Severe: no water.	Percs slowly, frost action.	Wetness, percs slowly.	Percs slowly, rooting depth.
Rainbow----------	Slight---------	Severe: piping.	Severe: no water.	Percs slowly, frost action.	Percs slowly, wetness.	Percs slowly, rooting depth.
WzC*: Woodbridge-------	Severe: slope.	Moderate: piping, wetness.	Severe: no water.	Percs slowly, slope, frost action.	Slope, wetness, percs slowly.	Slope, percs slowly, rooting depth.
Rainbow----------	Severe: slope.	Severe: piping.	Severe: no water.	Percs slowly, frost action.	Slope, wetness. percs slowly.	Slope, percs slowly, rooting depth.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 14.--ENGINEERING INDEX PROPERTIES

[The symbol < means less than; > means more than. Absence of an entry indicates that data were not estimated]

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
Aa*:											
Adrian	0-42	Muck	PT	A-8	---	---	---	---	---	---	---
	42-60	Sand, loamy sand, gravelly sand.	SP, SM	A-2, A-3, A-1	0	80-100	60-100	35-75	0-30	---	NP
Palms	0-22	Muck	PT	A-8	---	---	---	---	---	---	---
	22-60	Very fine sandy loam, loamy very fine sand, fine sandy loam.	ML, SM	A-4	0	85-100	80-100	70-95	50-90	<25	NP-10
AfA, AfB	0-9	Fine sandy loam	SM, ML	A-4	0	95-100	90-100	65-95	40-65	<25	NP-3
Agawam	9-19	Fine sandy loam, very fine sandy loam, loam.	SM, ML	A-4	0	95-100	85-100	65-95	40-65	<25	NP-3
	19-24	Fine sandy loam	SM, SP-SM	A-2, A-3, A-4	0	90-100	85-100	60-95	5-45	<20	NP-3
	24-32	Sand, loamy fine sand, loamy sand.	SM, SP-SM	A-2	0	90-100	85-100	40-90	5-35	---	NP
	32-60	Stratified fine sand to very gravelly sand.	SM, SP-SM, GM, GP-GM	A-1, A-2, A-3	0-5	50-100	30-100	15-80	5-35	---	NP
Ba*.											
Beaches											
BrB	0-8	Silt loam	ML	A-4	0-5	90-100	85-100	75-95	55-85	<25	NP-4
Broadbrook	8-24	Silt loam, very fine sandy loam, loam.	ML	A-4	0-5	90-100	85-100	75-95	55-85	<25	NP-4
	24-60	Sandy loam, fine sandy loam, gravelly sandy loam.	SM, ML	A-2, A-4	0-15	65-90	55-90	35-85	20-65	---	NP
CbB*, CbC*, CbD*:											
Canton	0-5	Fine sandy loam	SM, ML	A-2, A-4	0-5	85-100	70-95	40-90	25-70	<18	NP
	5-24	Fine sandy loam, loam, very fine sandy loam.	SM, ML	A-2, A-4	0-15	80-100	65-95	45-90	25-70	<12	NP
	24-60	Gravelly sand, loamy fine sand, gravelly loamy coarse sand.	SM, SP-SM	A-1, A-2, A-3	5-30	75-95	50-85	20-80	5-25	<10	NP
Charlton	0-8	Fine sandy loam	SM, ML	A-2, A-4	0-10	85-95	75-90	50-85	25-65	<25	NP-5
	8-29	Fine sandy loam, gravelly fine sandy loam, gravelly loam.	SM, ML	A-2, A-4	5-15	65-90	60-90	40-80	20-65	<25	NP-3
	29-60	Gravelly sandy loam, gravelly fine sandy loam, loam.	SM	A-2, A-4	5-15	60-90	60-85	40-75	20-50	---	NP

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
CcB*, CcC*:											
Canton----------	0-5	Very stony fine sandy loam.	SM, ML	A-2, A-4	5-25	80-100	65-95	45-90	25-70	<18	NP
	5-24	Fine sandy loam, loam, very fine sandy loam.	SM, ML	A-2, A-4	0-15	80-100	65-95	45-90	25-70	<12	NP
	24-60	Gravelly sand, loamy fine sand, gravelly loamy coarse sand.	SM, SP-SM	A-1, A-2, A-3	5-30	75-95	50-85	20-80	5-25	<10	NP
Charlton--------	0-8	Very stony fine sandy loam.	SM, ML	A-2, A-4	10-20	75-95	70-90	60-85	30-70	<25	NP-5
	8-29	Fine sandy loam, gravelly fine sandy loam, gravelly loam.	SM, ML	A-2, A-4	5-15	65-90	60-90	50-80	20-65	<25	NP-3
	29-60	Fine sandy loam, gravelly fine sandy loam, gravelly sandy loam.	SM	A-2, A-4	5-15	60-90	60-85	40-75	20-50	---	NP
CdC*, CdD*:											
Canton----------	0-5	Extremely stony fine sandy loam.	SM, ML	A-2, A-4	15-30	80-95	60-90	40-85	25-70	<15	NP
	5-24	Fine sandy loam, loam, very fine sandy loam.	SM, ML	A-2, A-4	0-15	80-100	65-95	45-90	25-70	<12	NP
	24-60	Gravelly loamy sand, loamy fine sand, gravelly loamy coarse sand.	SM, SP-SM	A-1, A-2, A-3	5-30	75-95	50-85	20-80	5-25	<10	NP
Charlton--------	0-8	Extremely stony fine sandy loam.	SM, ML	A-2, A-4	15-25	75-95	70-90	60-85	30-70	<25	NP-5
	8-29	Fine sandy loam, gravelly fine sandy loam, gravelly loam.	SM, ML	A-2, A-4	5-15	65-90	60-90	50-80	20-65	<25	NP-3
	29-60	Fine sandy loam, gravelly fine sandy loam, gravelly sandy loam.	SM	A-2, A-4	5-15	60-90	60-85	40-75	20-50	---	NP
Ce---------- Carlisle	0-60	Muck----------	PT	A-8	---	---	---	---	---	---	---
CrC*, CrD*:											
Charlton--------	0-8	Very stony fine sandy loam.	SM, ML	A-2, A-4	10-20	75-95	70-90	60-85	30-70	<25	NP-5
	8-29	Fine sandy loam, gravelly fine sandy loam, gravelly loam.	SM, ML	A-2, A-4	5-15	65-90	60-90	50-80	20-65	<25	NP-3
	29-60	Fine sandy loam, gravelly fine sandy loam, gravelly sandy loam.	SM	A-2, A-4	5-15	60-90	60-85	40-75	20-50	---	NP

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
CrC*, CrD*:											
Hollis	0-2	Very stony fine sandy loam.	SM, ML	A-2, A-4	5-15	75-100	65-95	40-85	25-70	<20	NP-3
	2-17	Fine sandy loam, sandy loam, gravelly loam.	SM, ML	A-2, A-4	0-15	75-95	65-95	40-80	20-65	---	NP
	17	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Du*.											
Dumps											
HcA, HcB	0-23	Silt loam	ML, SM	A-4	0	80-100	75-100	65-100	40-90	<25	NP-4
Haven	23-60	Stratified loamy fine sand to gravel.	SP, SW, GP, SM	A-1, A-3, A-2	0-20	30-90	25-85	10-60	1-25	<10	NP
HkA, HkC, HkD	0-7	Gravelly sandy loam.	SM, SP-SM	A-1, A-2, A-3, A-4	0-10	60-95	40-75	20-70	2-40	<20	NP
Hinckley	7-22	Gravelly loamy sand, loamy fine sand, very gravelly loamy coarse sand.	SM, GM, GP-GM, SP-SM	A-1, A-2, A-3	0-20	50-95	30-85	15-70	2-30	<20	NP
	22-60	Stratified very gravelly loamy fine sand to cobbly coarse sand.	SP, SP-SM, GP, GP-GM	A-1, A-2	5-30	20-65	20-50	10-40	0-20	<10	NP
HrC*, HrD*:											
Hollis	0-2	Very stony fine sandy loam.	SM, ML	A-2, A-4	5-15	75-100	65-95	40-85	25-70	<20	NP-3
	2-17	Fine sandy loam, sandy loam, gravelly loam.	SM, ML	A-2, A-4	0-15	75-95	65-95	40-80	20-65	---	NP
	17	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Charlton	0-8	Very stony fine sandy loam.	SM, ML	A-2, A-4	10-20	75-95	70-90	60-85	30-70	<25	NP-5
	8-29	Fine sandy loam, gravelly fine sandy loam, gravelly loam.	SM, ML	A-2, A-4	5-15	65-90	60-90	50-80	20-65	<25	NP-3
	29-60	Fine sandy loam, gravelly fine sandy loam, gravelly sandy loam.	SM	A-2, A-4	5-15	60-90	60-85	40-75	20-50	---	NP
Rock outcrop.											
Ip	0-16	Mucky peat	PT	A-8	0	---	---	---	---	---	NP
Ipswich	16-64	Mucky peat	PT	A-8	0	---	---	---	---	---	NP
	64-80	Muck, mucky peat	PT	A-8	0	---	---	---	---	---	NP
Ln	0-8	Silt loam	ML	A-4	0	100	100	95-100	80-95	<30	NP
Limerick Variant	8-36	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	80-95	<30	NP
	36-60	Loamy sand, coarse sand, gravelly sand.	SP-SM, SM	A-1, A-2	0	70-100	50-100	30-45	5-20	---	NP
MyA, MyB, MyC	0-8	Sandy loam	SM, ML	A-2, A-4	0	85-95	70-90	40-85	20-55	<20	NP
Merrimac	8-27	Sandy loam	SM	A-2	0	75-95	70-90	40-60	20-35	<25	NP
	27-60	Stratified sand to very gravelly coarse sand.	GP, SP, SP-SM, GP-GM	A-1	5-25	40-65	30-60	15-40	0-10	---	NP

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
NaB---------- Narragansett	0-6	Silt loam--------	ML	A-4	0-5	90-100	85-95	75-95	50-85	<35	NP-6
	6-28	Silt loam, very fine sandy loam, loam.	ML, SM	A-4	0-5	90-100	75-95	65-95	40-85	<35	NP-4
	28-60	Gravelly coarse sand, gravelly loamy coarse sand, gravelly sand.	SM, SP-SM	A-1, A-2	5-20	55-90	50-85	30-60	5-30	---	NP
NgB---------- Narragansett	0-6	Very stony silt loam.	M	A-4	3-15	90-100	85-95	75-95	50-85	<35	NP-6
	6-28	Silt loam, very fine sandy loam, loam.	ML, SM	A-4	5-15	90-100	75-85	65-85	40-75	<35	NP-4
	28-60	Gravelly coarse sand, gravelly loamy coarse sand, gravelly sand.	SM, SP-SM	A-1, A-2	5-20	55-90	50-85	30-60	5-30	---	NP
NhC, NhD---------- Narragansett	0-6	Extremely stony silt loam.	ML	A-4	15-35	90-100	80-95	70-95	50-85	<35	NP-6
	6-28	Silt loam, very fine sandy loam, loam.	ML, SM	A-4	5-15	90-100	75-85	65-85	40-75	<35	NP-4
	28-60	Gravelly coarse sand, gravelly loamy coarse sand, gravelly sand.	SM, SP-SM	A-1, A-2	5-20	55-90	50-85	30-60	5-30	---	NP
NlC*: Narragansett----	0-6	Very stony silt loam.	M	A-4	3-15	90-100	85-95	75-95	50-85	<35	NP-6
	6-28	Silt loam, very fine sandy loam, loam.	ML, SM	A-4	5-15	90-100	75-85	65-85	40-75	<35	NP-4
	28-60	Gravelly coarse sand, gravelly loamy coarse sand, gravelly sand.	SM, SP-SM	A-1, A-2	5-20	55-90	50-85	30-60	5-30	---	NP
Hollis----------	0-2	Very stony fine sandy loam.	SM, ML	A-2, A-4	5-15	75-100	65-95	40-85	25-70	<20	NP-3
	2-17	Fine sandy loam, sandy loam, gravelly loam.	SM, ML	A-2, A-4	0-15	75-95	65-95	40-80	20-65	---	NP
	17	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Nn---------- Ninigret	0-8	Fine sandy loam	SM, ML	A-4	0	95-100	90-100	70-95	40-65	<25	NP-3
	8-26	Fine sandy loam, sandy loam, very fine sandy loam.	SM	A-2, A-4	0	95-100	90-100	65-85	20-50	<25	NP-3
	26-60	Loamy sand, sand, gravelly sand.	SP, SM, GP	A-1, A-2, A-3	0-20	45-100	30-90	25-65	0-30	---	NP
Pa---------- Pawcatuck	0-46	Mucky peat--------	PT	A-8	0	---	---	---	---	---	NP
	46-50	Very fine sandy loam, silt loam, sandy loam.	ML, SM	A-4, A-2	0	95-100	95-100	75-100	20-95	<20	NP-5
	50-60	Loamy sand, loamy fine sand, sand.	SM, SP	A-2, A-3, A-4	0	90-100	80-100	75-95	0-45	---	NP

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
PbB*, PbC*, PbD*:											
Paxton----------	0-8	Fine sandy loam	SM, ML, SM-SC	A-2, A-4	0-10	80-95	75-90	60-85	30-65	<30	NP-7
	8-27	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SM-SC	A-2, A-4	0-15	70-90	65-90	50-85	25-65	<30	NP-7
	27-60	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SM-SC	A-2, A-4	0-15	70-90	60-85	50-75	20-60	<30	NP-7
Montauk----------	0-7	Fine sandy loam	ML, SM, SM-SC, CL-ML	A-4, A-2, A-1	0	80-100	75-95	45-95	20-85	<20	NP-4
	7-23	Fine sandy loam, gravelly sandy loam, silt loam.	SM, ML, SM-SC, CL-ML	A-2, A-4, A-1	0-5	60-100	55-95	35-90	15-80	<20	NP-4
	23-60	Sandy loam, loamy sand, gravelly sandy loam.	SM, SP-SM, GM, GP-GM	A-2, A-1, A-4, A-3	0-5	60-100	55-95	20-80	10-50	<15	NP-2
PdB*, PdC*:											
Paxton----------	0-8	Very stony fine sandy loam.	SM, ML, SM-SC	A-2, A-4	5-20	80-95	75-90	60-85	30-65	<30	NP-7
	8-27	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SM-SC	A-2, A-4	5-20	70-90	65-90	50-85	25-65	<30	NP-7
	27-60	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SM-SC	A-2, A-4	5-15	70-90	60-85	50-75	20-60	<30	NP-7
Montauk----------	0-7	Very stony fine sandy loam.	SM, ML, SM-SC, CL-ML	A-1, A-2, A-4	5-10	65-80	60-75	30-75	15-70	<20	NP-4
	7-23	Fine sandy loam, silt loam, gravelly sandy loam.	SM, ML, SM-SC, CL-ML	A-1, A-2, A-4	0-5	60-100	55-95	35-90	15-80	<20	NP-4
	23-60	Sandy loam, loamy sand, gravelly sandy loam.	SM, SP-SM, GM, GP-GM	A-1, A-2, A-4, A-3	0-5	60-100	55-95	20-80	10-50	<15	NP-2
PeC*, PeD*:											
Paxton----------	0-8	Extremely stony fine sandy loam.	SM, ML, SM-SC	A-2, A-4	10-25	80-90	70-85	60-80	30-65	<30	NP-7
	8-27	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SM-SC	A-2, A-4	5-20	70-90	65-90	50-85	25-65	<30	NP-7
	27-60	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SM-SC	A-2, A-4	5-15	70-90	60-85	50-75	20-60	<30	NP-7
Montauk----------	0-7	Extremely stony fine sandy loam.	SM, ML, SM-SC, CL-ML	A-1, A-2, A-4	5-10	65-80	60-75	30-75	15-70	<20	NP-4
	7-23	Fine sandy loam, silt loam, gravelly sandy loam.	SM, ML, SM-SC, CL-ML	A-1, A-2, A-4	0-5	60-100	55-95	35-90	15-80	<20	NP-4
	23-60	Sandy loam, loamy sand, gravelly sandy loam.	SM, SP-SM, GM, GP-GM	A-1, A-2, A-4, A-3	0-5	60-100	55-95	20-80	10-50	<15	NP-2
Ps----------	0-9	Fine sandy loam	SM, ML	A-2, A-4	0	95-100	90-100	60-80	30-45	<25	NP
Pootatuck Variant	9-28	Stratified fine sand to sandy loam.	SM, ML	A-2, A-4	0	60-100	90-100	60-75	25-40	---	NP
	28-60	Sand, loamy sand, gravelly sand.	SP-SM, SM	A-1, A-2	0	70-100	50-100	30-60	5-20	---	NP

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
RaA, RaB--------- Rainbow	0-6	Silt loam---------	ML, CL-ML	A-4	0-5	75-100	70-100	65-95	50-80	<25	NP-5
	6-26	Silt loam, very fine sandy loam, loam.	ML	A-4	0-5	75-100	70-100	65-95	50-80	<25	NP-3
	26-60	Fine sandy loam, gravelly sandy loam, loam.	SM, ML	A-2, A-4	0-15	70-95	60-90	40-80	20-60	---	NP
RbB--------- Rainbow	0-6	Very stony silt loam.	ML, CL-ML	A-4	5-15	75-100	70-100	65-95	50-80	<25	NP-5
	6-26	Silt loam, very fine sandy loam, loam.	ML	A-4	0-5	75-100	70-100	65-95	50-80	<25	NP-3
	26-60	Fine sandy loam, gravelly sandy loam, loam.	SM, ML	A-2, A-4	0-15	70-95	60-90	40-80	20-60	---	NP
Rc--------- Raypol	0-5	Silt loam---------	ML	A-4	0	90-100	85-100	75-100	65-90	<30	NP-7
	5-27	Silt loam, very fine sandy loam, loam.	ML	A-4	0	90-100	85-100	75-100	65-90	<25	NP-5
	27-60	Gravelly fine sand, sand, very gravelly sand.	SP, GP	A-1, A-3, A-2	0-20	45-90	35-85	15-60	0-10	---	NP
Rd--------- Ridgebury	0-4	Fine sandy loam	SM, ML	A-1, A-2, A-4	0-5	80-100	75-90	40-90	20-70	<25	NP-5
	4-20	Sandy loam, gravelly loam.	SM, ML	A-1, A-2, A-4	0-15	65-95	55-90	40-80	20-60	<25	NP-5
	20-60	Sandy loam, fine sandy loam, gravelly loam.	SM, ML	A-1, A-2, A-4	0-15	65-95	55-90	35-80	20-60	---	NP
Rn*: Ridgebury-------	0-4	Extremely stony fine sandy loam.	SM, ML	A-2, A-4	10-30	70-100	50-85	30-80	15-65	<25	NP-5
	4-20	Sandy loam, gravelly loam.	SM, ML	A-1, A-2, A-4	0-15	65-95	55-90	40-80	20-60	<25	NP-5
	20-60	Sandy loam, fine sandy loam, gravelly loam.	SM, ML	A-1, A-2, A-4	0-15	65-95	55-90	35-80	20-60	---	NP
Leicester-------	0-6	Extremely stony fine sandy loam.	SM, ML	A-2, A-4	5-25	70-95	70-90	45-85	25-70	<25	NP-5
	6-32	Fine sandy loam, gravelly fine sandy loam, gravelly sandy loam.	SM, ML	A-2, A-4	5-10	70-90	60-85	40-75	20-55	<25	NP-5
	32-60	Fine sandy loam, gravelly fine sandy loam, gravelly sandy loam.	SM, GM	A-2, A-4	5-15	65-90	55-85	35-70	20-45	---	NP
Whitman---------	0-9	Extremely stony fine sandy loam.	ML, SM, CL-ML	A-1, A-2, A-4	10-40	65-80	60-75	35-70	20-65	16-35	NP-10
	9-16	Sandy loam, fine sandy loam, gravelly silt loam.	ML, SM, CL-ML	A-1, A-2, A-4	0-10	65-95	60-90	35-85	20-60	16-35	NP-10
	16-60	Sandy loam, fine sandy loam, loam.	ML, SM, CL-ML	A-1, A-2, A-4	0-10	65-95	60-90	35-85	20-60	16-32	NP-8
Ro--------- Rippowam	0-8	Fine sandy loam	SM, ML	A-2, A-4	0	95-100	80-100	55-95	30-75	<25	NP-4
	8-35	Fine sandy loam, sandy loam.	SM	A-2, A-4	0	95-100	80-100	55-85	30-50	<20	NP-2
	35-60	Loamy sand, coarse sand, gravelly sand.	SP-SM, SM	A-1, A-2	0	70-100	50-100	30-45	5-20	---	NP

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
Rp*: Rock outcrop.											
Hollis	0-2	Very stony fine sandy loam.	SM, ML	A-2, A-4	5-15	75-100	65-95	40-85	25-70	<20	NP-3
	2-17	Fine sandy loam, sandy loam, gravelly loam.	SM, ML	A-2, A-4	0-15	75-95	65-95	40-80	20-65	---	NP
	17	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Sf	5-0	Muck	PT	A-8	---	---	---	---	---	---	---
Scarboro	0-4	Mucky loamy sand, mucky sand, mucky fine sandy loam.	SM, SP-SM	A-1, A-2, A-3, A-4	0	95-100	85-100	45-85	5-50	---	NP
	4-36	Loamy sand, fine sand, sand.	SM, SP-SM	A-1, A-2, A-3	0	95-100	85-100	45-80	5-35	---	NP
	36-60	Stratified loamy fine sand to gravelly coarse sand.	SP, SM, SP-SM	A-1, A-2, A-3	0	70-100	35-100	15-80	0-35	---	NP
Sg	0-4	Sandy loam	SM, ML	A-2, A-4, A-1	0-5	85-100	70-100	40-90	20-55	---	NP
Sudbury	4-24	Sandy loam, gravelly sandy loam, loamy sand.	SM	A-2, A-4, A-1	0-5	85-100	60-100	40-80	20-50	---	NP
	24-60	Stratified sand and gravel.	SP, SP-SM, GP, GP-GM	A-1	10-40	35-70	25-65	15-45	0-10	---	NP
SvA, SvB	0-9	Fine sandy loam	SM, ML	A-2, A-4	0-10	75-95	65-90	60-80	30-70	<25	NP-3
Sutton	9-33	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-10	75-95	65-90	50-80	25-65	<25	NP-3
	33-60	Fine sandy loam, gravelly sandy loam, sandy loam.	SM	A-2, A-4	5-15	60-90	55-85	45-70	20-45	---	NP
SwB	0-9	Very stony fine sandy loam.	SM, ML	A-2, A-4	5-20	75-95	65-90	60-80	30-70	<25	NP-3
Sutton	9-33	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	5-15	75-95	65-90	50-80	25-65	<25	NP-3
	33-60	Fine sandy loam, gravelly sandy loam, sandy loam.	SM	A-2, A-4	5-15	60-90	55-85	45-70	20-45	---	NP
SxB	0-9	Extremely stony fine sandy loam.	SM, ML	A-2, A-4	5-20	75-95	65-90	60-80	30-70	<25	NP-3
Sutton	9-33	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	5-15	75-95	65-90	50-80	25-65	<25	NP-3
	33-60	Fine sandy loam, gravelly sandy loam, sandy loam.	SM	A-2, A-4	5-15	60-90	55-85	45-70	20-45	---	NP
Ts	0-8	Silt loam	ML	A-4	0	95-100	90-100	85-100	70-95	<35	NP-7
Tisbury	8-26	Silt loam, very fine sandy loam.	ML	A-4	0	95-100	90-100	85-100	65-95	<25	NP-5
	26-60	Very gravelly sand, gravelly sand.	SP, GP, SP-SM	A-1	10-40	30-70	20-60	15-45	0-10	---	NP

See footnote at end of table.

TABLE 14.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
Ub*:											
Udorthents.											
Pits.											
Ud*:											
Udorthents.											
Urban land.											
Ur*.											
Urban land											
Wd	0-6	Fine sandy loam	SM	A-2, A-4	0-5	90-100	85-100	70-100	30-50	<25	NP-3
Walpole	6-21	Fine sandy loam, sandy loam, gravelly sandy loam.	SM	A-2, A-4	0-5	85-100	60-100	40-95	25-50	---	NP
	21-60	Gravelly loamy sand, gravelly sand, sand.	SP, SM, GP, GP-GM	A-1, A-2, A-3	0-20	55-100	50-100	25-90	0-25	---	NP
We, Wh	0-27	Mucky peat	PT	---	0	---	---	---	---	---	NP
Westbrook	27-60	Silt loam, very fine sandy loam.	ML, CL-ML, OL	A-4	0	95-100	95-100	95-100	85-100	<25	NP-5
WvA, WvB	0-7	Loamy sand	SM	A-2, A-1	0	95-100	85-100	35-85	20-35	---	NP
Windsor	7-28	Loamy sand, loamy fine sand, sand.	SW-SM, SM, SP-SM	A-2, A-1	0	95-100	85-100	45-95	10-30	---	NP
	28-60	Sand, fine sand	SP-SM, SM	A-2, A-3, A-1	0	90-100	75-100	40-95	5-20	---	NP
WxA, WxB, WxC	0-6	Fine sandy loam	SM, ML, SM-SC	A-2, A-4	0-10	85-95	70-90	60-85	30-65	<30	NP-7
Woodbridge	6-28	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML, SM-SC	A-2, A-4	0-15	75-90	65-90	50-85	25-65	<30	NP-7
	28-60	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML, SM-SC	A-2, A-4	5-15	70-90	60-85	50-75	20-60	<30	NP-7
WyB, WyC	0-6	Very stony fine sandy loam.	SM, ML, SM-SC	A-2, A-4	5-20	85-95	70-90	60-85	30-65	<30	NP-7
Woodbridge	6-28	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML, SM-SC	A-2, A-4	5-15	75-95	65-90	50-85	25-60	<30	NP-7
	28-60	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML, SM-SC	A-2, A-4	5-15	70-90	60-90	50-75	25-60	<30	NP-7
WzA*, WzC*:											
Woodbridge	0-6	Extremely stony fine sandy loam.	SM, ML, SM-SC	A-2, A-4	10-25	85-95	70-90	60-85	30-65	<30	NP-7
	6-28	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML, SM-SC	A-2, A-4	5-15	75-95	65-90	50-85	25-60	<30	NP-7
	28-60	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML, SM-SC	A-2, A-4	5-15	70-90	60-90	50-75	25-60	<30	NP-7
Rainbow	0-6	Extremely stony silt loam.	ML, CL-ML	A-4	10-25	75-100	70-100	65-95	50-80	<25	NP-5
	6-26	Silt loam, very fine sandy loam, loam.	ML	A-4	0-5	75-100	70-100	65-95	50-80	<25	NP-3
	26-60	Fine sandy loam, gravelly sandy loam, loam.	SM, ML	A-2, A-4	0-15	70-95	60-90	40-80	20-60	---	NP

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS

[The symbol < means less than; > means more than. Entries under "Erosion factors--T" apply to the entire profile. Entries under "Organic matter" apply only to the surface layer. Absence of an entry indicates that data were not available or were not estimated]

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors		Organic matter
								K	T	
	In	Pct	G/cm³	In/hr	In/in	pH				Pct
Aa*:										
Adrian	0-42	---	0.30-0.55	2.0-6.0	0.35-0.45	5.1-6.5	---	---	---	55-75
	42-60	2-10	1.40-1.75	6.0-20	0.03-0.08	5.6-6.5	Low	---		
Palms	0-22	---	0.25-0.45	2.0-6.0	0.35-0.45	5.1-6.5	---	---	---	>75
	22-60	1-10	1.45-1.75	0.2-0.6	0.14-0.22	6.1-6.5	Low	---		
AfA, AfB	0-9	4-10	1.10-1.20	2.0-6.0	0.13-0.25	5.1-6.0	Low	0.28	3	1-5
Agawam	9-19	1-10	1.20-1.40	2.0-6.0	0.11-0.21	5.1-6.0	Low	0.37		
	19-24	1-3	1.30-1.40	2.0-6.0	0.11-0.18	5.1-6.0	Low	0.28		
	24-32	1-2	1.30-1.40	6.0-20	0.01-0.09	5.1-6.0	Low	0.17		
	32-60	<1	1.30-1.50	6.0-20	0.01-0.09	5.1-6.0	Low	0.10		
Ba*.										
Beaches										
BrB	0-8	4-10	1.10-1.35	0.6-2.0	0.14-0.28	5.1-6.0	Low	0.28	3	2-5
Broadbrook	8-24	4-10	1.35-1.60	0.6-2.0	0.12-0.26	5.1-6.0	Low	0.43		
	24-60	2-10	1.70-2.00	<0.2	0.05-0.12	5.1-6.0	Low	0.24		
CbB*, CbC*, CbD*:										
Canton	0-5	1-8	0.90-1.20	2.0-6.0	0.13-0.20	5.1-6.0	Low	0.24	3	1-6
	5-24	1-8	1.20-1.50	2.0-6.0	0.13-0.20	5.1-6.0	Low	0.37		
	24-60	1-5	1.30-1.50	6.0-20	0.04-0.08	5.1-6.0	Low	0.17		
Charlton	0-8	3-8	1.00-1.25	0.6-6.0	0.08-0.23	5.1-6.0	Low	0.24	3	2-5
	8-29	3-8	1.40-1.65	0.6-6.0	0.05-0.20	5.1-6.0	Low	0.32		
	29-60	1-8	1.45-1.70	0.6-6.0	0.05-0.16	5.1-6.0	Low	0.24		
CcB*, CcC*:										
Canton	0-5	1-8	0.90-1.20	2.0-6.0	0.13-0.20	5.1-6.0	Low	0.24	3	---
	5-24	1-8	1.20-1.50	2.0-6.0	0.13-0.20	5.1-6.0	Low	0.37		
	24-60	1-5	1.30-1.60	6.0-20	0.04-0.08	5.1-6.0	Low	0.17		
Charlton	0-8	3-8	1.00-1.25	0.6-6.0	0.08-0.23	5.1-6.0	Low	0.20	3	---
	8-29	3-8	1.40-1.65	0.6-6.0	0.05-0.20	5.1-6.0	Low	0.32		
	29-60	1-8	1.45-1.70	0.6-6.0	0.05-0.16	5.1-6.0	Low	0.24		
CdC*, CdD*:										
Canton	0-5	1-8	0.90-1.20	2.0-6.0	0.13-0.17	5.1-6.0	Low	0.24	3	---
	5-24	1-8	1.20-1.50	2.0-6.0	0.13-0.20	5.1-6.0	Low	0.37		
	24-60	1-5	1.30-1.60	6.0-20	0.04-0.08	5.1-6.0	Low	0.17		
Charlton	0-8	3-8	1.00-1.25	0.6-6.0	0.05-0.15	5.1-6.0	Low	0.20	3	---
	8-29	3-8	1.40-1.65	0.6-6.0	0.05-0.20	5.1-6.0	Low	0.32		
	29-60	1-8	1.45-1.70	0.6-6.0	0.05-0.16	5.1-6.0	Low	0.24		
Ce	0-60	---	0.13-0.23	2.0-6.0	0.35-0.45	5.1-6.5	---	---	---	>70
Carlisle										
CrC*, CrD*:										
Charlton	0-8	3-8	1.00-1.25	0.6-6.0	0.08-0.23	5.1-6.0	Low	0.20	3	---
	8-29	3-8	1.40-1.65	0.6-6.0	0.05-0.20	5.1-6.0	Low	0.32		
	29-60	1-8	1.45-1.70	0.6-6.0	0.05-0.16	5.1-6.0	Low	0.24		
Hollis	0-2	3-10	1.10-1.40	0.6-6.0	0.10-0.21	5.1-6.0	Low	0.17	2	---
	2-17	1-8	1.30-1.55	0.6-6.0	0.06-0.18	5.1-6.0	Low	0.32		
	17	---	---	---	---	---	---	---		
Du*.										
Dumps										

See footnote at end of table.

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors		Organic matter
								K	T	
	In	Pct	G/cm³	In/hr	In/in	pH				Pct
HcA, HcB----------	0-23	5-18	1.10-1.40	0.6-2.0	0.15-0.25	5.1-6.0	Low----------	0.43	3	2-6
Haven	23-60	0-3	1.45-1.65	>20	0.01-0.03	5.1-6.0	Low----------	0.17		
HkA, HkC, HkD----	0-7	4-8	1.00-1.20	6.0-20	0.03-0.18	5.1-6.0	Low----------	0.17	3	2-7
Hinckley	7-22	1-5	1.20-1.40	6.0-20	0.01-0.10	5.1-6.0	Low----------	0.17		
	22-60	0-3	1.30-1.50	>20	0.01-0.06	5.1-6.0	Low----------	0.10		
HrC*, HrD*:										
Hollis----------	0-2	3-10	1.10-1.40	0.6-6.0	0.10-0.21	5.1-6.0	Low----------	0.17	2	---
	2-17	1-8	1.30-1.55	0.6-6.0	0.06-0.18	5.1-6.0	Low----------	0.32		
	17	---	---	---	---	---	----------	----		
Charlton--------	0-8	3-8	1.00-1.25	0.6-6.0	0.08-0.23	5.1-6.0	Low----------	0.20	3	---
	8-29	3-8	1.40-1.65	0.6-6.0	0.05-0.20	5.1-6.0	Low----------	0.32		
	29-60	1-8	1.45-1.70	0.6-6.0	0.05-0.16	5.1-6.0	Low----------	0.24		
Rock outcrop.										
Ip----------	0-16	---	0.10-0.30	0.6-20	0.18-0.35	6.1-7.3	----------	----	---	---
Ipswich	16-64	---	0.10-0.30	0.6-20	0.18-0.35	6.1-7.3	----------	----		
	64-80	---	0.10-0.30	0.6-20	0.18-0.35	6.1-7.3	----------	----		
Ln----------	0-8	2-8	1.10-1.35	0.6-2.0	0.18-0.25	5.1-5.5	Low----------	0.49	3	2-5
Limerick Variant	8-36	2-8	1.25-1.50	0.6-2.0	0.18-0.25	5.1-6.5	Low----------	0.49		
	36-60	0-2	1.35-1.60	>6.0	0.01-0.13	5.1-6.5	Low----------	0.17		
MyA, MyB, MyC----	0-8	3-7	1.10-1.20	2.0-6.0	0.14-0.19	5.1-6.0	Low----------	0.24	3	1-5
Merrimac	8-27	1-4	1.20-1.40	2.0-6.0	0.14-0.17	5.1-6.0	Low----------	0.24		
	27-60	0-3	1.30-1.50	6.0-20	0.01-0.06	5.1-6.0	Low----------	0.10		
NaB----------	0-6	3-10	1.00-1.25	0.6-2.0	0.13-0.20	4.5-6.0	Low----------	0.32	3	2-5
Narragansett	6-28	3-10	1.35-1.55	0.6-2.0	0.12-0.20	4.5-6.0	Low----------	0.43		
	28-60	2-6	1.40-1.65	2.0-20.0	0.02-0.12	4.5-6.0	Low----------	0.28		
NgB----------	0-6	3-10	1.00-1.25	0.6-2.0	0.13-0.20	4.5-6.0	Low----------	0.32	3	---
Narragansett	6-28	3-10	1.35-1.55	0.6-2.0	0.12-0.20	4.5-6.0	Low----------	0.43		
	28-60	2-6	1.40-1.60	2.0-20.0	0.02-0.12	4.5-6.0	Low----------	0.28		
NhC, NhD----------	0-6	3-10	1.00-1.25	0.6-2.0	0.13-0.20	4.5-6.0	Low----------	0.32	---	---
Narragansett	6-28	3-10	1.35-1.55	0.6-2.0	0.12-0.20	4.5-6.0	Low----------	0.43		
	28-60	2-6	1.40-1.60	2.0-20.0	0.02-0.12	4.5-6.0	Low----------	0.28		
NlC*:										
Narragansett----	0-6	3-10	1.00-1.25	0.6-2.0	0.13-0.20	4.5-6.0	Low----------	0.32	3	---
	6-28	3-10	1.35-1.55	0.6-2.0	0.12-0.20	4.5-6.0	Low----------	0.43		
	28-60	2-6	1.40-1.60	2.0-20.0	0.02-0.12	4.5-6.0	Low----------	0.28		
Hollis----------	0-2	3-10	1.10-1.40	0.6-6.0	0.10-0.21	5.1-6.0	Low----------	0.17	2	---
	2-17	1-8	1.30-1.55	0.6-6.0	0.06-0.18	5.1-6.0	Low----------	0.32		
	17	---	---	---	---	---	----------	----		
Nn----------	0-8	3-7	1.00-1.25	2.0-6.0	0.13-0.25	5.1-6.0	Low----------	0.28	3	2-8
Ninigret	8-26	3-7	1.35-1.60	2.0-6.0	0.06-0.18	5.1-6.0	Low----------	0.32		
	26-60	0-2	1.45-1.70	6.0-20	0.01-0.13	5.1-6.0	Low----------	0.10		
Pa----------	0-46	---	0.30-0.80	0.6-20	0.18-0.35	5.1-7.8	----------	----	5	20-70
Pawcatuck	46-50	1-10	1.40-1.65	0.6-20	0.16-0.24	5.1-7.8	Low----------	0.49		
	50-60	0-2	1.45-1.70	>20	0.02-0.13	5.1-7.8	Low----------	0.10		
PbB*, PbC*, PbD*:										
Paxton----------	0-8	3-12	1.00-1.25	0.6-2.0	0.08-0.23	5.1-6.0	Low----------	0.24	3	2-5
	8-27	3-12	1.35-1.60	0.6-2.0	0.06-0.20	5.1-6.0	Low----------	0.32		
	27-60	3-12	1.70-2.00	<0.2	0.05-0.12	5.1-6.0	Low----------	0.24		
Montauk----------	0-7	6-18	1.00-1.25	0.6-6.0	0.16-0.20	5.1-6.0	Low----------	0.32	3	2-6
	7-23	6-18	1.30-1.60	0.6-6.0	0.10-0.16	5.1-6.0	Low----------	0.24		
	23-60	1-18	1.70-1.90	0.06-0.6	0.02-0.08	5.1-6.0	Low----------	0.24		

See footnote at end of table.

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors		Organic matter
								K	T	
	In	Pct	G/cm³	In/hr	In/in	pH				Pct
PdB*, PdC*:										
Paxton	0-8	3-12	1.00-1.25	0.6-6.0	0.08-0.23	5.1-6.0	Low	0.20	3	---
	8-27	3-12	1.35-1.60	0.6-6.0	0.06-0.20	5.1-6.0	Low	0.32		
	27-60	3-12	1.70-2.00	<0.2	0.05-0.12	5.1-6.0	Low	0.24		
Montauk	0-7	6-18	1.00-1.25	0.6-6.0	0.11-0.15	5.1-6.0	Low	0.17	3	---
	7-23	6-18	1.30-1.60	0.6-6.0	0.10-0.16	5.1-6.0	Low	0.24		
	23-60	1-18	1.70-1.90	0.06-0.6	0.02-0.16	5.1-6.0	Low	0.24		
PeC*, PeD*:										
Paxton	0-8	3-12	1.00-1.25	0.6-6.0	0.05-0.15	5.1-6.0	Low	0.20	3	---
	8-27	3-12	1.35-1.60	0.6-6.0	0.06-0.20	5.1-6.0	Low	0.32		
	27-60	3-12	1.70-2.00	<0.2	0.05-0.12	5.1-6.0	Low	0.24		
Montauk	0-7	6-18	1.00-1.25	0.6-6.0	0.11-0.15	5.1-6.0	Low	0.17	3	---
	7-23	6-18	1.30-1.60	0.6-6.0	0.10-0.16	5.1-6.0	Low	0.24		
	23-60	1-18	1.70-1.90	0.06-0.6	0.02-0.16	5.1-6.0	Low	0.24		
Ps	0-9	2-6	1.10-1.35	0.6-6.0	0.11-0.24	5.1-6.0	Low	0.20	3	2-5
Pootatuck Variant	9-28	0-2	1.20-1.45	0.6-6.0	0.05-0.20	5.1-6.0	Low	0.17		
	28-60	0-2	1.25-1.50	>6.0	0.01-0.13	5.1-6.0	Low	0.17		
RaA, RaB, RbB	0-6	2-12	1.10-1.35	0.6-2.0	0.12-0.30	5.1-6.0	Low	0.32	3	2-5
Rainbow	6-26	2-12	1.40-1.60	0.6-2.0	0.10-0.26	5.1-6.0	Low	0.43		
	26-60	2-12	1.70-2.00	<0.2	0.06-0.12	5.1-6.0	Low	0.17		
Rc	0-5	3-12	1.00-1.25	0.6-2.0	0.15-0.28	4.5-5.5	Low	0.49	3	2-8
Raypol	5-27	3-12	1.35-1.55	0.6-2.0	0.15-0.26	4.5-5.5	Low	0.49		
	27-60	0-2	1.40-1.65	>6.0	0.06-0.10	5.1-6.5	Low	0.10		
Rd	0-4	3-10	1.00-1.30	0.6-6.0	0.06-0.24	5.1-6.5	Low	0.24	3	4-7
Ridgebury	4-20	2-8	1.60-1.90	0.6-6.0	0.04-0.20	5.1-6.5	Low	0.32		
	20-60	2-8	1.80-2.00	<0.2	0.01-0.05	5.1-6.5	Low	0.24		
Rn*:										
Ridgebury	0-4	3-10	1.00-1.30	0.6-6.0	0.06-0.21	5.1-6.5	Low	0.20	3	---
	4-20	2-8	1.60-1.90	0.6-6.0	0.04-0.20	5.1-6.5	Low	0.32		
	20-60	2-8	1.80-2.00	<0.2	0.01-0.05	5.1-6.5	Low	0.24		
Leicester	0-6	3-10	1.00-1.25	0.6-6.0	0.06-0.28	4.5-6.0	Low	0.20	3	---
	6-32	3-10	1.35-1.60	0.6-6.0	0.05-0.16	4.5-6.0	Low	0.32		
	32-60	2-7	1.45-1.70	0.6-6.0	0.04-0.16	4.5-6.0	Low	0.24		
Whitman	0-9	5-8	1.10-1.30	0.6-6.0	0.12-0.26	4.5-6.5	Low	0.20	3	---
	9-16	2-4	1.60-1.85	0.6-6.0	0.10-0.17	4.5-6.5	Low	0.32		
	16-60	1-3	1.85-2.00	<0.2	0.03-0.04	4.5-6.5	Low	0.24		
Ro	0-8	2-6	1.10-1.35	0.6-6.0	0.11-0.24	5.1-6.0	Low	0.20	3	3-8
Rippowam	8-35	1-6	1.20-1.45	0.6-6.0	0.09-0.18	5.1-6.0	Low	0.20		
	35-60	0-2	1.25-1.50	>6.0	0.01-0.13	5.1-6.0	Low	0.17		
Rp*:										
Rock outcrop.										
Hollis	0-2	3-10	1.10-1.40	0.6-6.0	0.10-0.21	5.1-6.0	Low	0.17	2	---
	2-17	1-8	1.30-1.55	0.6-6.0	0.06-0.18	5.1-6.0	Low	0.32		
	17	---	---	---	---	---	---	----		
Sf	5-0	---	0.55-0.75	6.0-20.0	0.20-0.45	4.5-6.0	Low	----	5	---
Scarboro	0-4	1-7	0.70-1.00	>6.0	0.10-0.23	4.5-6.0	Low	0.17		
	4-36	1-5	1.15-1.35	>6.0	0.04-0.13	4.5-6.0	Low	0.17		
	36-60	0-2	1.35-1.55	>6.0	0.01-0.13	4.5-6.0	Low	0.10		
Sg	0-4	2-6	1.10-1.40	2.0-6.0	0.10-0.25	5.1-6.0	Low	0.24	3	2-6
Sudbury	4-24	2-7	1.15-1.45	2.0-6.0	0.07-0.18	5.1-6.0	Low	0.24		
	24-60	0-3	1.30-1.45	6.0-20	0.01-0.06	5.1-6.0	Low	0.10		

See footnote at end of table.

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors		Organic matter
								K	T	
	In	Pct	G/cm3	In/hr	In/in	pH				Pct
SvA, SvB---------	0-9	3-10	1.00-1.25	0.6-6.0	0.09-0.25	5.1-6.0	Low----------	0.20	3	2-7
Sutton	9-33	3-10	1.35-1.60	0.6-6.0	0.07-0.20	5.1-6.0	Low----------	0.43		
	33-60	2-6	1.45-1.70	0.6-6.0	0.04-0.16	5.1-6.5	Low----------	0.43		
SwB---------	0-9	3-10	1.00-1.25	0.6-6.0	0.09-0.23	5.1-6.0	Low----------	0.20	3	---
Sutton	9-33	3-10	1.35-1.60	0.6-6.0	0.04-0.16	5.1-6.0	Low----------	0.43		
	33-60	2-6	1.45-1.70	0.6-6.0	0.04-0.16	5.1-6.5	Low----------	0.43		
SxB---------	0-9	3-10	1.00-1.25	0.6-6.0	0.09-0.23	5.1-6.0	Low----------	0.20	3	---
Sutton	9-33	3-10	1.35-1.60	0.6-6.0	0.04-0.16	5.1-6.0	Low----------	0.43		
	33-60	2-6	1.45-1.70	0.6-6.0	0.04-0.16	5.1-6.5	Low----------	0.43		
Ts---------	0-8	3-12	1.00-1.25	0.6-2.0	0.15-0.24	5.1-6.0	Low----------	0.49	3	2-7
Tisbury	8-26	3-12	1.35-1.55	0.6-2.0	0.13-0.24	5.1-6.0	Low----------	0.64		
	26-60	0-2	1.40-1.65	>6.0	0.01-0.06	5.1-6.0	Low----------	0.17		
Ub*:										
Udorthents.										
Pits.										
Ud*:										
Udorthents.										
Urban land.										
Ur*.										
Urban land										
Wd---------	0-6	2-6	1.00-1.25	2.0-6.0	0.10-0.23	4.5-6.0	Low----------	0.20	3	2-8
Walpole	6-21	2-6	1.30-1.55	2.0-6.0	0.07-0.18	4.5-6.0	Low----------	0.28		
	21-60	0-2	1.40-1.65	>6.0	0.01-0.13	4.5-6.0	Low----------	0.17		
We, Wh---------	0-27	---	---	0.6-20	0.18-0.35	6.1-7.3	Low----------	----	---	---
Westbrook	27-60	---	---	0.6-2.0	0.16-0.26	6.1-7.3	Low----------	0.64		
WvA, WvB---------	0-7	1-3	1.00-1.20	>6.0	0.08-0.12	5.1-6.0	Low----------	0.17	5	2-4
Windsor	7-28	0-3	1.30-1.55	>6.0	0.02-0.12	5.1-6.0	Low----------	0.17		
	28-60	0-2	1.40-1.65	>6.0	0.01-0.08	5.1-6.5	Low----------	0.17		
WxA, WxB, WxC, WyB, WyC---------	0-6	3-12	1.00-1.25	0.6-2.0	0.08-0.23	5.1-6.0	Low----------	0.24	3	2-6
Woodbridge	6-28	3-12	1.35-1.60	0.6-2.0	0.06-0.20	5.1-6.0	Low----------	0.32		
	28-60	3-12	1.70-2.00	<0.2	0.05-0.12	5.1-6.5	Low----------	0.24		
WzA*, WzC*:										
Woodbridge------	0-6	3-12	1.00-1.25	0.6-2.0	0.08-0.23	5.1-6.0	Low----------	0.24	3	---
	6-28	3-12	1.35-1.60	0.6-2.0	0.06-0.20	5.1-6.0	Low----------	0.32		
	28-60	3-12	1.70-2.00	<0.2	0.05-0.12	5.1-6.5	Low----------	0.24		
Rainbow---------	0-6	2-12	1.10-1.35	0.6-2.0	0.12-0.30	5.1-6.0	Low----------	0.32	3	---
	6-26	2-12	1.40-1.60	0.6-2.0	0.10-0.26	5.1-6.0	Low----------	0.43		
	26-60	2-12	1.70-2.00	<0.2	0.06-0.12	5.1-6.0	Low----------	0.17		

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 16.--SOIL AND WATER FEATURES

["Flooding" and "water table" and terms such as "frequent," "brief," "apparent," and "perched" are explained in the text. The symbol < means less than; > means more than. Absence of an entry indicates that the feature is not a concern]

Soil name and map symbol	Hydrologic group	Flooding			High water table			Bedrock	Potential frost action	Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth		Uncoated steel	Concrete
					Ft			In			
Aa*: Adrian	A/D	None	---	---	+1-1.0	Apparent	Nov-May	>60	High	High	Moderate.
Palms	A/D	None	---	---	+1-1.0	Apparent	Nov-May	>60	High	High	Moderate.
AfA, AfB---- Agawam	B	None	---	---	>6.0	---	---	>60	Low	Low	High.
Ba*. Beaches											
BrB---- Broadbrook	C	None	---	---	1.5-3.0	Perched	Feb-Mar	>60	Moderate	Low	Moderate.
CbB*, CbC*, CbD*, CcB*, CcC*, CdC*, CdD*: Canton	B	None	---	---	>6.0	---	---	>60	Low	Low	High.
Charlton	B	None	---	---	>6.0	---	---	>60	Low	Low	High.
Ce---- Carlisle	A/D	None	---	---	+1-1.0	Apparent	Sep-Jun	>60	High	High	Low.
CrC*, CrD*: Charlton	B	None	---	---	>6.0	---	---	>60	Low	Low	High.
Hollis	C/D	None	---	---	>6.0	---	---	10-20	Moderate	Low	High.
Du*. Dumps											
HcA, HcB---- Haven	B	None	---	---	>6.0	---	---	>60	Moderate	Low	High.
HkA, HkC, HkD---- Hinckley	A	None	---	---	>6.0	---	---	>60	Low	Low	High.
HrC*, HrD*: Hollis	C/D	None	---	---	>6.0	---	---	10-20	Moderate	Low	High.
Charlton	B	None	---	---	>6.0	---	---	>60	Low	Low	High.
Rock outcrop.											
Ip---- Ipswich	D	Frequent	Very brief	Jan-Dec	+1-0	Apparent	Jan-Dec	>60	---	High	High.
Ln---- Limerick Variant	C	Frequent	Brief	Apr-Jun	0.5-1.5	Apparent	Jan-Jun	>60	High	High	Moderate.

See footnote at end of table.

TABLE 16.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydrologic group	Flooding			High water table			Bedrock	Potential frost action	Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth		Uncoated steel	Concrete
					Ft			In			
MyA, MyB, MyC----- Merrimac	A	None--------	---	---	>6.0	---	---	>60	Low----------	Low-------	High.
NaB, NgB, NhC, NhD---------- Narragansett	B	None--------	---	---	>6.0	---	---	>60	Moderate-----	Low-------	Moderate.
NlC*: Narragansett-----	B	None--------	---	---	>6.0	---	---	>60	Moderate-----	Low-------	Moderate.
Hollis----------	C/D	None--------	---	---	>6.0	---	---	10-20	Moderate-----	Low-------	High.
Nn---------- Ninigret	B	None--------	---	---	1.5-3.0	Apparent	Nov-Apr	>60	Moderate-----	Low-------	High.
Pa---------- Pawcatuck	D	Frequent----	Very brief	Jan-Dec	+1-0	Apparent	Jan-Dec	>60	---	High------	High.
PbB*, PbC*, PbD*, PdB*, PdC*, PeC*, PeD*: Paxton----------	C	None--------	---	---	1.5-3.0	Perched	Feb-Mar	>60	Moderate-----	Low-------	Moderate.
Montauk----------	C	None--------	---	---	1.5-3.0	Perched	Feb-Mar	>60	Moderate-----	Low-------	High.
Ps---------- Pootatuck Variant	B	Frequent----	Brief-----	Nov-Apr	1.5-3.0	Apparent	Nov-Apr	>60	Moderate-----	Moderate	Moderate.
RaA, RaB, RbB----- Rainbow	C	None--------	---	---	1.5-3.0	Perched	Nov-Apr	>60	High---------	Moderate	Moderate.
Rc---------- Raypol	C	None--------	---	---	0-1.0	Apparent	Nov-May	>60	High---------	High------	Moderate.
Rd---------- Ridgebury	C	None--------	---	---	0-1.0	Perched	Nov-May	>60	High---------	High------	High.
Rn*: Ridgebury--------	C	None--------	---	---	0-1.0	Perched	Nov-May	>60	High---------	High------	High.
Leicester--------	C	None--------	---	---	0-1.0	Apparent	Nov-May	>60	High---------	Low-------	High.
Whitman----------	D	None--------	---	---	+1-0.5	Perched	Sep-Jun	>60	High---------	High------	High.
Ro---------- Rippowam	C	Frequent----	Brief-----	Nov-Apr	0-1.5	Apparent	Nov-May	>60	High---------	High------	High.
Rp*: Rock outcrop.											
Hollis----------	C/D	None--------	---	---	>6.0	---	---	10-20	Moderate-----	Low-------	High.
Sf---------- Scarboro	D	None--------	---	---	+1-1.0	Apparent	Jan-Dec	>60	High---------	High------	High.

See footnote at end of table.

TABLE 16.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydrologic group	Flooding			High water table			Bedrock	Potential frost action	Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth		Uncoated steel	Concrete
					Ft			In			
Sg---------- Sudbury	B	None--------	---	---	1.5-3.0	Apparent	Dec-Apr	>60	Moderate----	Low-------	High.
SvA, SvB, SwB, SxB---------- Sutton	B	None--------	---	---	1.5-3.0	Apparent	Nov-Apr	>60	Moderate----	Low-------	High.
Ts---------- Tisbury	B	None--------	---	---	1.5-3.0	Apparent	Nov-Apr	>60	High--------	Low-------	Moderate.
Ub*: Udorthents.											
Pits.											
Ud*: Udorthents.											
Urban land.											
Ur*. Urban land											
Wd---------- Walpole	C	None--------	---	---	0-1.0	Apparent	Nov-Apr	>60	High--------	Low-------	High.
We, Wh---------- Westbrook	D	Frequent----	Very brief	Jan-Dec	+1-0	Apparent	Jan-Dec	>60	---	High------	High.
WvA, WvB---------- Windsor	A	None--------	---	---	>6.0	---	---	>60	Low---------	Low-------	High.
WxA, WxB, WxC, WyB, WyC--------- Woodbridge	C	None--------	---	---	1.5-3.0	Perched	Nov-May	>60	High--------	Low-------	Moderate.
WzA*, WzC*: Woodbridge--------	C	None--------	---	---	1.5-3.0	Perched	Nov-May	>60	High--------	Low-------	Moderate.
Rainbow----------	C	None--------	---	---	1.5-3.0	Perched	Nov-Apr	>60	High--------	Moderate	Moderate.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 17.--CLASSIFICATION OF THE SOILS

[An asterisk in the first column indicates that the soil is a taxadjunct to the series. See text for a description of those characteristics of the soil that are outside the range of the series]

Soil name	Family or higher taxonomic class
Adrian	Sandy or sandy-skeletal, mixed, euic, mesic Terric Medisaprists
Agawam	Coarse-loamy over sandy or sandy-skeletal, mixed, mesic Typic Dystrochrepts
Broadbrook	Coarse-loamy, mixed, mesic Typic Fragiochrepts
*Canton	Coarse-loamy over sandy or sandy-skeletal, mixed, mesic Typic Dystrochrepts
Carlisle	Euic, mesic Typic Medisaprists
Charlton	Coarse-loamy, mixed, mesic Typic Dystrochrepts
Haven	Coarse-loamy over sandy or sandy-skeletal, mixed, mesic Typic Dystrochrepts
Hinckley	Sandy-skeletal, mixed, mesic Typic Udorthents
Hollis	Loamy, mixed, mesic Lithic Dystrochrepts
Ipswich	Euic, mesic Typic Sulfihemists
Leicester	Coarse-loamy, mixed, acid, mesic Aeric Haplaquepts
Limerick Variant	Coarse-silty over sandy or sandy-skeletal, mixed, nonacid, mesic Aeric Fluvaquents
Merrimac	Sandy, mixed, mesic Typic Dystrochrepts
Montauk	Coarse-loamy, mixed, mesic Typic Fragiochrepts
Narragansett	Coarse-loamy, over sandy or sandy-skeletal, mixed mesic Typic Dystrochrepts
Ninigret	Coarse-loamy over sandy or sandy-skeletal, mixed, mesic Aquic Dystrochrepts
Palms	Loamy, mixed, euic, mesic Terric Medisaprists
Pawcatuck	Euic, mesic Typic Sulfihemists
Paxton	Coarse-loamy, mixed, mesic Typic Fragiochrepts
Pootatuck Variant	Mixed, mesic Aquic Udipsamments
Rainbow	Coarse-loamy, mixed, mesic Typic Fragiochrepts
Raypol	Coarse-loamy over sandy or sandy-skeletal, mixed, acid, mesic Aeric Haplaquepts
Ridgebury	Coarse-loamy, mixed, mesic Aeric Fragiaquepts
Rippowam	Coarse-loamy, mixed, nonacid, mesic Aeric Fluvaquents
Scarboro	Sandy, mixed, mesic Histic Humaquepts
Sudbury	Sandy, mixed, mesic Aquic Dystrochrepts
Sutton	Coarse-loamy, mixed, mesic Aquic Dystrochrepts
Tisbury	Coarse-silty over sandy or sandy-skeletal, mixed, mesic Aquic Dystrochrepts
Udorthents	Udorthents
Walpole	Sandy, mixed, mesic Aeric Haplaquepts
Westbrook	Euic, mesic Typic Sulfihemists
Whitman	Coarse-loamy, mixed, mesic Humic Fragiaquepts
Windsor	Mixed, mesic Typic Udipsamments
Woodbridge	Coarse-loamy, mixed, mesic Typic Fragiochrepts

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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

CONNECTICUT AGRICULTURAL EXPERIMENT STATION

STORRS AGRICULTURAL EXPERIMENT STATION

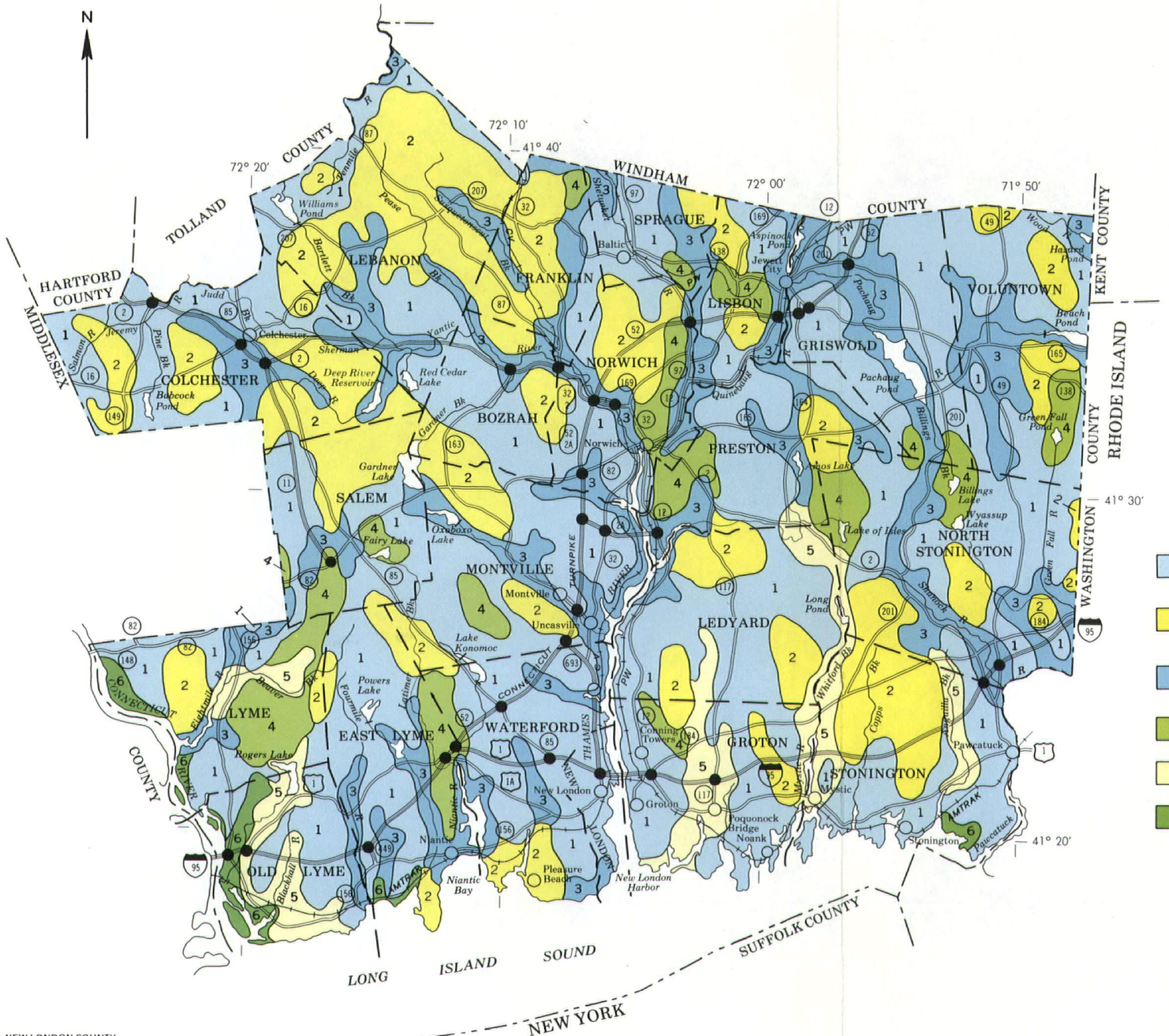
GENERAL SOIL MAP

NEW LONDON COUNTY, CONNECTICUT

Scale 1:253,440

1 0 1 2 3 4 Miles

1 0 1 2 3 4 Kilometers



SOIL ASSOCIATIONS

1 CHARLTON-CANTON-HOLLIS: Gently sloping to steep, well drained and somewhat excessively drained, loamy soils; on glacial till uplands

2 WOODBRIDGE-PAXTON-MONTAUK: Nearly level to steep, well drained and moderately well drained, loamy soils that have a compact substratum; on drumloidal glacial till uplands

3 HINCKLEY-MERRIMAC-AGAWAM: Nearly level to steep, excessively drained to well drained, sandy and loamy soils; on outwash plains and terraces

4 HOLLIS-CHARLTON: Gently sloping to very steep, somewhat excessively drained and well drained, loamy soils; on glacial till uplands

5 HAVEN-HINCKLEY: Nearly level to steep, well drained and excessively drained, loamy and sandy soils; on outwash plains and terraces

6 WESTBROOK-PAWCATUCK: Nearly level, very poorly drained, organic soils; on tidal flats

Compiled 1982

Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.

BASE SOURCE: NEW LONDON COUNTY
HIGHWAY MAP REV. 1977
RAND McNALLY ROAD ATLAS 1980
RAND McNALLY MARKETING GUIDE 1978
U.S.G.S. TOPO QUADS 1:250,000

SOIL LEGEND

The first letter, always a capital, is the initial letter of the soil name. The lower case letter that follows separates map units having names that begin with the same letter, except that it does not separate sloping phases. The third letter, always a capital, A, B, C, or D indicates the slope. Most symbols without a slope letter are those of nearly level soils; however, some are for soils that have a considerable range of slope but have similar use interpretations.

SYMBOL	NAME
Aa	Adrian and Palms mucks
AfA	Aqawam fine sandy loam, 0 to 3 percent slopes
AfB	Aqawam fine sandy loam, 3 to 8 percent slopes
Ba	Beaches
BrB	Broadbrook silt loam, 3 to 8 percent slopes
CbB	Canton and Charlton fine sandy loams, 3 to 8 percent slopes
CbC	Canton and Charlton fine sandy loams, 8 to 15 percent slopes
CbD	Canton and Charlton fine sandy loams, 15 to 25 percent slopes
CcB	Canton and Charlton very stony fine sandy loams, 3 to 8 percent slopes
CcC	Canton and Charlton very stony fine sandy loams, 8 to 15 percent slopes
CdC	Canton and Charlton extremely stony fine sandy loams, 3 to 15 percent slopes
CdD	Canton and Charlton extremely stony fine sandy loams, 15 to 35 percent slopes
Ce	Carlisle muck
CrC	Charlton-Hollis fine sandy loams, very rocky, 3 to 15 percent slopes
CrD	Charlton-Hollis fine sandy loams, very rocky, 15 to 45 percent slopes
Du	Dumps
HcA	Haven silt loam, 0 to 3 percent slopes
HcB	Haven silt loam, 3 to 8 percent slopes
HkA	Hinckley gravelly sandy loam, 0 to 3 percent slopes
HkC	Hinckley gravelly sandy loam, 3 to 15 percent slopes
HkD	Hinckley gravelly sandy loam, 15 to 35 percent slopes
HrC	Hollis-Charlton-Rock outcrop complex, 3 to 15 percent slopes
HrD	Hollis-Charlton-Rock outcrop complex, 15 to 45 percent slopes
Ip	Ipswich mucky peat
Ln	Limerick Variant silt loam
MyA	Merrimac sandy loam, 0 to 3 percent slopes
MyB	Merrimac sandy loam, 3 to 8 percent slopes
MyC	Merrimac sandy loam, 8 to 15 percent slopes
NaB	Narragansett silt loam, 3 to 8 percent slopes
NgB	Narragansett very stony silt loam, 3 to 8 percent slopes
NhC	Narragansett extremely stony silt loam, 3 to 15 percent slopes
NhD	Narragansett extremely stony silt loam, 15 to 25 percent slopes
NlC	Narragansett-Hollis complex, very rocky, 3 to 15 percent slopes
Nn	Ninigret fine sandy loam
Pa	Pawcatuck mucky peat
PbB	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes
PbC	Paxton and Montauk fine sandy loams, 8 to 15 percent slopes
PbD	Paxton and Montauk fine sandy loams, 15 to 25 percent slopes
PdB	Paxton and Montauk very stony fine sandy loams, 3 to 8 percent slopes
PdC	Paxton and Montauk very stony fine sandy loams, 8 to 15 percent slopes
PeC	Paxton and Montauk extremely stony fine sandy loams, 3 to 15 percent slopes
PeD	Paxton and Montauk extremely stony fine sandy loams, 15 to 35 percent slopes
Ps	Pootatuck Variant fine sandy loam
RaA	Rainbow silt loam, 0 to 3 percent slopes
RaB	Rainbow silt loam, 3 to 8 percent slopes
RbB	Rainbow very stony silt loam, 0 to 8 percent slopes
Rc	Raypol silt loam
Rd	Ridgebury fine sandy loam
Rn	Ridgebury, Leicester, and Whitman extremely stony fine sandy loams
Ro	Rippowam fine sandy loam
Rp	Rock outcrop-Hollis complex
Sf	Scarboro mucky fine sandy loam
Sg	Sudbury sandy loam
SvA	Sutton fine sandy loam, 0 to 3 percent slopes
SvB	Sutton fine sandy loam, 3 to 8 percent slopes
SwB	Sutton very stony fine sandy loam, 0 to 8 percent slopes
SxB	Sutton extremely stony fine sandy loam, 0 to 8 percent slopes
Ts	Tisbury silt loam
Ub	Udorthents-Pits complex, gravelly
Ud	Udorthents-Urban land complex
Ur	Urban land
Wd	Walpole fine sandy loam
We	Westbrook mucky peat
Wh	Westbrook mucky peat, low salt
WvA	Windsor loamy sand, 0 to 3 percent slopes
WvB	Windsor loamy sand, 3 to 8 percent slopes
WxA	Woodbridge fine sandy loam, 0 to 3 percent slopes
WxB	Woodbridge fine sandy loam, 3 to 8 percent slopes
WxC	Woodbridge fine sandy loam, 8 to 15 percent slopes
WyB	Woodbridge very stony fine sandy loam, 0 to 8 percent slopes
WyC	Woodbridge very stony fine sandy loam, 8 to 15 percent slopes
WzA	Woodbridge and Rainbow extremely stony soils, 0 to 3 percent slopes
WzC	Woodbridge and Rainbow extremely stony soils, 3 to 15 percent slopes

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

- National, state or province
- County or parish
- Minor civil division
- Reservation (national forest or park, state forest or park, and large airport)
- Land grant
- Limit of soil survey (label)
- Field sheet matchline & neatline
- AD HOC BOUNDARY (label) — Hedley Airstrip
- Small airport, airfield, park, oilfield, cemetery, or flood pool — FLOOD POOL LINE
- STATE COORDINATE TICK
- LAND DIVISION CORNERS (sections and land grants)

ROADS

- Divided (median shown if scale permits)
- Other roads
- Trail

ROAD EMBLEM & DESIGNATIONS

- Interstate — 21
- Federal — 1173
- State — 28
- County, farm or ranch — 1283

- RAILROAD
- POWER TRANSMISSION LINE (normally not shown)
- PIPE LINE (normally not shown)
- FENCE (normally not shown)

LEVEES

- Without road
- With road
- With railroad

DAMS

- Large (to scale)
- Medium or small — water, w

PITS

- Gravel pit
- Mine or quarry

MISCELLANEOUS CULTURAL FEATURES

- Farmstead, house (omit in urban areas)
- Church
- School
- Indian mound (label) — Indian Mound
- Located object (label) — Tower
- Tank (label) — Gas
- Wells, oil or gas
- Windmill
- Kitchen midden

WATER FEATURES

DRAINAGE

- Perennial, double line
- Perennial, single line
- Intermittent
- Drainage end
- Canals or ditches
  - Double-line (label) — CANAL
  - Drainage and/or irrigation

LAKES, PONDS AND RESERVOIRS

- Perennial — water, w
- Intermittent — int, i

MISCELLANEOUS WATER FEATURES

- Marsh or swamp
- Spring
- Well, artesian
- Well, irrigation
- Wet spot

SPECIAL SYMBOLS FOR SOIL SURVEY

- SOIL DELINEATIONS AND SYMBOLS — CbC / CbB
- ESCARPMENTS
  - Bedrock (points down slope)
  - Other than bedrock (points down slope)
- SHORT STEEP SLOPE
- GULLY
- DEPRESSION OR SINK
- SOIL SAMPLE SITE (normally not shown) — S
- MISCELLANEOUS
  - Blowout
  - Clay spot
  - Gravelly spot
  - Gumbo, slick or scabby spot (sodic)
  - Dumps and other similar non soil areas
  - Prominent hill or peak
  - Rock outcrop (includes sandstone and shale)
  - Saline spot
  - Sandy spot
  - Severely eroded spot
  - Slide or slip (tips point upslope)
  - Stony spot, very stony spot — 0

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

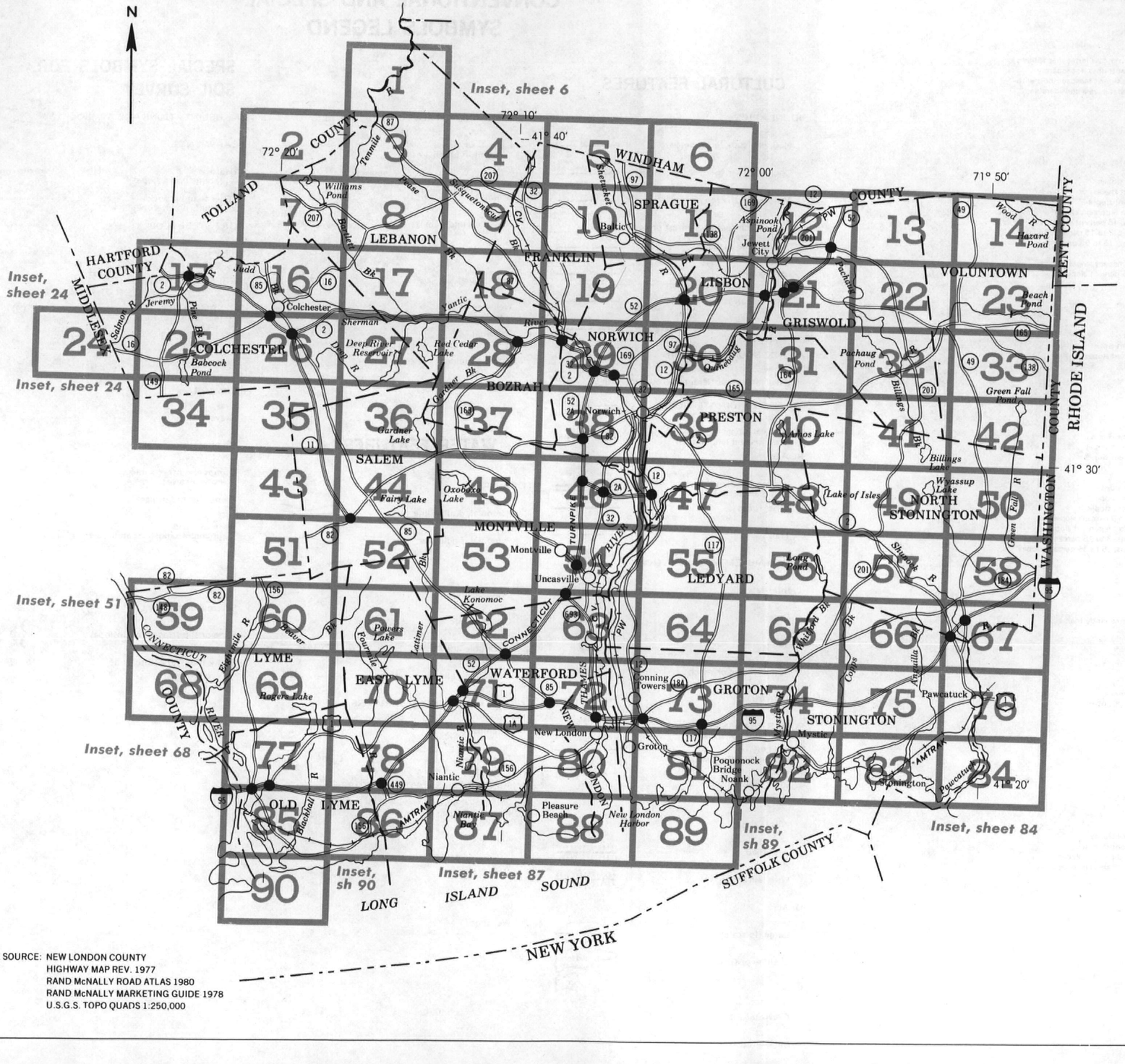
INDEX TO MAP SHEETS

NEW LONDON COUNTY, CONNECTICUT

Scale 1:253,440

1 0 1 2 3 4 Miles

1 0 1 2 3 4 Kilometers



BASE SOURCE: NEW LONDON COUNTY
HIGHWAY MAP REV. 1977
RAND McNALLY ROAD ATLAS 1980
RAND McNALLY MARKETING GUIDE 1978
U.S.G.S. TOPO QUADS 1:250,000

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 2

2

N

1 Mile

5 000 Feet

Scale 1:15 840

725 000 FEET

305 000 FEET

300 000 FEET

TOLLAND COUNTY

(Joins sheet 3)

(Joins sheet 7)

Williams Pond

Williams Pond

Aa Ce CrC CrD HrC HrD HkA HkC PbB PdB Rn Sf Sg SvA SvB SwB Ud WxA WxB WxC WyB WyC

CbB CbC CbD CcB CcC CdC CdD SxB

NEW LONDON COUNTY, CONNECTICUT NO. 2

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture. Soil Conservation Service and cooperating agencies
Coordinate grid ticks and land division corners, if shown, are approximately positioned

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 1

730 000 FEET

320 000 FEET

310 000 FEET

745 000 FEET

(Joins sheet 3)

(Joins inset, sheet 6)

TOLLAND COUNTY

WINDHAM COUNTY

Bush Hill

Yantic River

Shetucket River

Spirit Brook

Mill Brook

Scale 1:15 840

1 Mile

5 000 Feet

NEW LONDON COUNTY, CONNECTICUT NO. 1

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 4

4

N

765 000 FEET

305 000 FEET

1 Mile

5 000 Feet

Scale 1:15 840

0 0

¼ 1 000

½ 2 000

¾ 3 000

1 4 000

5 000

300 000 FEET

750 000 FEET

(Joins inset, sheet 6)

(Joins sheet 3)

(Joins sheet 9)

(Joins sheet 5)

LEBANON

FRANKLIN

Big Pond

Spencer Pond

Pigeon Swamp

Susquetonscut Brook

Cold Brook

Williams Crossing

WINDHAM COUNTY

CENTRAL VERMONT

water

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Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 4

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 3

(Joins sheet 1)

730 000 FEET

305 000 FEET

TOLLAND COUNTY

Chestnut Hill

Palmer Pond

Tennile

Liberty Hill

Burgess Brook

Owunnegunset Hill

Hayward Pond

Susquetonscut Brook

Graves Pond

Stiles Pond

Pease Brook

LEBANON

(Joins sheet 2)

(Joins sheet 4)

(Joins sheet 8)

300 000 FEET

745 000 FEET

3

N

1 Mile

5 000 Feet

Scale 1:15 840

1 0 0

5 000 1 000

2 000 ¼

3 000 ½

4 000 ¾

NEW LONDON COUNTY, CONNECTICUT NO. 3

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

6

N

1 Mile

5 000 Feet

Scale 1:15 840

800 000 FEET

750 000 FEET

315 000 FEET

305 000 FEET

310 000 FEET

300 000 FEET

790 000 FEET

746 000 FEET

WINDHAM COUNTY

LEBANON

SPRAGUE

LISBON

Gates Hill

Hanover Reservoir

(Joins sheet 1)

(Joins sheet 4)

(Joins sheet 5)

(Joins sheet 11)

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 6

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 5

NEW LONDON COUNTY, CONNECTICUT NO. 5

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Controlled grid ticks and land division corners, if shown, are approximately positioned.

770,000 FEET

WINDHAM COUNTY

SHETUCKET

PROVIDENCE AND WORCESTER

RIVER

Pautipaug Hill

Pleasure Hill

Bailey Brook

F R A N K L I N

S P R A G U E

(Joins sheet 4)

(Joins sheet 6)

(Joins sheet 10)

HkD Ce MyB HkC Sf Sg HkD MyA AfA CdD WyC CrC SxB CrD SwB HrC Rn WxB HrD PbD Wd Ro MyC CbD CbC AfB Ps Ud HkA Nn WvB MyC WyB PbB WzC CcB CdC CbC CdD SvB Aa HkD HkC PbB CrC

5

N

1 Mile

5 000 Feet

Scale 1:15 840

0 1/4 1/2 3/4 1

0 1 000 2 000 3 000 4 000 5 000

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 8

8

N

1 Mile

5 000 Feet

Scale 1:15 840

0 ¼ ½ ¾ 1

1 000 2 000 3 000 4 000 5 000

(Joins sheet 3)

(Joins sheet 7)

(Joins sheet 17)

(Joins sheet 9)

745 000 FEET

295 000 FEET

285 000 FEET

730 000 FEET

LEBANON

Exeter

Brook

Hinckley

Pease

Stockes Pond

Pitchers Pond

water

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 8

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 7

(Joins sheet 2)

710 000 FEET

295 000 FEET

TOLLAND COUNTY

Amston Lake

Williams Pond

Brewster Pond

Bartlett Brook

COLCHESTER

LEBANON

(Joins sheet 8)

(Joins sheet 16)

725 000 FEET

285 000 FEET

7

N

1 Mile

5 000 Feet

Scale 1:15 840

0 1 000 2 000 3 000 4 000 5 000

0 ¼ ½ ¾ 1

NEW LONDON COUNTY, CONNECTICUT NO. 7

This map was compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 10

10

N

1 Mile

5 000 Feet

Scale 1:15 840

0 ¼ ½ ¾ 1

0 1 000 2 000 3 000 4 000 5 000 40

(Joins sheet 5)

785 000 FEET

295 000 FEET

(Joins sheet 9)

285 000 FEET

(Joins sheet 19)

770 000 FEET

(Joins sheet 11)

Avery Hill

Bailey Brook

Beaver Brook

Mahoney Pond

Mountain Brook

McCanders Brook

Pautipaug Hill

Bellows Brook

Baltic Reservoir

FRANKLIN

SPRAGUE

SHETUCKET AND PROVIDENCE RAILROAD

SHETUCKET RIVER

Baltic

water

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 10

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 9

NEW LONDON COUNTY, CONNECTICUT CUT NO. 9

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

9

N

1 Mile

5 000 Feet

Scale 1:15 840

0 1/4 1/2 3/4 1

0 1 000 2 000 3 000 4 000 5 000

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 12

12

N

1 Mile

5 000 Feet

Scale 1:15 840

820 000 FEET

295 000 FEET

285 000 FEET

805 000 FEET

WINDHAM COUNTY

ASPINOOK POND

PROVIDENCE AND WORCESTER

Clayville Pond

Ashland Pond

Hopeville Pond

Spy Rock Hill

Clayville

Ashland

Hopeville

PACHAUG RIVER

Brook

Hawley

(Joins sheet 11)

(Joins sheet 13)

(Joins sheet 21)

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 12

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 11

11

N

1 Mile

5 000 Feet

Scale 1:15 840

790 000 FEET

285 000 FEET

800 000 FEET

(Joins sheet 6)

(Joins sheet 10)

(Joins sheet 12)

(Joins sheet 20)

NORWICH

WINDHAM CO

Adams

LITTLE RIVER

Brook

RIVER

Colgrove Hill

Papermill Pond

Pond

LITTLE RIVER

PROVIDENCE AND WORCESTER

SHETUCKET RIVER

Versailles Pond

SPRAGUE

SPRAGUE

NEW LONDON COUNTY, CONNECTICUT NO. 11

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 14

14

N

1 Mile

5 000 Feet

Scale 1:15 840

860 000 FEET

295 000 FEET

845 000 FEET

WINDHAM COUNTY

Bare Hill

Loudon Brook

Douglas Swamp

Bailey Pond

Hazard Pond

Dawley Pond

Meadow Brook

Great Brook

River

water

(Joins sheet 13)

(Joins sheet 23)

KENT COUNTY

RHODE ISLAND

NEW LONDON COUNTY, CONNECTICUT NO. 14

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 13

825,000 FEET

845,000 FEET

840,000 FEET

WINDHAM COUNTY

G R I S W O L D

V O L U N T O W N

Stone Hill Reservoir

Mill Brook Reservoir

Mill Brook

Stone Hill Brook

Mamacoke Brook

Mount Misery Brook

water

(Joins sheet 12)

(Joins sheet 14)

(Joins sheet 22)

13

N

1 Mile

5000 Feet

Scale 1:15 840

0 1/4 1/2 3/4 1

1 000 2 000 3 000 4 000 5 000

NEW LONDON COUNTY, CONNECTICUT NO. 13

This map is compiled of 1975 and 1976 aerial photography by the U. S. Department of Agriculture Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

16

N

1 Mile

5 000 Feet

Scale 1:15 840

0 0 ¼ 1 000 ½ 2 000 ¾ 3 000 1 4 000 5 000

(Joins sheet 7)

725 000 FEET

280 000 FEET

270 000 FEET

710 000 FEET

(Joins sheet 15)

(Joins sheet 17)

(Joins sheet 26)

POLLAND COUNTY

L E B A N O N

C H E S T E R

COLCHESTER

Judd Brook

Meadow Brook

Sherman water Brook

Hall Brook

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 16

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 15

690 000 FEET

280 000 FEET

15

N

1 Mile

5 000 Feet

Scale 1:15 840

HARTFORD COUNTY

TOLLAND COUNTY

Judd Brook

Meadow Brook

Day Brook

Jeremy River

Pink Brook

Currents Brook

North Westchester

Prospect Hill

CHESTER

COLCHESTER

RIVER

SALMON

(Joins inset B, sheet 24)

(Joins sheet 25)

(Joins sheet 16)

705 000 FEET

270 000 FEET

NEW LONDON COUNTY, CONNECTICUT NO. 15

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

18

N

1 Mile

5 000 Feet

Scale 1:15 840

0 ¼ ½ ¾ 1

1 000 2 000 3 000 4 000 5 000

765 000 FEET

280 000 FEET

270 000 FEET

750 000 FEET

(Joins sheet 9)

(Joins sheet 17)

(Joins sheet 19)

(Joins sheet 28)

LEBANON

FRANKLIN

ZORAH

Avery Corner

Meeting House Hill

Standish Hill

Blue Hill

Gilman

Brush Hill

Yantic

Pease Brook

Kinn Ponds

Driscoll Brook

Susquetonscut

CENTRAL VERMONT

Yantic River

Kaiser Brook

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 18

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 17

NEW LONDON COUNTY, CONNECTICUT NO. 17

This map is compiled on 1970 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

730 000 FEET

(Joins sheet 8)

17

N

1 Mile

5 000 Feet

Scale 1:15 840

0 0 ¼ 1 000 ½ 2 000 ¾ 3 000 1 4 000 5 000

(Joins sheet 16)

(Joins sheet 18)

(Joins sheet 27)

745 000 FEET

Goshen Hill

Bartlett

Exeter

Brook

L E B A N O N

C O L C H E S T E R

Savin Lake

water

Sherman Brook

Gilbert Brook

Waterman Brook

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 20

20

N

1 Mile

5 000 Feet

Scale 1:15 840

0 0

¼ 1 000

½ 2 000

¾ 3 000

1 4 000

5 000

(Joins sheet 11)

(Joins sheet 19)

(Joins sheet 30)

(Joins sheet 21)

270 000 FEET

790 000 FEET

800 000 FEET

280 000 FEET

SPRAGUE

NORWICH

LISBON

Versailles

Occum

Newent

Fly Pond

Cove Pond

Versailles Pond

Byron Brook

SHETUCKET RIVER

LITTLE RIVER

BLACK BROOK

WORCESTER AND PROVIDENCE

Blissville

water

CrD Canton extremely stony silt loam, 3 to 15 percent slopes

HkC Hinckley loamy sand, 3 to 8 percent slopes

HkD Hinckley loamy sand, 8 to 15 percent slopes

HrC Hinckley gravelly sandy loam, 3 to 8 percent slopes

HrD Hinckley gravelly sandy loam, 8 to 15 percent slopes

Ps Pits, sand and gravel

Ro Rock outcrop

Rp Rock outcrop-Hinckley complex

SvA Scarboro and Canton very stony fine sandy loams, 0 to 3 percent slopes

SvB Scarboro and Canton very stony fine sandy loams, 3 to 8 percent slopes

Ud Udorthents, smoothed

Ur Urban land

Ub Urban land-Udorthents complex

Ce Ninigret and Tisbury very fine sandy loams

CcC Charlton-Hollis fine sandy loams, rolling, very stony

CdC Charlton-Hollis fine sandy loams, hilly, very stony

CeB Charlton-Hollis fine sandy loams, rolling, rocky

CbB Charlton very stony fine sandy loam, 3 to 8 percent slopes

CbC Charlton very stony fine sandy loam, 8 to 15 percent slopes

CbD Charlton very stony fine sandy loam, 15 to 25 percent slopes

CcB Charlton very stony fine sandy loam, gravelly substratum, 3 to 8 percent slopes

CcD Charlton very stony fine sandy loam, gravelly substratum, 15 to 25 percent slopes

CrC Charlton fine sandy loam, 8 to 15 percent slopes

CrD Charlton fine sandy loam, 15 to 25 percent slopes

PbB Paxton very stony fine sandy loam, 3 to 8 percent slopes

PbC Paxton very stony fine sandy loam, 8 to 15 percent slopes

PbD Paxton very stony fine sandy loam, 15 to 25 percent slopes

PeC Paxton very stony fine sandy loam, gravelly substratum, 8 to 15 percent slopes

PeD Paxton very stony fine sandy loam, gravelly substratum, 15 to 25 percent slopes

PdB Paxton fine sandy loam, 3 to 8 percent slopes

RaA Ridgebury very stony fine sandy loam, 0 to 3 percent slopes

RaB Ridgebury very stony fine sandy loam, 3 to 8 percent slopes

BrB Ridgebury fine sandy loam, gravelly substratum, 3 to 8 percent slopes

WxA Woodbridge very stony fine sandy loam, 0 to 3 percent slopes

WxB Woodbridge very stony fine sandy loam, 3 to 8 percent slopes

WxC Woodbridge very stony fine sandy loam, 8 to 15 percent slopes

WzA Woodbridge fine sandy loam, 0 to 3 percent slopes

WzC Woodbridge fine sandy loam, 8 to 15 percent slopes

WyB Woodbridge fine sandy loam, gravelly substratum, 3 to 8 percent slopes

WyC Woodbridge fine sandy loam, gravelly substratum, 8 to 15 percent slopes

AfB Afton very stony fine sandy loam, 3 to 8 percent slopes

Aa Alluvial land

Ce Ninigret and Tisbury very fine sandy loams

MyB Montauk very stony fine sandy loam, 3 to 8 percent slopes

MyC Montauk very stony fine sandy loam, 8 to 15 percent slopes

NnB Montauk fine sandy loam, 3 to 8 percent slopes

NnC Montauk fine sandy loam, 8 to 15 percent slopes

SbB Sutton very stony fine sandy loam, 3 to 8 percent slopes

SbC Sutton very stony fine sandy loam, 8 to 15 percent slopes

SgB Sutton fine sandy loam, 3 to 8 percent slopes

SgC Sutton fine sandy loam, 8 to 15 percent slopes

SfB Sutton fine sandy loam, gravelly substratum, 3 to 8 percent slopes

SfC Sutton fine sandy loam, gravelly substratum, 8 to 15 percent slopes

SxB Sutton-Montauk complex, 3 to 8 percent slopes

SxC Sutton-Montauk complex, 8 to 15 percent slopes

SwB Sutton-Montauk complex, gravelly substratum, 3 to 8 percent slopes

SwC Sutton-Montauk complex, gravelly substratum, 8 to 15 percent slopes

TsA Tisbury silt loam, 0 to 3 percent slopes

TsB Tisbury silt loam, 3 to 8 percent slopes

WvB Woodbridge-Paxton complex, 3 to 8 percent slopes

WvC Woodbridge-Paxton complex, 8 to 15 percent slopes

WaA Wapping very fine sandy loam, 0 to 3 percent slopes

WaB Wapping very fine sandy loam, 3 to 8 percent slopes

WcA Wapping fine sandy loam, 0 to 3 percent slopes

WcB Wapping fine sandy loam, 3 to 8 percent slopes

WbA Wapping-Tisbury complex, 0 to 3 percent slopes

WbB Wapping-Tisbury complex, 3 to 8 percent slopes

Wd Water

w Water

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid (UCS) and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 20

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 19

NEW LONDON COUNTY, CONNECTICUT NO. 19

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

19

N

1 Mile

5 000 Feet

Scale 1:15 840

1 0 1 2 3 4 5 000 1 000 2 000 3 000 4 000 5 000

770 000 FEET

280 000 FEET

270 000 FEET

785 000 FEET

(Joins sheet 10)

(Joins sheet 18)

(Joins sheet 20)

(Joins sheet 29)

SPRAGUE

NORWICH

FRANKLIN

Hearthstone Hill

Plain Hill

Smith Corner

Misery Hill

Turkey Hill

Fly Pond

Wilcox Pond

Bog Meadow Reservoir

Fairview Res

McCarthy Brook

Elisha Brook

Bozrah Brook

Cold Water Brook

Susquetonscut Brook

CENTRAL VERMONT

water

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 22

22

N

1 Mile

5 000 Feet

Scale 1:15 840

840 000 FEET

825 000 FEET

280 000 FEET

275 000 FEET

(Joins sheet 13)

(Joins sheet 21)

(Joins sheet 23)

(Joins sheet 32)

GRISWOLD

VOLUNTOWN

PACHAUG POND

Hopeville Pond

Crooked Brook

Mount Misery Brook

Louden Brook

Beaudidle Pond

Sawmill Pond

Doaneville

water

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 22

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 21

NEW LONDON COUNTY, CONNECTICUT NO. 21

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

805 000 FEET

280 000 FEET

(Joins sheet 20)

(Joins sheet 12)

(Joins sheet 22)

820 000 FEET

(Joins sheet 31)

275 000 FEET

21

N

1 Mile

5 000 Feet

Scale 1:15 840

1 5 000 ¾ 4 000 ½ 3 000 ¼ 2 000 0 1 000 0

1 ¾ ½ ¼ 0 1 Mile

5 000 4 000 3 000 2 000 1 000 0 5 000 Feet

Scale 1:15 840

N

24

260 000 FEET

270 000 FEET

680 000 FEET

670 000 FEET

685 000 FEET

275 000 FEET

252 000 FEET

255 000 FEET

688 000 FEET

265 000 FEET

MIDDLESEX COUNTY

NEW LONDON COUNTY

COLCHESTER

LEBANON

SALEM

MONTVILLE

Dickenson Creek

Bull Hill Brook

Wolf Brook

SALMON RIVER

Dart Pond Brook

Cranberry Creek

HARTFORD COUNTY

INSET A

INSET B

(Joins upper right)

(Joins lower right)

(Joins sheet 34)

(Joins sheet 15)

(Joins sheet 25)

(Joins inset B)

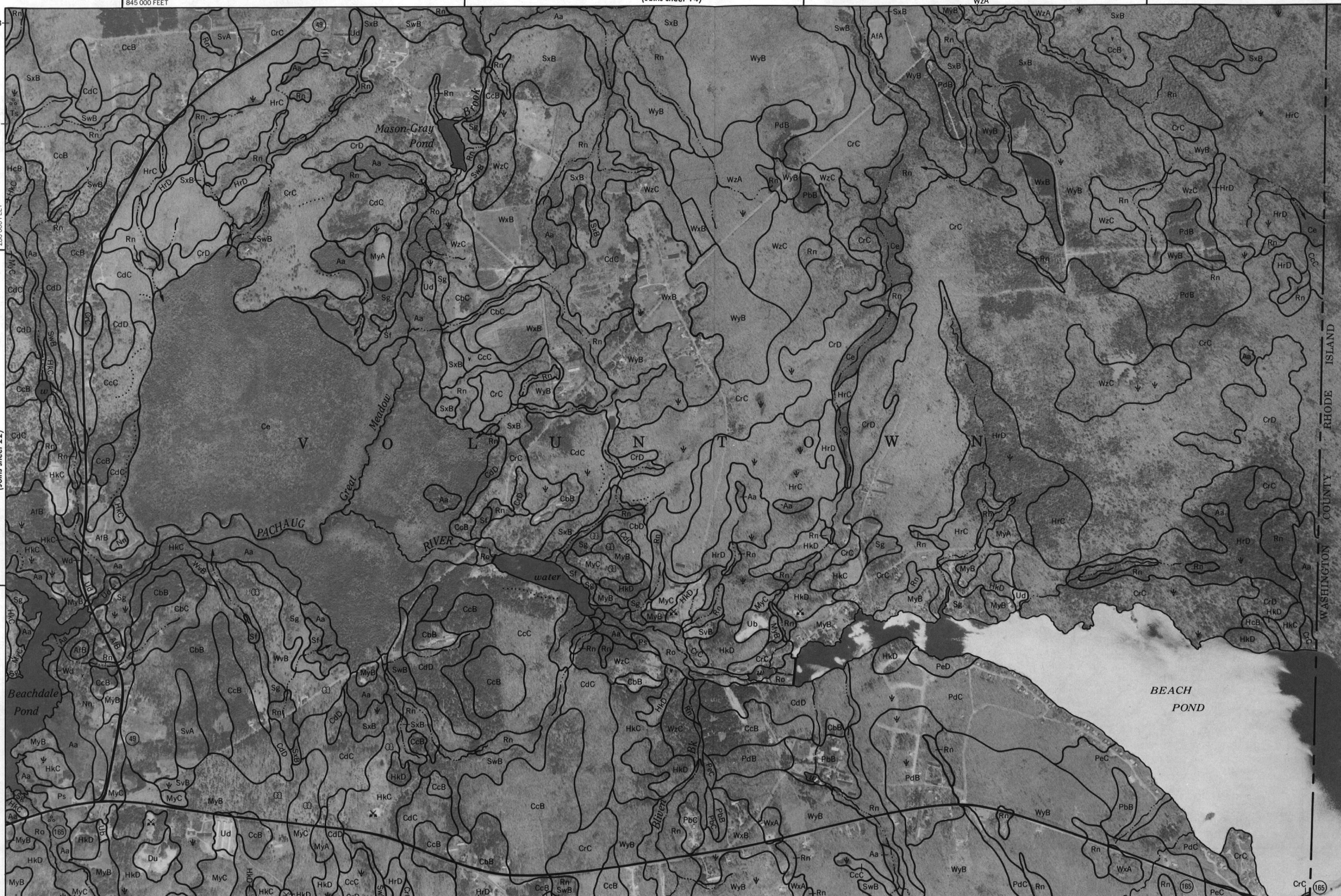
(Joins inset A)

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 24

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 24

(Joins sheet 14)



23

N

1 Mile
5 000 Feet
Scale 1:15 840

NEW LONDON COUNTY, CONNECTICUT NO. 23

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

26

N

1 Mile

5 000 Feet

Scale 1:15 840

0 0

¼ 1 000

½ 2 000

¾ 3 000

1 4 000

5 000

(Joins sheet 16)

(Joins sheet 25)

(Joins sheet 35)

(Joins sheet 27)

725 000 FEET

265 000 FEET

260 000 FEET

710 000 FEET

Mill Hill

Buckley Hill

Cabin Brook

Nekin Brook

Mill Brook

Dutton Swamp

Deep River

water

CLOCHER

SEYMOUR

TAYLOR

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Cartographic grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 26

NEW LONDON COUNTY, CONNECTICUT NO. 25

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

25

N

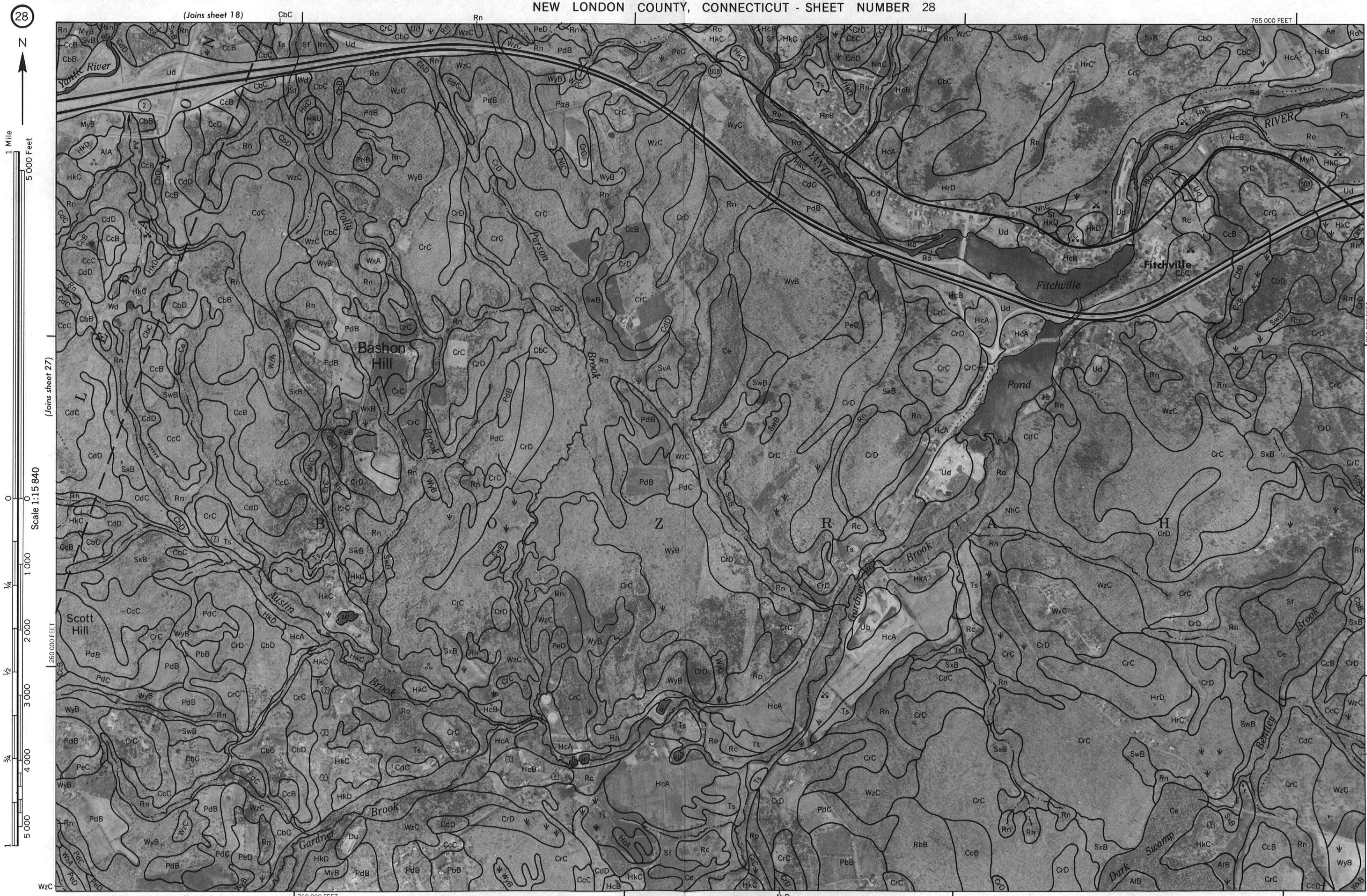
1 Mile

5 000 Feet

Scale 1:15 840

1 5 000 ¾ 4 000 ½ 3 000 ¼ 2 000 0 1 000

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 28



This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 28

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 27

27

N

1 Mile

5 000 Feet

Scale 1:15 840

0 0 ¼ 1 000 ½ 2 000 ¾ 4 000 1 5 000

730 000 FEET

745 000 FEET

265 000 FEET

260 000 FEET

(Joins sheet 17)

(Joins sheet 26)

(Joins sheet 28)

(Joins sheet 36)

C O L C H E S T E R

L E B A N O N

S A L E M

Sherman Brook

Yantic River

Red Cedar Lake

Deep River

Reservoir

Cherry Corners

water

NEW LONDON COUNTY, CONNECTICUT NO. 27

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 30

30

N

1 Mile

5 000 Feet

Scale 1:15 840

0 ¼ ½ ¾ 1

0 1 000 2 000 3 000 4 000 5 000

(Joins sheet 20)

(Joins sheet 29)

(Joins sheet 39)

(Joins sheet 31)

800 000 FEET

790 000 FEET

270 000 FEET

260 000 FEET

Taftville

Taftville Reservoir

Spalding Pond

Taft Station

Graham Pond

Bundy Hill

Bissville Pond

SHETUCKET RIVER

PROVIDENCE AND WORCESTER

QUINEBAUG RIVER

NORWICH

LISBON

PRESTON

water

Broad Brook

CbB

CrC

Nn

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and identification corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 30

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 29

NEW LONDON COUNTY, CONNECTICUT NO. 29

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 32

32

N

1 Mile

5 000 Feet

Scale 1:15 840

0 ¼ ½ ¾ 1

0 1 000 2 000 3 000 4 000 5 000

(Joins sheet 22)

840 000 FEET

270 000 FEET

(Joins sheet 31)

260 000 FEET

825 000 FEET

(Joins sheet 41)

(Joins sheet 33)

PACHAUG POND

Doaneville Pond

Glasgo Pond

Voluntown

GRISWOLD

PRESTON

Burton Dr.

Glasgo

Doaneville

Mytron Brook

Kimbell Brook

Bitting Brook

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 32

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 31

805 000 FEET

820 000 FEET

270 000 FEET

260 000 FEET

(Joins sheet 21)

(Joins sheet 30)

(Joins sheet 32)

(Joins sheet 40)

LISBON

PROVIDENCE AND

QUINEBAUG RIVER

Wauregan

Sheer Brook

Broad Brook

Ayers Brook

GRISWOLD

Pachaug

Choate Brook

PRESTON

Hazard Brook

Hallowell Brook

Rattlesnake Brook

Burton Brook

164

31

N

1 Mile

5 000 Feet

Scale 1:15 840

1 5 000 ¼ 1 000 ½ 2 000 ¾ 3 000 1 4 000

NEW LONDON COUNTY, CONNECTICUT NO. 31

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

34

N

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 34

(Joins sheet 25)

705 000 FEET

(Joins inset A, sheet 24)

(Joins sheet 35)

255 000 FEET

MIDDLESEX COUNTY

COLCHESTER

Pickerel Lake

Babcock Pond

Babcock Swamp

Standish Pond

Thousand Acre Pond

245 000 FEET

690 000 FEET

1 Mile

5 000 Feet

Scale 1:15 840

1 ¾ 5 000 | ½ 4 000 | ¼ 3 000 | 0 2 000 | 1 000 0

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 34

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 33

(Joins sheet 23)

845 000 FEET

270 000 FEET

(Joins sheet 32)

(Joins sheet 42)

860 000 FEET

260 000 FEET

VOLUNTOWN

WASHINGTON COUNTY

RHODE ISLAND

Hodge Pond

Brook

Green Fall River

water

33

N

1 Mile

5 000 Feet

Scale 1:15 840

NEW LONDON COUNTY, CONNECTICUT NO. 33

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 36

36

N

1 Mile

5 000 Feet

Scale 1:15 840

(Joins sheet 27)

745 000 FEET

295 000 FEET

(Joins sheet 35)

245 000 FEET

(Joins sheet 44)

730 000 FEET

(Joins sheet 37)

COLCHESTER

SALEM

Deep River Reservoir

Deep River

Brainard Brook

Gardner Brook

Avery Corner

Hallwield Corner

The Wales

Whittlesey Swamp

GARDNER LAKE

MONTVILLE

BOZRAH

water

NEW LONDON COUNTY, CONNECTICUT NO. 36

This map is compiled on 1973 and 1975 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 35

(Joins sheet 26)

35

N

1 Mile

5 000 Feet

Scale 1:15 840

MIDDLESEX COUNTY

COLCHESTER

SALEM

EAST HAMPTON

Witch Meadow Brook

710 000 FEET

725 000 FEET

255 000 FEET

245 000 FEET

(Joins sheet 34)

(Joins sheet 36)

(Joins sheet 43)

NEW LONDON COUNTY, CONNECTICUT NO. 35

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

38

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 38

(Joins sheet 29)

785 000 FEET

255 000 FEET

(Joins sheet 37)

(Joins sheet 39)

245 000 FEET

(Joins sheet 46)

770 000 FEET

N

1 Mile

5 000 Feet

Scale 1:15 840

0 ¼ ½ ¾ 1

0 1 000 2 000 3 000 4 000 5 000

NORWICH

Baccus Corner

Thamesville

MONTVILLE

THAMES RIVER

YANTIC RIVER

Gardiner Brook

Trading Cove Brook

Great Plain Brook

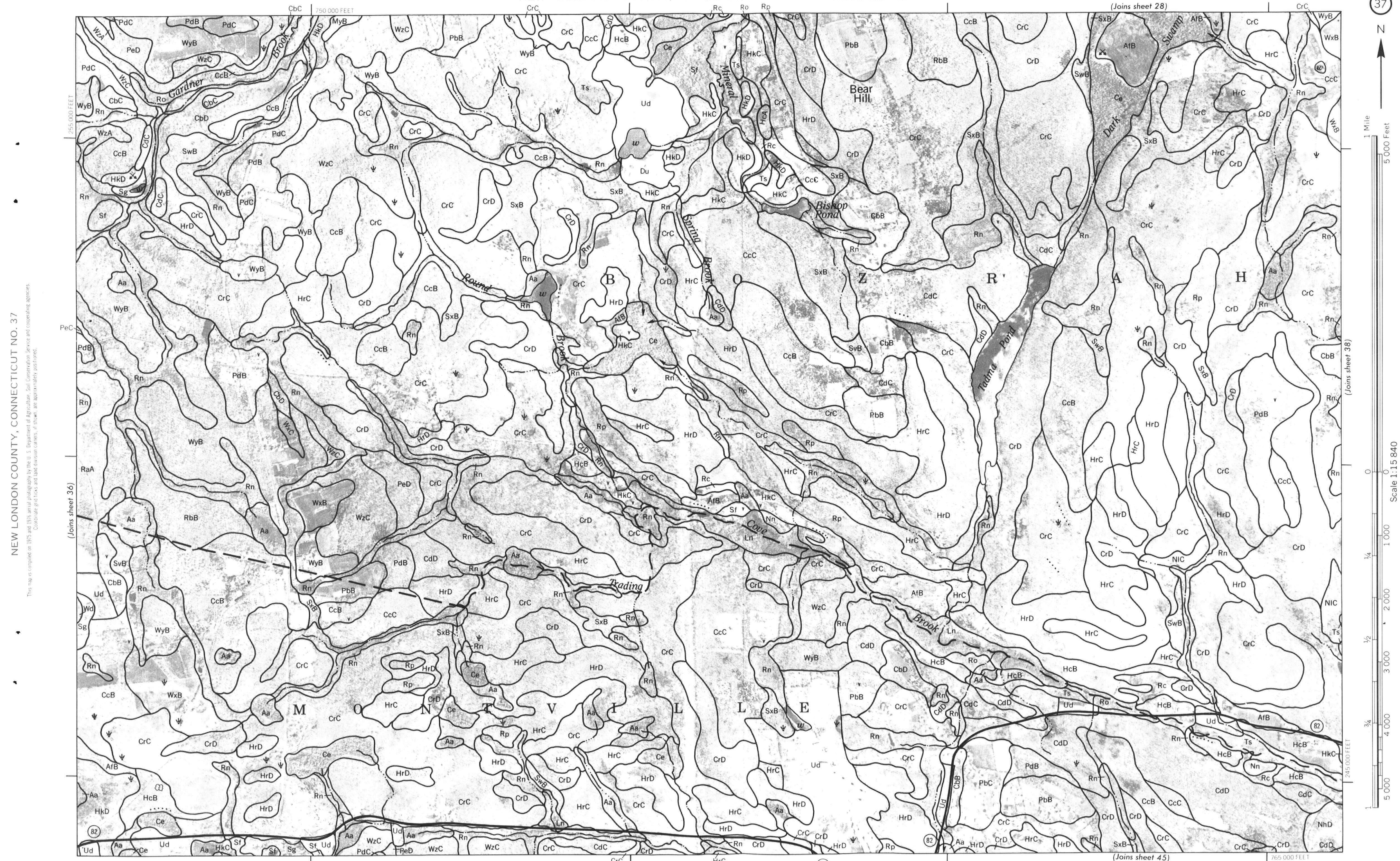
Goldmine Brook

CENTRAL VERMONT

PROVIDENCE AND WORCESTER

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 38


37
N
(Joins sheet 28)
(Joins sheet 36)
(Joins sheet 38)
(Joins sheet 45)
750 000 FEET
765 000 FEET
255 000 FEET
245 000 FEET
Gardner Brook
Mineral Spring
Spring Brook
Bear Hill
Bishop Pond
Dark Swamp
Round Brook
Tadma Pond
Trading Cove Brook
B O Z R A H
M O N T V I L L E
82
1 Mile
5 000 Feet
Scale 1:15 840
0
1/4
1/2
3/4
1 000
2 000
3 000
4 000
5 000
NEW LONDON COUNTY, CONNECTICUT NO. 37

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 40

40

N

1 Mile

5000 Feet

Scale 1:15 840

0 1 000 2 000 3 000 4 000 5 000

820 000 FEET

805 000 FEET

246 000 FEET

255 000 FEET

(Joins sheet 31)

(Joins sheet 39)

(Joins sheet 41)

(Joins sheet 48)

Prospect Hill

Choate Brook

Cedar Swamp

Amos Lake

Hollowell Brook

Lewis Pond

Prentice Brook

EASTON

NORTH STONINGTON

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 40

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 39

790 000 FEET

(Joins sheet 30)

255 000 FEET

(Joins sheet 38)

(Joins sheet 40)

245 000 FEET

800 000 FEET

(Joins sheet 47)

NORWICH

SHETUCKET RIVER

PROVIDENCE AND WORCESTER Railroad

Long Society

Bates Pond

Rye Hill

Campbell Hill

Fox Hill

Stanley Brook

Cedar Swamp

Heuitt Brook

NORTH PRESTON

39

N

1 Mile

5 000 Feet

Scale 1:15 840

1 5 000 0 0

¼ 1 000

½ 2 000

¾ 3 000

1 4 000

NEW LONDON COUNTY, CONNECTICUT NO. 39

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

42

N

1 Mile

5 000 Feet

Scale 1:15 840

(Joins sheet 41)

(Joins sheet 33)

(Joins sheet 50)

860 000 FEET

845 000 FEET

255 000 FEET

245 000 FEET

NORTHSTONINGTON

WASHINGTON COUNTY

RHODE ISLAND

Green Fall Pond

Palmer Pond

Hetchel Swamp

Myron Brook

Koistenen Brook

Kinney Brook

Hughes Brook

Dark Hollow Brook

Peg Mill Brook

Green River

Hall Brook

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 42

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 41

825 000 FEET

(Joins sheet 32)

(Joins sheet 40)

(Joins sheet 42)

(Joins sheet 49)

255 000 FEET

245 000 FEET

840 000 FEET

41

N

1 Mile

5 000 Feet

Scale 1:15 840

PRESTON

NORTH STONINGTON

GRISWOLD

Miller Brook

Billings Brook

Dark Hollow Brook

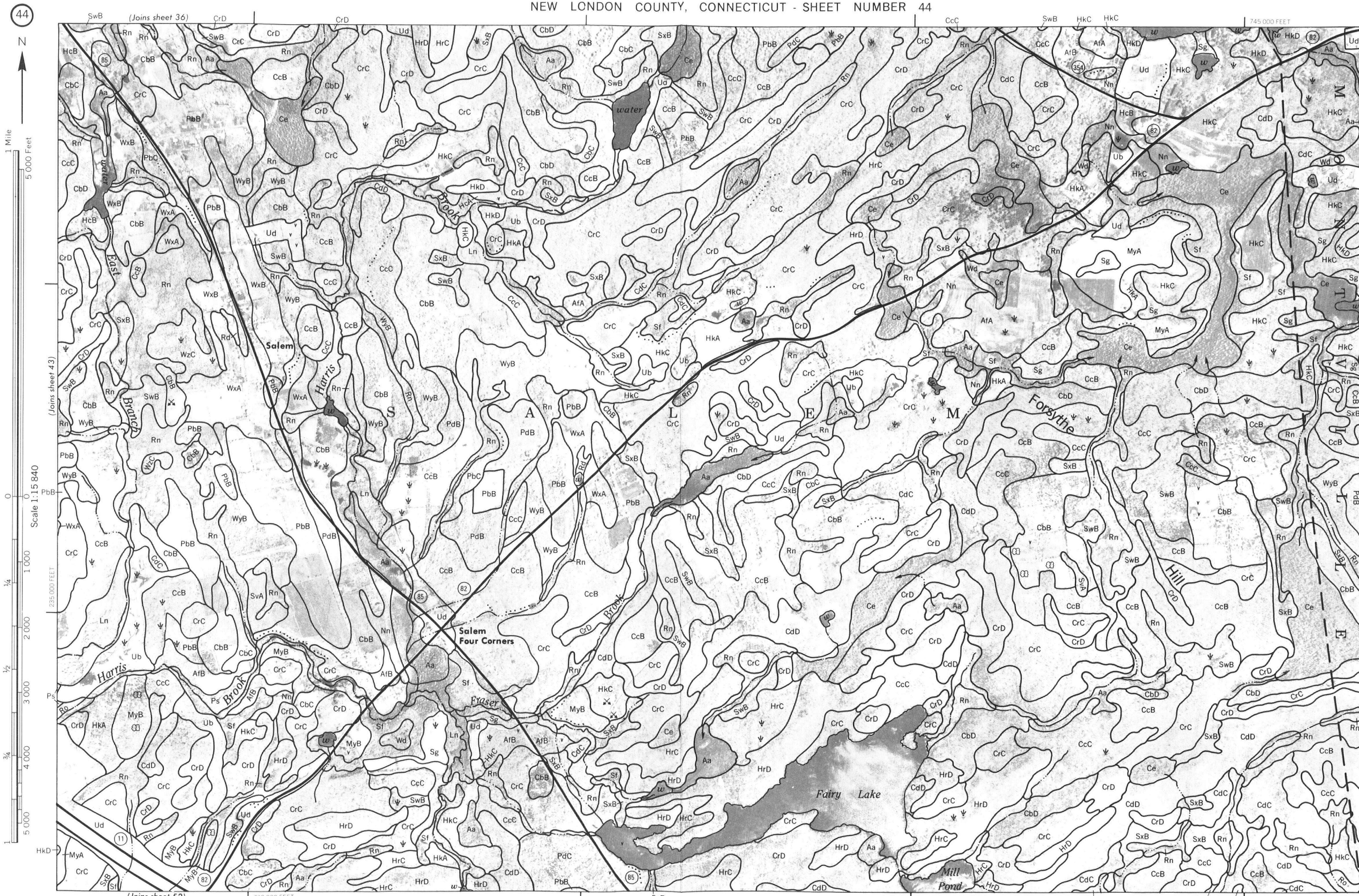
Andersons Pond

Billings Lake

NEW LONDON COUNTY, CONNECTICUT SHEET NO. 41

This map is compiled on 1970 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Culverts and bridges are shown where they cross streams. Intermittent streams are not shown.
Coordinate grid ticks are based on State plane coordinates. Elevations are in feet above mean sea level.

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 44



This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 44

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 43

NEW LONDON COUNTY, CONNECTICUT NO. 43

This map as compiled on 1939 and 1976 aerial photography by the U. S. Department of Agriculture Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

710 000 FEET

240 000 FEET

(Joins sheet 35)

SwB

43

N

1 Mile

5 000 Feet

MIDDLESEX COUNTY

SALEM

East Branch

(Joins sheet 44)

235 000 FEET

(Joins sheet 51)

725 000 FEET

Scale 1:15 840

0 0

¼ 1 000

½ 2 000

¾ 3 000

4 000

1 5 000

(46)

N

1 Mile

5000 Feet

(Joins sheet 38)

(Joins sheet 45)

Scale 1:15 840

0 0 1/4 1 000 1/2 2 000 3/4 3 000 1 4 000 5 000

235 000 FEET

(Joins sheet 54)

270 000 FEET

785 000 FEET

240 000 FEET

(Joins sheet 47)

Schoolhouse Hill

Comstock Hill

Trading Cove

Stony Brook

Falls Brook

Mohegan Hill

Crow Hill

Uncas Hill

MONTVILLE

NORWICH

THAMES RIVER

PROVIDENCE AND WORCESTER

CENTRAL VERMONT

water

This map is compiled on 1972 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned

NEW LONDON COUNTY, CONNECTICUT NO. 46

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 45

45

N

(Joins sheet 37)

750 000 FEET

240 000 FEET

(Joins sheet 44)

(Joins sheet 46)

235 000 FEET

(Joins sheet 53)

765 000 FEET

Whittle Brook

Oxoboxo Lake

Stony Brook Reservoir

Stony Brook

Oxoboxo Brook

McAlpine Brook

Paris Pond

Schofield Pond

Wheeler Pond

Montville Center

Dolbeare Hill

Chapel Hill

MONTVILLE

1 Mile

5 000 Feet

Scale 1:15 840

0 1/4 1/2 3/4 1

1 000 2 000 3 000 4 000 5 000

NEW LONDON COUNTY, CONNECTICUT NO. 45

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

48

N

(Joins sheet 40)

(Joins sheet 47)

(Joins sheet 56)

(Joins sheet 49)

1 Mile

5 000 Feet

Scale 1:15 840

0 ¼ ½ ¾ 1

1 000 2 000 3 000 4 000 5 000

235 000 FEET

810 000 FEET

820 000 FEET

240 000 FEET

PRESTON

NORTH STONINGTON

LEDYARD

Avery Pond

Cooks Pond

Shewville

Indiantown

Cedar Swamp

Lake of Isles

Ayer Hill

Lantern Hill

Main Brook

Brook

Lake of Isles

water

This map is compiled on 1925 and 1934 aerial photography by The U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 48

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 47

NEW LONDON COUNTY, CONNECTICUT NO. 47

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

790 000 FEET

240 000 FEET

235 000 FEET

805 000 FEET

(Joins sheet 39)

(Joins sheet 48)

(Joins sheet 46)

(Joins sheet 55)

47

N

1 Mile

5 000 Feet

Scale 1:15 840

0 1/4 1/2 3/4 1

0 1 000 2 000 3 000 4 000 5 000

(Joins sheet 42)

860 000 FEET

245 000 FEET

50

N

1 Mile

5 000 Feet

Scale 1:15 840

0 0

¼ 1 000

½ 2 000

¾ 3 000

1 4 000

5 000

(Joins sheet 49)

235 000 FEET

845 000 FEET

(Joins sheet 58)

N O R T H S T O N I N G T O N

RHODE ISLAND

WASHINGTON COUNTY

Hetchel Swamp

Hetchel Brook

Swamp Brook

Hill Brook

Pendleton Brook

Fall River

Green River

Shingle Mill Pond

Laurel Glen water

Grade Brook

This map is compiled on 1973 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 50

NEW LONDON COUNTY, CONNECTICUT NO. 49

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

(Joins sheet 41)
(Joins sheet 48)
(Joins sheet 50)
(Joins sheet 57)

52

N

(Joins sheet 44)

(Joins sheet 51)

(Joins sheet 61)

(Joins sheet 53)

745 000 FEET

730 000 FEET

220 000 FEET

230 000 FEET

MONTVILLE

Scale 1:15 840

1 Mile

5 000 Feet

Shingle Mill Pond

Horse Pond

Mill Pond

Maynard Hill

Barnes Reservoir

Beckwith Hill

Beckwith Pond

Walnut Hill

Shingle Mill Brook

Latimer Brook

Brook

Water

Sague Brook

SALEM

EAST LYME

MONTVILLE

This map is compiled on 1973 and 1975 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Control by USC&GS and USGS.
Cartographic grid ticks, and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 52

NEW LONDON COUNTY, CONNECTICUT NO. 51

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

710 000 FEET

230 000 FEET

685 000 FEET

215 000 FEET

688000 FEET

211000 FEET

MIDDLESEX COUNTY

CONNECTICUT RIVER

(Joins sheet 59)

(Joins sheet 43)

(Joins sheet 52)

(Joins sheet 60)

725 000 FEET

220 000 FEET

Mitchell Pond

Wagner Pond

Salem Branch

East water

51

N

1 Mile

5 000 Feet

Scale 1:15 840

54

N

1 Mile

5 000 Feet

Scale 1:15 840

0 1/4 1/2 3/4 1

1 000 2 000 3 000 4 000 5 000

785 000 FEET

230 000 FEET

220 000 FEET

770 000 FEET

(Joins sheet 46)

(Joins sheet 53)

(Joins sheet 55)

(Joins sheet 63)

Lynch Hill

Rockland Pond

Red Mill Pond

Montville

Pie Hill

Haughton Mountain

Johnson Pond

Fitch Corner

Uncasville

Horton Cove

Pt. Breeze

Clark Cove

Oxbow

Brook

Morgan Brook

Tom Kilgn Brook

RIVER

THAMES

CENTRAL

PROVIDENCE

VERMONT

WORCESTER

AND

LEDYARD

This map is compiled on 1975 and 1974 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Orthophotographic grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 54

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 53

53

N

1 Mile

5 000 Feet

Scale 1:15 840

NEW LONDON COUNTY, CONNECTICUT NO. 53

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

750 000 FEET

230 000 FEET

220 000 FEET

765 000 FEET

(Joins sheet 45)

(Joins sheet 54)

(Joins sheet 52)

(Joins sheet 62)

Wheeler Pond

Four Corners

Bogue Brook Reservoir

Fox Brook

Deep Hollow Brook

MONTVILLE

water

Rt 2

Rt 85

(Joins sheet 48)

(Joins sheet 55)

(Joins sheet 57)

(Joins sheet 65)

56

N

1 Mile

5 000 Feet

Scale 1:15 840

0 ¼ ½ ¾ 1

1 000 2 000 3 000 4 000 5 000

220 000 FEET

805 000 FEET

LEEDY RD

NORTH STONINGTON

STONINGTON

Lantern Hill Pond

Long Pond

Cider Hill

Lantern Hill

Lee Brook

Williams Brook

Brook

water

Rd

Ts

Ce

Rn

Sf

Ud

Ub

Du

Rp

Ro

Wd

Sg

Nn

Aa

Ps

Rc

Hill

Pond

NEW LONDON COUNTY, CONNECTICUT NO. 56

This map is compiled on 1973 and 1974 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies
Contours, drainage, and boundaries have been generalized from detailed Soil Conservation Service maps. Woodland cultural features are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 55

NEW LONDON COUNTY, CONNECTICUT NO. 55

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

790 000 FEET

230 000 FEET

PRESTON

Poquetanuck Cove

MONTVILLE

THAMES RIVER

WORCESTER

CENTRAL VERMONT

PROVIDENCE AND

Brittings Brook

Avery Brook

Chapman Hill

Church Hill

Ledyard Center

Lee Brook

Town Farm Brook

Pine Swamp

Rosemond Lake

water

(Joins sheet 47)

(Joins sheet 56)

(Joins sheet 54)

(Joins sheet 64)

220 000 FEET

805 000 FEET

55

N

1 Mile

5 000 Feet

Scale 1:15 840

58

N

(Joins sheet 50)

(Joins sheet 57)

(Joins sheet 67)

Scale 1:15 840

1 Mile

5 000 Feet

0 1/4 1/2 3/4 1

1 000 2 000 3 000 4 000 5 000

860 000 FEET

230 000 FEET

20 000 FEET

845 000 FEET

NORTH STONINGTON

RHODE ISLAND

WASHINGTON COUNTY

Clarks Falls

Spaulding Pond

Bell Cedar Swamp

Shunock River

Pendleton Hill Brook

Wamsutta Brook

Rhode Brook

Falls River

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners (if shown) are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 58

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 57

NEW LONDON COUNTY, CONNECTICUT NO. 57

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

825 000 FEET

230 000 FEET

(Joins sheet 56)

(Joins sheet 49)

(Joins sheet 58)

(Joins sheet 66)

840 000 FEET

220 000 FEET

57

N

1 Mile

5 000 Feet

Scale 1:15 840

Wintechog Hill

Gallup Pond

Yaubucs Brook

Shunock River

Assekonk Swamp

Assekonk Brook

North Stonington

NORTH STONINGTON

60

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 60

N

1 Mile

5 000 Feet

Scale 1:15 840

0 0 ¼ 1 000 ½ 2 000 ¾ 3 000 1 4 000 5 000

(Joins sheet 51)

(Joins sheet 59)

(Joins sheet 69)

(Joins sheet 61)

725 000 FEET

215 000 FEET

205 000 FEET

710 000 FEET

Ed Bills Pond

RIVER

North Lyme

Beaver Pond

Nickerson Hill

EIGHTMILE

LYME

Cedar Lake

Brook

Blackwater Pond

Cedar

water

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies. Control for planimetry was by the U. S. Geological Survey. Contours, in feet above mean sea level, are approximately positioned. Constructed grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 60

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 59

690 000 FEET

215 000 FEET

(Joins inset, sheet 51)

MIDDLESEX COUNTY

MIDDLESEX COUNTY

CONNECTICUT RIVER

Hadlyme

Selden Cove

Observatory Hill

Selden Neck

Mitchell Hill

Shippy Hill

Upper Pond

Mount Archer

Whalebone Creek

Selden Creek

Joshua Creek

Reading Brook

(Joins sheet 68)

705 000 FEET

(Joins sheet 60)

205 000 FEET

59

N

1 Mile

5 000 Feet

Scale 1:15 840

0 0 ¼ ½ ¾ 1

1 000 2 000 3 000 4 000 5 000

NEW LONDON COUNTY, CONNECTICUT NO. 59

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 62

62

N

(Joins sheet 53)

765 000 FEET

215 000 FEET

(Joins sheet 63)

(Joins sheet 61)

750 000 FEET

(Joins sheet 71)

1 Mile

5 000 Feet

Scale 1:15 840

Davis Pond

Ridge Hill

Great Swamp

Beaverdam Hill

Lake Konomoc

Lake Cuheca

Morgan Hill

Polly Hill

Haines Hill

Hunts Brook

Polly Brook

Joshua Brook

MYSTIC VALLEY

EASTERN FOREST

NEW LONDON COUNTY, CONNECTICUT NO. 62

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies. Coordinate grid ticks and land division corners, if shown, are approximately positioned

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 61

NEW LONDON COUNTY, CONNECTICUT NO. 61

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

730 000 FEET

745 000 FEET

215 000 FEET

210 000 FEET

(Joins sheet 60)

(Joins sheet 52)

(Joins sheet 62)

(Joins sheet 70)

61

N

1 Mile

5 000 Feet

Scale 1:15 840

1 0 1 000 2 000 3 000 4 000 5 000

¼ ½ ¾

64

N

(Joins sheet 55)

(Joins sheet 63)

(Joins sheet 73)

(Joins sheet 65)

805 000 FEET

790 000 FEET

1 Mile

5,000 Feet

Scale 1:15 840

0 0 1/4 1 000 1/2 2 000 3/4 4 000 1 5 000

Pine Swamp

Rosemond Lake

water

Morgan Pond

Butler

Thompson Brook

Gungywamp Hill

Ledyard Reservoir

Haleys Brook

water

LEEDS

DARROW

GROTON

(117)

This map was compiled on 1976 grid (NAD) using Universal Transverse Mercator projection, zone 18. Culture and drainage compiled from 1:24 000 scale photographs taken 1970. Field checked 1975. Projection and 10 000-foot grid ticks, Connecticut coordinate system, zone 1800, Transverse Mercator projection. 1927 North American datum. 1 000-meter Universal Transverse Mercator grid ticks, zone 18, shown in blue. Land division corners, if shown, are approximately positioned.

Base map is a photomosaic compiled by the U. S. Department of Agriculture, Soil Conservation Service, and cooperating agencies.

NEW LONDON COUNTY, CONNECTICUT NO. 64

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 63

63

N

1 Mile

5 000 Feet

Scale 1:15 840

770 000 FEET

785 000 FEET

215 000 FEET

210 000 FEET

(Joins sheet 54)

(Joins sheet 62)

(Joins sheet 64)

(Joins sheet 72)

MONTVILLE

WATERFORD

GROTON

LEDYARD

THAMES RIVER

Barnville Hill

Bartlett Corners

Bartlett Cove

Miller Pond

Mahoneys Hill

Quaker Hill

Smith Pond

Long Cove

Mill Cove

Rock Pond

Baldwin Hill

Gales Ferry

Swamp Brook

Smith Brook

Hunts Brook

Cove Brook

Pine Swamp

Mill Swamp

Mill Brook

Cove Brook

Long Pond Brook

Cove

VERMONT CENTRAL

PROVIDENCE AND WORCESTER

water

Ln

Pine

Ur

Ub

Wh

Wd

Sf

Ce

Ts

Ro

Rc

Rp

Rn

Ud

Aa

CrC

CrD

HkC

HkD

HrC

HrD

HcA

HcB

AfA

AfB

CcB

CcC

CcD

CdC

CdD

CbB

CbC

CbD

NgB

NaB

NhC

NIC

PdB

RbB

BrB

SxB

SwB

SvA

RaA

RaB

NnC

PbC

WvA

Ne

Nn

Sv

Ta

Ub

Ue

Wa

Wb

Wc

Wd

We

Wf

Wg

Wh

Wi

Wj

Wk

Wl

Wm

Wn

Wo

Wp

Wq

Wr

Ws

Wt

Wu

Wv

Ww

Wx

Wy

Wz

Xa

Xb

Xc

Xd

Xe

Xf

Xg

Xh

Xi

Xj

Xk

Xl

Xm

Xn

Xo

Xp

Xq

Xr

Xs

Xt

Xu

Xv

Xw

Xx

Xy

Xz

Ya

Yb

Yc

Yd

Ye

Yf

Yg

Yh

Yi

Yj

Yk

Yl

Ym

Yn

Yo

Yp

Yq

Yr

Ys

Yt

Yu

Yv

Yw

Yx

Yy

Yz

Za

Zb

Zc

Zd

Ze

Zf

Zg

Zh

Zi

Zj

Zk

Zl

Zm

Zn

Zo

Zp

Zq

Zr

Zs

Zt

Zu

Zv

Zw

Zx

Zy

Zz

52

32

12

17

NEW LONDON COUNTY, CONNECTICUT NO. 63

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

N

1 Mile

5 000 Feet

(Joins sheet 57)

840 000 FEET

(Joins sheet 65)

(Joins sheet 67)

215 000 FEET

210 000 FEET

825 000 FEET

(Joins sheet 75)

Scale 1:15 840

0 ¼ ½ ¾ 1

0 1 000 2 000 3 000 4 000 5 000

NORTH STONINGTON

STONINGTON

water

Assekonk Swamp

Jeremy Hill

Merritt Hill

Wheeler Brook

Copps Brook

Anguilla Brook

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 65

NEW LONDON COUNTY, CONNECTICUT NO. 65

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

810 000 FEET

215 000 FEET

(Joins sheet 56)

NORTH STONINGTON

(Joins sheet 64)

Quakertown

L E D Y A R D

G R O T O N

S T O N I N G T O N

Gallup Hill

Whitford Pond

Hyde Pond

Williams Brook

Whitford Brook

Red water

West water

(Joins sheet 66)

820 000 FEET

(Joins sheet 74)

65

N

1 Mile

5 000 Feet

Scale 1:15 840

1 5 000 | ¾ 4 000 | ½ 3 000 | ¼ 2 000 | 0 1 000 | 0

68

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 68

N

1 Mile

5 000 Feet

Scale 1:15 840

(Joins sheet 59)

705 000 FEET

205 000 FEET

EUSTASIA ISLAND

CONNECTICUT

Selden Creek

Lower Pond

Brackway Landing

Joshua Creek

MIDDLESEX COUNTY

RIVER

L Y M E

Hamburg Cove

(Joins sheet 69)

(Joins lower right)

705 000 FEET

190 000 FEET

(Joins sheet 77)

Deep Creek

Coults Hole

Lord Creek

Oliver Hole

NOTT ISLAND

CONNECTICUT

MIDDLESEX COUNTY

RIVER

O L D L Y M E

water

185 000 FEET

195 000 FEET

702 000 FEET

690 000 FEET

(Joins inset)

CbB

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 68

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 67

(Joins sheet 58)

845 000 FEET

215 000 FEET

(Joins sheet 66)

(Joins sheet 76)

860 000 FEET

210 000 FEET

67

N

1 Mile

5 000 Feet

Scale 1:15 840

NEW LONDON COUNTY, CONNECTICUT NO. 67

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 70

70

N

(Joins sheet 61)

745 000 FEET

205 000 FEET

(Joins sheet 69)

(Joins sheet 71)

(Joins sheet 78)

730 000 FEET

1 Mile

5 000 Feet

Scale 1:15 840

0 ¼ ½ ¾ 1

0 1 000 2 000 3 000 4 000 5 000

Darrow Pond

Powers Lake

Fourmile Brook

Latimer Brook

Smith Hill

Pataguanset River

Macks Mill Hill

Pumphouse Hill

Pataguanset Lake

Pond Hill

Pataguanset

East Lyme

EAST LYME

OLD LYME

NEW LONDON COUNTY, CONNECTICUT NO. 70

This map is compiled on 1972 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Colorado and black and gold division corners, if shown, are approximately positioned

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 69

NEW LONDON COUNTY, CONNECTICUT NO. 69

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

710 000 FEET

205 000 FEET

(Joins sheet 60)

(Joins sheet 68)

(Joins sheet 70)

(Joins sheet 77)

195 000 FEET

725 000 FEET

69

N

1 Mile

5 000 Feet

Scale 1:15 840

Hamburg

Tiffany Hill

Brown Hill

Becket Hill

Hill

Eightmile River

Hamburg Cove

Lisdale Brook

Falls Brook

Uncas Pond

Norwich Pond

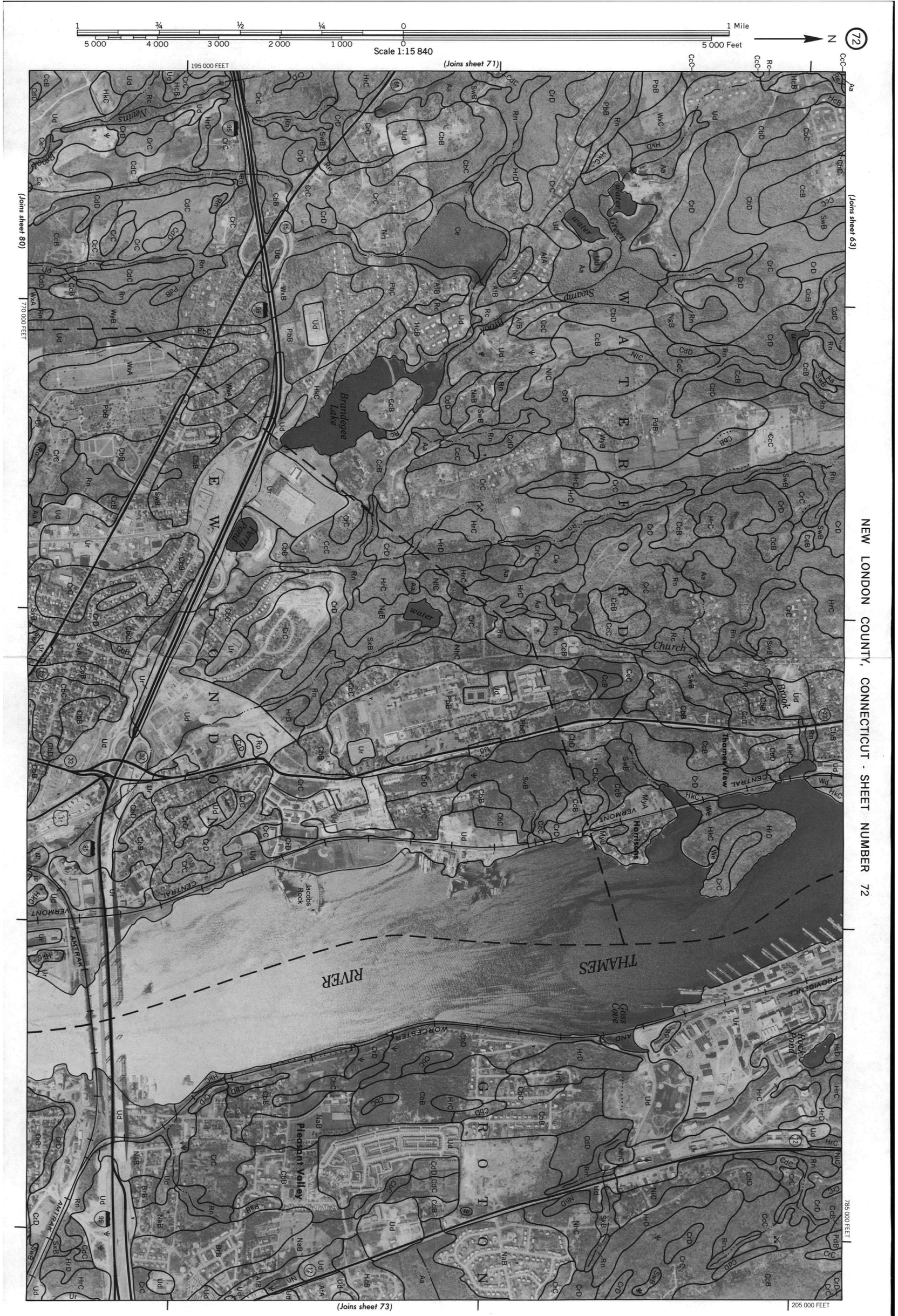
Rogers Lake

Grassy Swamp Brook

water

LYME

OLD LYME



This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 72

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 71

71

N

1 Mile

5,000 Feet

Scale 1:15 840

750 000 FEET

765 000 FEET

(Joins sheet 62)

(Joins sheet 72)

(Joins sheet 70)

(Joins sheet 79)

Douglas Hill

Sodom Hill

Flanders

Oil Mill Brook

Latimer Brook

Pond Brook

Jordan Brook

Lakes Brook

Stony Brook

Water

NIANTIC RIVER

EAST LYME

WATERFORD

NEW LONDON COUNTY, CONNECTICUT NO. 71

This map is compiled on 1:24 000 and 1:25 000 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies. Culture and drainage revised in 1975. Roads and township boundaries revised in 1976. Geographic grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 74

74

N

1 Mile

5 000 Feet

Scale 1:15 840

0 1/4 1/2 3/4 1

0 1 000 2 000 3 000 4 000 5 000

(Joins sheet 73)

(Joins sheet 65)

(Joins sheet 82)

(Joins sheet 75)

820 000 FEET

810 000 FEET

205 000 FEET

195 000 FEET

Old Mystic

Burnetts Corner

Haleys Brook

Brook

Branch

West Brook

Pad Brook

Quokeleup Hill

Bindloss Brook

Fishtown Brook

Pendleton Brook

Mystic Reservoir

RIVER

MYSTIC

GROTON

STONINGTON

This map is compiled on 1975 and 1975 aerial photography by the U. S. Department of Agriculture - Soil Conservation Service and cooperating agencies.
Controllable grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 74

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 73

(73)

N

1 Mile

5 000 Feet

Scale 1:15 840

NEW LONDON COUNTY, CONNECTICUT NO. 73

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

76

N

1 Mile

5,000 Feet

Scale 1:15 840

(Joins sheet 67)

(Joins sheet 75)

(Joins sheet 84)

860 000 FEET

845 000 FEET

205 000 FEET

195 000 FEET

WASHINGTON COUNTY

RHODE ISLAND

PAWCATUCK RIVER

PAWCATUCK

AMTRAK

STONINGTON

Rn Ud SvB CbB SxB CcB Aa CbC SwB CcC WyB WzC WxB WyC CdC CrC HcA Ce HkC AfB Wd MyB MyC Rc Ud HcB HkD Ro Sg Ps MyA HrD PdB PdC CrD Ro Rc Nn Ur CdD Sf NhC HkA HcA Wv WvB

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture - Soil Conservation Service and cooperating agencies.
Controlmage grid ticks, and land division corners, if shown, are approximately positioned

NEW LONDON COUNTY, CONNECTICUT NO. 76

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 75

75

N

825 000 FEET

205 000 FEET

(Joins sheet 66)

(Joins sheet 74)

(Joins sheet 76)

195 000 FEET

840 000 FEET

(Joins sheet 83)

AMTRAK

1 Mile

5 000 Feet

Scale 1:15 840

0 1 000 2 000 3 000 4 000 5 000

0 1/4 1/2 3/4 1

Brook Rd

Copps

Mystic Reservoir

Brook

Stony

Silvias Pond

Quaquanuc

Angwilla

Wequetequock Pond

Ln Brook

water

NEW LONDON COUNTY, CONNECTICUT NO. 75

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies
Coordinate grid ticks and land division corners, if shown, are approximately positioned

78

N

1 Mile

5 000 Feet

Scale 1:15 840

745 000 FEET

190 000 FEET

180 000 FEET

730 000 FEET

(Joins sheet 70)

(Joins sheet 77)

(Joins sheet 79)

(Joins sheet 86)

OLDLYME

Bride Lake

Havens Pond

Beaver Brook

Dam

Pond

Brook

River

water

NEW LONDON COUNTY, CONNECTICUT NO. 78

This map is compiled on 1970 and 1974 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies. Cartographic grid ticks and landmarks are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 77

NEW LONDON COUNTY, CONNECTICUT NO. 77

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

710 000 FEET

190 000 FEET

180 000 FEET

725 000 FEET

(Joins sheet 69)

(Joins inset, sheet 68)

(Joins sheet 78)

(Joins sheet 85)

77

N

1 Mile

5 000 Feet

Scale 1:15 840

Lord Hill

Lord Creek

Lord Cove

Cranberry Bottoms

Rogers Lake

Laysville

Brook

Upper Millpond

Lower Millpond

Black Hall Pond

Mill River

Lieutenant River

Black Hall River

GOOSE ISLAND

CALVES ISLAND

CONNECTICUT

MIDDLESEX

COUNTY

RIVER

LYME

OLD

80

N

(Joins sheet 72)

(Joins sheet 79)

785 000 FEET

190 000 FEET

(Joins sheet 81)

(Joins sheet 88)

770 000 FEET

180 000 FEET

1 Mile

5 000 Feet

Scale 1:15 840

0 0 ¼ ½ ¾ 1

1 000 2 000 3 000 4 000 5 000

NEW LONDON

WATERFORD

GROTON

Perry Pond

Morningside Park

Shaw Cove

THAMES RIVER

POWDER ISLAND

Greens Harbor

NEW LONDON HARBOR

White Rock

Groton Heights

Stuart Hill

Bunker Brook

Nagles Brook

AMTRAK

CENTRAL VERMONT

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 80

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 79

79

N

1 Mile

5 000 Feet

Scale 1:15 840

1 5 000 0 0
¾ 4 000 ¼ 1 000
½ 3 000 ½ 2 000
¼ 2 000 ¾ 3 000
0 1 000 1 4 000

750 000 FEET

765 000 FEET

190 000 FEET

180 000 FEET

(Joins sheet 71)

(Joins sheet 78)

(Joins sheet 80)

(Joins sheet 87)

Oswegatchie

Manatuck Hill

Manatuck Springs

Perry Pond

Jordan Brook

Story Cove

Keeny Cove

NIANTIC RIVER

Smith Cove

Jordan Cove

Graniteville

Mt. Tabor

OSWEGATCHIE HILL

EAST LYME

WATERFORD

Pattagansett River

Corton Pond

Bush Pond

Little Dodge Pond

Dodge Pond

Duffy Hill

AMTRAK R.R.

NEW LONDON COUNTY, CONNECTICUT NO. 79

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 82

N

1 Mile

5 000 Feet

Scale 1:15 840

0 ¼ ½ ¾ 1 000 2 000 3 000 4 000 5 000

(Joins sheet 74)

(Joins sheet 81)

(Joins sheet 83)

(Joins inset, sheet 89)

MYSTIC RIVER

MYSTIC

West Mystic

GROTON

STONINGTON

MYSTIC HARBOR

MASON ISLAND

SIXPENNY ISLAND

ANDREWS ISLAND

DODGES ISLAND

LYDDY ISLAND

ROCK ISLAND

FISHERS ISLAND SOUND

Beebe Pond

Beebe Cove

Noank

Mystic Brook

Eccleston Brook

Fishtown Brook

Copps Cove

Quamboag Cove

water

AMTRAK

This Topographic Map was produced to conform with the National Map Accuracy Standards. A report describing the standards and the procedures used by the U.S. Geological Survey in testing the horizontal and vertical accuracy of this map may be obtained from the Chief, National Mapping Division, U.S. Geological Survey, Reston, Virginia 22092. Contour intervals, datum lines, and bench marks are shown in feet above mean sea level. Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 81

NEW LONDON COUNTY, CONNECTICUT NO. 81

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

790 000 FEET

190 000 FEET

180 000 FEET

805 000 FEET

(Joins sheet 73)

(Joins sheet 82)

(Joins sheet 80)

(Joins sheet 89)

81

N

1 Mile

5 000 Feet

Scale 1:15 840

0 1/4 1/2 3/4 1 1 000 2 000 3 000 4 000 5 000

84

N

1 Mile 5 000 Feet

Scale 1:15 840

0 0 1/4 1 000 1/2 2 000 3/4 3 000 1 4 000 5 000

(Joins sheet 76)

(Joins sheet 83)

(Joins inset)

860 000 FEET

190 000 FEET

180 000 FEET

178 000 FEET

185 000 FEET

845 000 FEET

843 000 FEET

(Joins sheet 83, Joins lower left)

Clarks Village

MAJOR ISLAND

LITTLE NARRAGANSETT BAY

RHODE ISLAND

WASHINGTON COUNTY

PAWCATUCK RIVER

STONINGTON

AMTRAK

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 84

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 83

NEW LONDON COUNTY, CONNECTICUT NO. 83

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

825 000 FEET

190 000 FEET

185 000 FEET

840 000 FEET

(Joins sheet 82)

(Joins sheet 75)

(Joins inset, sheet 84)

(Joins sheet 84)

83

N

1 Mile

5 000 Feet

Scale 1:15 840

0 0

¼ 1 000

½ 2 000

¾ 3 000

1 4 000

5 000

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 86

N

1 Mile

5,000 Feet

Scale 1:15 840

(Joins sheet 85)

(Joins sheet 78)

(Joins sheet 87)

(Joins inset, sheet 90)

745 000 FEET

735 000 FEET

730 000 FEET

NIC

Bride Lake

Threemile Brook

Armstrong Brook

Swan Brook

Red Brook

Bride Brook

South Lyme Water

Rn

Ba

AMTRAK

PATAGUANSET RIVER

OLD LYME

EAST LYME

Lands End

Giants Neck

Point O'Woods

WATTS ISLAND

HUNTLEY ISLAND

GRISWOLD ISLAND

This map was compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coastal-water and marsh-land boundaries, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT - SHEET NUMBER 85

(Joins sheet 77)

710 000 FEET

175 000 FEET

(Joins sheet 86)

(Joins sheet 90)

725 000 FEET

170 000 FEET

85

N

1 Mile

5 000 Feet

Scale 1:15 840

1 5 000 ¾ 4 000 ½ 3 000 ¼ 2 000 0 1 000 0

Old Lyme

Black Hall

Johnnycake Hill

GREAT ISLAND

RIVER

Lieutenant River

Back River

Black Hall River

Hall Creek

Smith Creek

Brook

water

AMTRAK

95

156

51

MIDDLESEX COUNTY

CONNECTICUT

NEW LONDON COUNTY, CONNECTICUT NO. 85

This map is compiled on 1975 and 1976 aerial photography by the U.S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

88

N

1 Mile

5 000 Feet

Scale 1:15 840

(Joins sheet 87)

(Joins sheet 80)

(Joins sheet 89)

785 000 FEET

180 000 FEET

170 000 FEET

770 000 FEET

GREAT NECK

WATERFORD

NEW LONDON

Lamphere Hill

Banks Pond

Prosser Brook

Neutile Cove

Goshen Cove

water

Seaside

Ridgewood

Quinnepeag Rocks

HOBS ISLAND

Black Rock

THAMES RIVER

OSPREY BEACH

OCEAN BEACH

LONG ISLAND SOUND

CbB PbB WxB WyB WxA WzC CrC CcB CcC CrD Rn SwB HrC HcB HcA CbC Ud SxB SvB Ba RbB PbC CfC Ur Sg Pa Nn AfB AfA Wd St Ts Aa Rd PdB PdC NlC NaB SvA Rp Ip

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
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NEW LONDON COUNTY, CONNECTICUT NO. 88

(Joins sheet 79)

Mt. Ararat

NIANTIC

water

Crescent Beach

NIANTIC BAY

Millstone

Pleasure Beach

Indian Pond

Attawan Beach

FOX ISLAND

Black Point

water

Patagansett River

Jordan Cove

AMTRAK

MYSTIC

WATERFORD

EAST LYME

(Joins sheet 86)

(Joins inset)

(Joins lower left)

(Joins sheet 88)

N

Scale 1:15 840

1 Mile

5,000 Feet

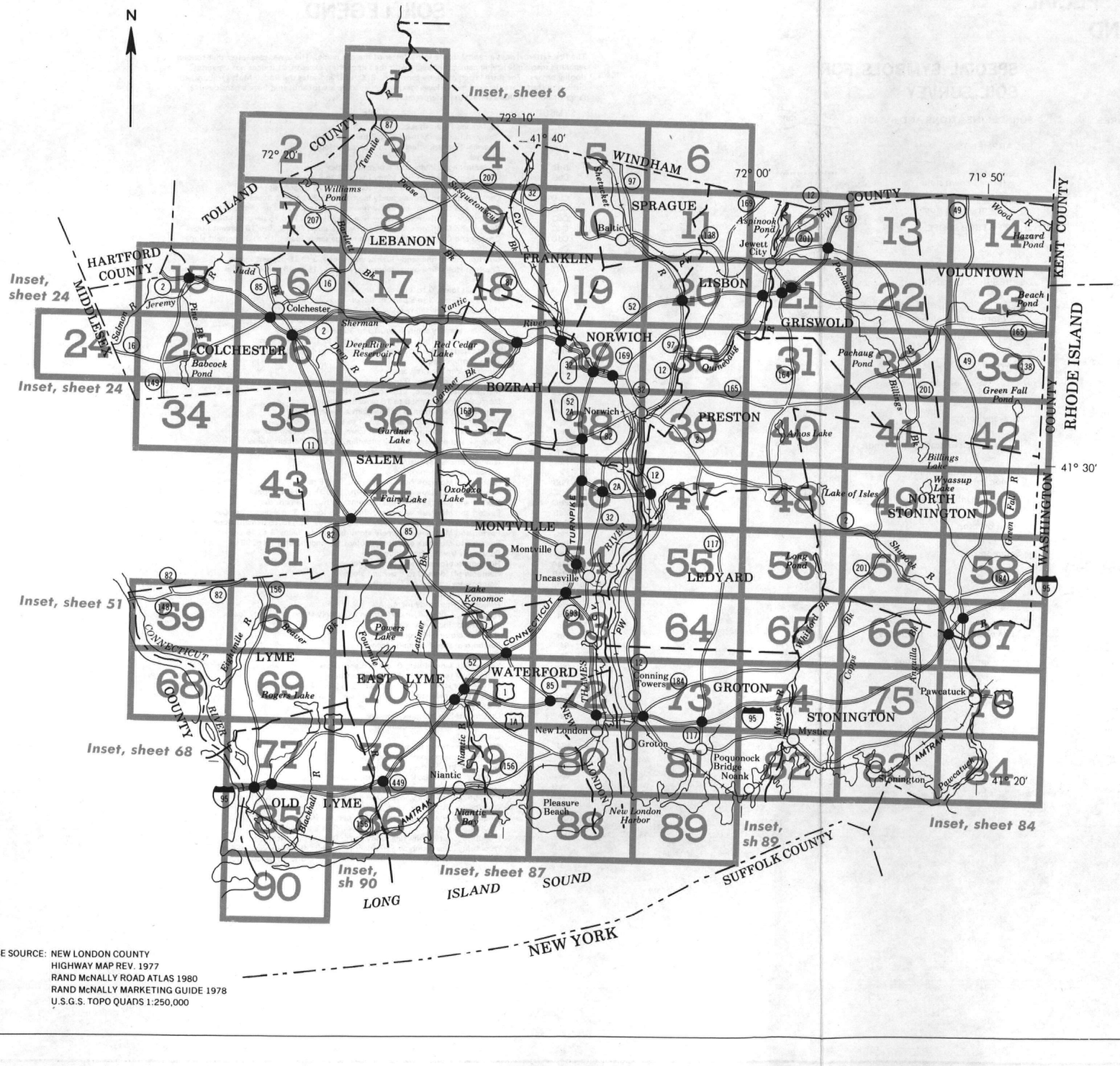
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

INDEX TO MAP SHEETS
NEW LONDON COUNTY, CONNECTICUT

Scale 1:253,440

1 0 1 2 3 4 Miles

1 0 1 2 3 4 Kilometers



BASE SOURCE: NEW LONDON COUNTY
HIGHWAY MAP REV. 1977
RAND McNALLY ROAD ATLAS 1980
RAND McNALLY MARKETING GUIDE 1978
U.S.G.S. TOPO QUADS 1:250,000

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

- National, state or province
- County or parish
- Minor civil division
- Reservation (national forest or park, state forest or park, and large airport)
- Land grant
- Limit of soil survey (label)
- Field sheet matchline & neatline

AD HOC BOUNDARY (label)

- Small airport, airfield, park, oilfield, cemetery, or flood pool (Hedley Airstrip; FLOOD POOL LINE)

STATE COORDINATE TICK

LAND DIVISION CORNERS (sections and land grants)

ROADS

- Divided (median shown if scale permits)
- Other roads
- Trail

ROAD EMBLEM & DESIGNATIONS

- Interstate (21)
- Federal (173)
- State (28)
- County, farm or ranch (1283)

RAILROAD

POWER TRANSMISSION LINE (normally not shown)

PIPE LINE (normally not shown)

FENCE (normally not shown)

LEVEES

- Without road
- With road
- With railroad

DAMS

- Large (to scale)
- Medium or small (water; w)

PITS

- Gravel pit
- Mine or quarry

MISCELLANEOUS CULTURAL FEATURES

- Farmstead, house (omit in urban areas)
- Church
- School
- Indian mound (label) (Indian Mound)
- Located object (label) (Tower)
- Tank (label) (Gas)
- Wells, oil or gas
- Windmill
- Kitchen midden

WATER FEATURES

DRAINAGE

- Perennial, double line
- Perennial, single line
- Intermittent
- Drainage end
- Canals or ditches
  - Double-line (label) (CANAL)
  - Drainage and/or irrigation

LAKES, PONDS AND RESERVOIRS

- Perennial (water; w)
- Intermittent (int; i)

MISCELLANEOUS WATER FEATURES

- Marsh or swamp
- Spring
- Well, artesian
- Well, irrigation
- Wet spot

SPECIAL SYMBOLS FOR SOIL SURVEY

SOIL DELINEATIONS AND SYMBOLS (CbC | CbB)

ESCARPMENTS

- Bedrock (points down slope)
- Other than bedrock (points down slope)

SHORT STEEP SLOPE

GULLY

DEPRESSION OR SINK

SOIL SAMPLE SITE (normally not shown)

MISCELLANEOUS

- Blowout
- Clay spot
- Gravelly spot
- Gumbo, slick or scabby spot (sodic)
- Dumps and other similar non soil areas
- Prominent hill or peak
- Rock outcrop (includes sandstone and shale)
- Saline spot
- Sandy spot
- Severely eroded spot
- Slide or slip (tips point upslope)
- Stony spot, very stony spot

SOIL LEGEND

The first letter, always a capital, is the initial letter of the soil name. The lower case letter that follows separates map units having names that begin with the same letter, except that it does not separate sloping phases. The third letter, always a capital, A, B, C, or D indicates the slope. Most symbols without a slope letter are those of nearly level soils; however, some are for soils that have a considerable range of slope but have similar use interpretations.

SYMBOL	NAME
Aa	Adrian and Palms mucks
AfA	Aqawam fine sandy loam, 0 to 3 percent slopes
AfB	Aqawam fine sandy loam, 3 to 8 percent slopes
Ba	Beaches
BrB	Broadbrook silt loam, 3 to 8 percent slopes
CbB	Canton and Charlton fine sandy loams, 3 to 8 percent slopes
CbC	Canton and Charlton fine sandy loams, 8 to 15 percent slopes
CbD	Canton and Charlton fine sandy loams, 15 to 25 percent slopes
CcB	Canton and Charlton very stony fine sandy loams, 3 to 8 percent slopes
CcC	Canton and Charlton very stony fine sandy loams, 8 to 15 percent slopes
CdC	Canton and Charlton extremely stony fine sandy loams, 3 to 15 percent slopes
CdD	Canton and Charlton extremely stony fine sandy loams, 15 to 35 percent slopes
Ce	Carlisle muck
CrC	Charlton-Hollis fine sandy loams, very rocky, 3 to 15 percent slopes
CrD	Charlton-Hollis fine sandy loams, very rocky, 15 to 45 percent slopes
Du	Dumps
HcA	Haven silt loam, 0 to 3 percent slopes
HcB	Haven silt loam, 3 to 8 percent slopes
HkA	Hinckley gravelly sandy loam, 0 to 3 percent slopes
HkC	Hinckley gravelly sandy loam, 3 to 15 percent slopes
HkD	Hinckley gravelly sandy loam, 15 to 35 percent slopes
HrC	Hollis-Charlton-Rock outcrop complex, 3 to 15 percent slopes
HrD	Hollis-Charlton-Rock outcrop complex, 15 to 45 percent slopes
Ip	Ipswich mucky peat
Ln	Limerick Variant silt loam
MyA	Merrimac sandy loam, 0 to 3 percent slopes
MyB	Merrimac sandy loam, 3 to 8 percent slopes
MyC	Merrimac sandy loam, 8 to 15 percent slopes
NaB	Narragansett silt loam, 3 to 8 percent slopes
NgB	Narragansett very stony silt loam, 3 to 8 percent slopes
NhC	Narragansett extremely stony silt loam, 3 to 15 percent slopes
NhD	Narragansett extremely stony silt loam, 15 to 25 percent slopes
NlC	Narragansett-Hollis complex, very rocky, 3 to 15 percent slopes
Nn	Ninigret fine sandy loam
Pa	Pawcatuck mucky peat
PbB	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes
PbC	Paxton and Montauk fine sandy loams, 8 to 15 percent slopes
PbD	Paxton and Montauk fine sandy loams, 15 to 25 percent slopes
PdB	Paxton and Montauk very stony fine sandy loams, 3 to 8 percent slopes
PdC	Paxton and Montauk very stony fine sandy loams, 8 to 15 percent slopes
PeC	Paxton and Montauk extremely stony fine sandy loams, 3 to 15 percent slopes
PeD	Paxton and Montauk extremely stony fine sandy loams, 15 to 35 percent slopes
Ps	Pootatuck Variant fine sandy loam
RaA	Rainbow silt loam, 0 to 3 percent slopes
RaB	Rainbow silt loam, 3 to 8 percent slopes
RbB	Rainbow very stony silt loam, 0 to 8 percent slopes
Rc	Raypol silt loam
Rd	Ridgebury fine sandy loam
Rn	Ridgebury, Leicester, and Whitman extremely stony fine sandy loams
Ro	Rippowam fine sandy loam
Rp	Rock outcrop-Hollis complex
Sf	Scarboro mucky fine sandy loam
Sg	Sudbury sandy loam
SvA	Sutton fine sandy loam, 0 to 3 percent slopes
SvB	Sutton fine sandy loam, 3 to 8 percent slopes
SwB	Sutton very stony fine sandy loam, 0 to 8 percent slopes
SxB	Sutton extremely stony fine sandy loam, 0 to 8 percent slopes
Ts	Tisbury silt loam
Ub	Udorthents-Pits complex, gravelly
Ud	Udorthents-Urban land complex
Ur	Urban land
Wd	Walpole fine sandy loam
We	Westbrook mucky peat
Wh	Westbrook mucky peat, low salt
WvA	Windsor loamy sand, 0 to 3 percent slopes
WvB	Windsor loamy sand, 3 to 8 percent slopes
WxA	Woodbridge fine sandy loam, 0 to 3 percent slopes
WxB	Woodbridge fine sandy loam, 3 to 8 percent slopes
WxC	Woodbridge fine sandy loam, 8 to 15 percent slopes
WyB	Woodbridge very stony fine sandy loam, 0 to 8 percent slopes
WyC	Woodbridge very stony fine sandy loam, 8 to 15 percent slopes
WzA	Woodbridge and Rainbow extremely stony soils, 0 to 3 percent slopes
WzC	Woodbridge and Rainbow extremely stony soils, 3 to 15 percent slopes

90

N

1 Mile

5 000 Feet

Scale 1:15 840

0 0

1/4 1 000

1/2 2 000

3/4 3 000

1 4 000

5 000

(Joins sheet 85)

725 000 FEET

165 000 FEET

(Joins inset)

CONNECTICUT RIVER

MIDDLESEX COUNTY

GREAT ISLAND

Back River

Griswold Point

White Sands Beach

OLD LYME

LYME

Mile Creek

LONG ISLAND SOUND

(Joins sheet 86)

735 000 FEET

(Joins upper right)

Sound View

Old Lyme Shores

Big Pond

Little Pond

Lieutenant River

Duck River

Stony Brook

Rogers Brook

Joshuatown Brook

163 000 FEET

730 000 FEET

155 000 FEET

710 000 FEET

This map is compiled on 1975 and 1976 aerial photography by the U. S. Department of Agriculture, Soil Conservation Service and cooperating agencies.
Coordinate grid ticks and land division corners, if shown, are approximately positioned.

NEW LONDON COUNTY, CONNECTICUT NO. 90

(Joins sheet 81)

(Joins sheet 88)

(Joins inset)

(Joins sheet 82)

(Joins upper right)

89

N

1 Mile

5,000 Feet

Scale 1:15 840

SHENNECOSSETT BEACH

BUSHY POINT BEACH

BLUFF POINT BEACH

PINE ISLAND

POQUONOCK RIVER

Baker Cove

GROTON

Mumford Cove

Palmer Cove

Groton Long Point

Lower Lagoon

Upper Lagoon

West Cove

MOUSE ISLAND

BAKER ISLAND

STONINGTON

GATES ISLAND

RAM ISLAND

FISHERS ISLAND SOUND

AMTRAK

NEW LONDON COUNTY / SUFFOLK COUNTY

CONNECTICUT / NEW YORK